



**CITY OF YPSILANTI
REGULAR COUNCIL MEETING
Tuesday, January 21, 2025 @ 6:00 PM
Council Chambers
One South Huron, Ypsilanti, MI 48197**
[Launch Meeting - Zoom](#)

I. CALL TO ORDER

II. ROLL CALL

III. A MOMENT TO CENTER AND FOCUS

IV. AGENDA APPROVAL

V. PUBLIC COMMENT - 45 MINUTES TOTAL (3 MINUTES/EACH SPEAKER)

VI. BUDGET PRIORITY & GOALS SESSION

A. Departmental Goals

VII. RESOLUTIONS/MOTIONS/DISCUSSIONS

A. Resolution No. 2025-010 Approving the minutes of the meeting of January 7, 2025.

B. Resolution No. 2025-011 Reappointing Residents Brian Merlos to the Parks & Arts Commission and Stefan Szumko to the Historic District Commission.

C. Resolution No. 2025-012 Approving GEI as the contractor for the removal design for Peninsular Dam. If GEI cannot enter a contract for any reason, the contract will be awarded to Interfluve.

D. Resolution No. 2025-013 Entering into a Closed Session, pursuant to MCL 15.268 (e), for the purpose of discussing the following pending litigation: VTP River Woods LLC and VTP Arbor One LLC v City of Ypsilanti; and David McGill v City of Ypsilanti and also, pursuant to MCL 15.268 (c), to discuss Command Officers Association of Michigan (COAM) Contract Negotiations.

CLOSED SESSION

Resolution No. 2025-014 Leaving the Closed Session and returning to the Open Session of this meeting.

E. Resolution No. 2025-015 Approving the new collective bargaining agreement between the City of Ypsilanti and the COAM, for the term commencing on January 1, 2025, and terminating on December 31, 2028, as presented and authorize the Mayor, City

Manager, and City Clerk to execute the agreement on behalf of the city after approval by the City Attorney as to form.

VIII. BOARD AND COMMISSION - LIAISON REPORTS

- A. Police Advisory Commission
- B. Human Relations Commission
- C. Parks and Arts Commission
- D. Sustainability Commission
- E. Historic District Commission
- F. Planning Commission
- G. Zoning Board of Appeals

IX. LIAISON REPORTS

- A. SEMCOG Update
- B. Washtenaw Area Transportation Study
- C. Urban County
- D. Ypsilanti Downtown Development Authority
- E. Friends of Rutherford Pool

X. COUNCIL PROPOSED BUSINESS

XI. COMMUNICATIONS FROM THE MAYOR

XII. COMMUNICATIONS FROM THE CITY MANAGER

XIII. COMMUNICATIONS

- A. Copy of City's "Sanctuary" Ordinance for reference and future discussion.

XIV. PUBLIC COMMENT - CONTINUED (3 MINUTES/EACH SPEAKER)

XV. REMARKS FROM THE MAYOR

XVI. ADJOURNMENT

- A. Resolution No. 2025-, adjourning the City Council Meeting.
- B. Please click [here](#) to access the City Council Contact Form. This form can be used to submit any comments/concerns you might have about this agenda.

City of Ypsilanti

Department Goals 2025

Overview

- The City of Ypsilanti is engaging in strategic prioritization
- The following captures a summary of process (as of Jan 2025)
- City Council has identified Strategic Priorities and has held discussion towards consensus
- City Departments have identified Operational Focus areas. Those focus areas are listed in this document
- Reconciliation between Council Priorities and Departmental Operational Focus to occur in January

Council Priorities

On Thurs 12/19, a Special Session was held by City Council to identify and discuss strategic priorities towards consensus. The following priorities emerged, with consensus noted:

Theme	%Consensus	
Public Infrastructure/ Buildings/ Roads	88%	Represents Significant Agreement
Water Street	88%	
Public Safety; Public Health	88%	
Shelter/ Housing	88%	
Staffing Capacity	78%	
Community/Public Spaces (Parks, Restrooms)	55%	Represents Emerging Agreement
Climate Resiliency (Environmental enhancements)	45%	
Youth Engagement/Development	40%	
Council Compensation	38%	Represents Opportunity after Shared Wins
Unarmed response	38%	
Dept of Public Works	30%	
Economic Development	25%	
Partnerships	25%	
Pride/ Beautification	15%	
Discovery (Housing, Tax Burden)	13%	

Departmental Focus Area Review

- Given the priorities that have emerged in consensus, review the current Departmental focus areas in the following slides
- Consider how current focus areas align with the Council's Priority consensus...

Council Priority Consensus

Public Infrastructure/ Buildings/ Roads

Water Street

Public Safety; Public Health

Shelter/ Housing

Staffing Capacity

Community/Public Spaces (Parks, Restrooms)

Climate Resiliency (Environmental enhancements)

Youth Engagement/Development

Department Contents

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City Attorney Overview

The City Attorney is focused on the following responsibilities

- Continued legal provision
- Digitization of records
- Onboarding new city attorney

Themes: **Onboarding, Digitization, Continued Services**

City Attorney Goals

The strategic priorities for the City Attorney in this fiscal period are **Onboarding**, **Digitization**, and **Continued Services**

Onboarding Goals

1. Work with new City Attorney for smooth transition by 12/31.
2. Transfer access to city attorney files
3. Assign new litigation cases to new city attorney

Digitization Goals

1. Retrieve Iron Mountain files (complete)
2. Review Iron Mountain files and close, save, scan per schedule
3. Finish scanning of old city attorney files not at Iron Mountain

Continued Services Goals

1. Continue to provide city attorney services
2. Review and close finished files
3. Work with new city attorney, staff and IT to provide smooth access to files

City Clerk Overview

The City Clerk is focused on the following responsibilities

- Implementation of Early Voting
- City Council and Public relations
 - Increasing transparency and public trust
- Training for staff and council to clarify procedure and practice
 - Open Meetings Act
 - Roberts Rules of Order
- Day to Day operations
 - Creating clear policy and procedures for day to day (organize, digitize, report out)
 - Staff Roles and responsibilities
 - Office; Council; External
 - Instruction and Guides for processes (clarify these and report out)
 - Having Council establish (codify) rules of order
- Accessibility Laws and associated changes
 - Prior to 2027

Themes: **Operations, Communication**

City Clerk Goals

The strategic priorities for the City Clerk in this fiscal period are **Operations Efficiency & Communication**

Operations Goals

1. Work with Council to update & codify Council Rules of Order and standards and procedures for Boards and Commissions by March 2025
2. Identify current policies & procedures; evaluate & revise; enumerate clear instructions & guides for updated policies & procedures by June 2025
3. Create legacy spreadsheet with all Clerk responsibilities and ensure policies are included, as well as when they are updated by end of 2025

Communication Goals

1. Establish policy & procedure for managing & facilitating all Boards & Commissions (ex: email groups, training materials, meeting guidelines, etc.) by March 2025
2. Work with Communications to ensure website is updated with current information by June 2025
3. Work with Communications to make website more user friendly (ex: calendars, Accessible content) end of 2025

Community Services Overview

Community Services is focused on the following responsibilities:

- Review of building types
- Establishing consensus with water street regulations
- Prioritizing zoning amendments
- Working with developers to create ~ 60 units of affordable housing downtown
- Water Street planning efforts
- Tree Preservation Ordinance
- Conducting Zoning audits
- Digitization of records/paperless office
- Transitioning to BS&A Cloud
- Establishing a city-wide communication strategy
- Updating the City Website
- Long-Term planning for autonomous vehicles

Themes: **Affordable Housing, Sustainability, Communication & Positive Marketing**

Community Services Goals

The strategic priorities for the Community Services Department in this fiscal period are: **Affordable Housing, Sustainability, and Communication**

Affordable Housing Goals

1. Work with MEDC and local groups to attract mixed-income housing by identifying organizations that work in this space that are interested in the community. Nurture these relationships towards deeper interaction – December 2025 and Ongoing
2. By the December 2025, review zoning ordinance to find ways to make it more housing friendly based on regional best practices.
3. Work with regional partners to locate additional affordable housing in Washtenaw County. Continue meeting with Urban County, Housing work groups and statewide stakeholders to inform them on how Ypsilanti has been successful in the creation of high-quality affordable housing. – December 2025 and Ongoing

Sustainability Goals

1. Work with SPARK and partners to ensure our regulations for autonomous vehicles are up to date by Dec 2025
2. Work to enact a tree protection ordinance by end of Dec 2025.
3. Stop accepting paper copies into community services department by end of FY 2024/25

Communication Goals

1. Create a Communications Strategy/Framework (focused on both internal and external communications) by December 2024.
2. Collaborate with departments to tell our story, on multiple platforms. Create a calendar and policy for each platform. Due by June 2025
3. Incorporate streaming on the city's Facebook page for ease of finding our council meetings by the end of January 2025. (Interdependent with Clerk dept)

Downtown Development Auth Overview

The DDA is focused on the following responsibilities

- Streetscape improvements
- Increase understanding of DDA role in services
- Streetlights, landscaping and trees
- Parking lots
- Diversify and grow daytime businesses
- Key partnerships
- Strengthen working relationship with city of Ypsi
- Recruiting strategy
- Establish capital improvements plan
- Grant pursuit
- Themes: **Connectivity, Business Vitality, Personnel Development**

DDA Goals

The strategic priorities for the DDA in this fiscal period are **Connectivity, Business Vitality, and Personnel Development**

Connectivity Goals

1. Physically improve infrastructure and streetscapes in each DDA Districts by partnering with City leadership to complete financing and construction of the Freighthouse Plaza, and the Ballard Street redesigns, and start design process for the Downtown Streetscape design by end of FY 25/26.
2. Activate collaborations with key partners to provide services and grow the economy by establishing a collaborative task force of key partners, business, and community leaders to identify common goals by end of FY 25/26.
3. Develop a Capital Improvements Plan for the DDA to be completed by June 2025.

Business Vitality Goals

1. Grow existing businesses within the DDA prioritizing incentives to existing buildings to meet market demand and partnering with key collaborators to provide business owners training, financial support and resources.
2. Diversify and grow daytime business and housing market by conducting a market analysis and developing a recruitment strategy by 2026.
3. Activate the business corridors by developing safe and healthy programs such as register ringing incentive events, litter management and volunteerism programs, and connections to mental health resource providers. Multiple programs, Jan 2025, ongoing.

Personnel Development Goals

1. Grow DDA Engagement by providing regular communications and resources to DDA Stakeholders, developing a volunteer outreach and recruitment plan, and assessing Board needs including trainings and toolkits. (Jan 2025, ongoing)
2. Increase understanding of the DDA, its role and services by creating a marketing strategy by end of FY 25/26
3. Sustain and implement TIF Plans. TIF renewal process to be initiated by end of FY 25/26.

Fire Department Overview

The Fire Department is focused on the following responsibilities

- Apparatus Replacement towards compliance
 - Motor Pool Fund and Continued grant pursuit
- Retention of personnel
- Training and advancement opportunities
- Administration operations
 - Improve quality of service (e.g. Fire Marshal)
 - Public education, safety and awareness; fire safety material to schools and public
 - Smoke detector, CO2 detector distribution and installation
- Facilities maintenance
 - Improve safety and reduce LT costs. (i.e., panic hardware; exterior doors, etc.)
 - Repair parking lot retaining wall
 - Establish a training facility (LT reach goal) though location is an issue; county exploring options
 - Grant pursuit (for gear and facilities)

Themes: **Communication, Training & Development, Assets**

Fire Department Goals

The strategic priorities for the Fire Department in this fiscal period include **Recruiting, Training, and Apparatus Replacement**.

Recruiting/Retention Goals

1. Specifically- to become fully staffed at 21 in fire suppression.
2. Measurable- in the reduction cost of over time and due to minimum staffing and force policy
3. Attainable- in 2024 due to ongoing hiring process

Training/Advancement Goals

1. Operations- to improve the skills of firefighters and the departments over all response capabilities while meeting national standards and requirements set by the Michigan Firefighters Training Council. Identify and provide qualifying classes and continue to bring in outside instructors for training. 2024-2025 and ongoing.
2. Prepare firefighters equally to test in advance within the department. Provide equal training to all 3 shifts, 2024- 2025 and ongoing.
3. Administrative- to improve the quality and service of inspections and investigations and enforce fire codes.
4. Budget to purchase fire safety materials for schools and public events, this aids in the promotion of public education and fire safety awareness.
5. Distribute smoke and CO2 detectors provided by the state through a grant program 2024-2025 and ongoing.

Apparatus Replacement Goals

1. Be compliant with NFPA 1911 (see attached links and documents) [nfpa1911.pdf](#), [Microsoft PowerPoint - FRI2010 NFPA 1911](#) (Next compliance risk is 2027)
2. Develop a vehicle replacement plan with the help of the finance department to be approved by administration, which will become a part of the annual budget, before close of budget year 2024/2025.
3. Apply for 2024-2025 AFG Apparatus Grant (by 12/20)

Finance Department Overview

The Finance Department is focused on the following responsibilities

- Integrating financial, treasury software (BS&A)
- Creating an asset management guide for the city
 - What do we have, what do we need to maintain, what can we let go?
- Building fiscal resilience/ long-term resilience plan (in process)
 - Budget stabilization fund for reserves (in process)
- Completing the compliance audit (cycle 5 yrs)
- Increasing cyber-security training and review
- Retraining/Cross-training of employee roles (payroll, treasury, etc.)

Themes: **Asset Management**, **CyberSecurity** (and general security), **Financial Training** (fraud prevention, rules changes)

Finance Department Goals

The strategic priorities for the Finance Department in this fiscal period include **Asset Management, Security, Training**

Asset Management Goals

1. Establish a dedicated asset management team with cross-functional members and develop standardized documentation for asset tracking, maintenance, and auditing processes. This will streamline asset oversight and ensure consistency across departments by **June 2026**. (Interdependent with DPW) This includes:
 - Prioritize assets for tracking by 1st qtr 2025
 - Identify tracking mechanisms (criteria and reporting) 3rd qtr 2025
2. Successfully implement the BS&A financial software system and ensure all finance team members are trained to use its key features, including budgeting, accounting, reporting, and asset tracking, to enhance data accuracy and efficiency by **(Implementation Feb 2025; Mastery by February 2026.)** (include Office Manager's of different departments)

Security Goals

1. Implement position-based access control to restrict access to financial systems based on employee roles and responsibilities by **December 2025**.
2. Develop and implement a data backup and disaster recovery plan for all critical financial data to ensure business continuity in case of a cyberattack or system failure by the end of the **October 2025**.
3. Implement stronger data security protocols for financial records by adopting two-factor authentication (2FA) and encryption for all sensitive financial information by end of **October 2025**.

Training Goals

1. Ensure that all finance team members are proficient in the new BS&A software by providing a comprehensive training program covering key functionalities (functional competence) like budgeting, accounting, and reporting by **June 2026**.
2. Develop cross-functional skills in the Finance Department by training with the Accounting and Treasury Divisions to enhance knowledge and improve teamwork by **December 2025** with quarterly progress check-ins to assess knowledge gained and address any training needs.

Human Resources Department Overview

The Human Resources Department is focused on the following responsibilities

- 100% Paperless in 5-year increments
 - Move to an electronic document system (personnel files)
 - HRIS solution for forms storage and retrieval
- Retention and Recruiting
 - Recognition for employees
 - Birthday emails, work anniversaries, graduations
 - Years of service certificates, 5, 10, 15, 20
 - Employee Engagement
 - Gatherings (Fall Potluck)
 - Employee appreciation day
 - Job Fairs
 - ~ 2 fairs/yr to advertise the City as a great place to work
- Opportunities
 - Open enrollment selection confirmation? (Advances in technology that would allow interface bx emp benefits and payroll systems) In general improved communication for open enrollment
 - Communication of benefits (e.g. new hire orientation) during onboarding

Themes: **Retention/Recruiting, Communication, Digitization**

HR Goals

The strategic priorities for the HR Department in this fiscal period are **Retention and Recruiting, Communication, and Digitization**

Retention and Recruiting Goals

1. Improve retention metrics by tracking turnover rates and comparing data (Quarterly 2025)
2. Broaden Candidate Outreach by building a relationship with WCC and EMU by June 2025.
3. Streamline Onboarding (forms signatures, electronic file capture) with a Vendor Solution by identifying three vendors by June 2025

Communication Goals

1. Create an onboarding survey for new hires to be implemented by January 2025.
2. Continuous improvement of Benefits communication by creating and distributing a Benefits Pamphlet for New Hires to be distributed by January 2025.
3. Sending an onboarding survey to all new hires

Digitization Goals

1. Implement the digitization of documents by evaluating BS&A to see if it meets the needs of the digitization strategy (1st Qtr 2025)
2. If BS&A does not meet HR Digitization needs, Identify and evaluate Vendors by June 2025.
3. Select a digitization vendor by July 2025.

Police Department Overview

The Police Department is focused on the following responsibilities

- Recruitment and Retention
 - 10 officers 2024 (exceeded and ongoing)
 - Improve competitive wage gap (in process)
- Training and development
 - Create strategic dept training plan incl Leadership development (consultant)
 - In-service training
- Process improvement
 - Meet best practices (software, guardian tracking, etc)
 - Improve appearance (internal and external). Have completed a training location dev and employee workspaces.
- Org structure
 - Operations and Support structure
 - Re-establish investigations unit (in process)
- Fleet Maintenance (In process and ongoing)
- Support
 - Establish a community relations unit
 - Establish quarterly meeting
 - Taser replaced and training complete
 - Identify tactics and firearms instructor
 - Establish a part-time volunteer core

Themes: **Communication, Training Development, Process improvements**

Police Department Goals

The strategic priorities for the Police Department in this fiscal period are:
Recruiting & Retention, Training & Development, and Process Improvements

Recruiting/Retention Goals

1. Hire (4) four new recruits in 2025
2. Retain those officers for a minimum of (3) years with contract
3. Hire (6) lateral officers in 2025

Training/Development Goals

1. Increase firearm and range of response in-service training to twice year
2. Identify (2) two firearms instructors and have them trained in 2025
3. Send (1) person to ICAT use of force/de-escalation instructor school in 2025

Process Improvement Goals

1. Create volunteer group to take care of fleet maintenance (porters and detailing), (4) volunteers by May of 2025
2. Fully integrate Guardian tracking for daily operations by December 2025.

Public Works Department Overview

The Public Works Department is focused on the following responsibilities

- Provide functional facilities for city business
- Emergency after hours response
- Consistent service to public (re-establish public trust – hearts and minds)
- Maintenance of bridges, roadways
- MDOT rail collaboration for rail maintenance and improvement
- Sidewalks
- Storm water management
- Urban Forest improvement
- Safety and Ops improvements at City parks
- Recycling & yard waste
- Implement recommendations of parking strategy
- Training front-line staff on consistency (Customer service training)

Themes: **Infrastructure/Asset planning and maintenance; Safety procedures; Risk Management, Operational Efficiency, Services; Communication**

Public Works Goals

The strategic priorities for the Public Works Department in this fiscal period are **Risk/Asset Management, Operational Efficiency, Communication**

Risk/Asset Management Goals

1. Continue with the Citywide Facility Condition Assessment process
 - RFP for FCA services to be complete by Dec 2024
 - All departments working to organize basement (claim and organize files; remove trash) by end of January 2025
2. Continue to work to improve/relocate DPW yard & storage
 - Bids received for salt barn stabilization & garage demo; work complete by Aug 2025
 - Evaluate 206 N Grove for long-term suitability for offsite storage; Phase I, survey, and CS conversation by June 2025
3. Continue to improve compliance with dam safety, stormwater, compost, other regulatory standards
 - Achieve access to right bank upstream from dam for vegetation clearance by June 2025
 - Develop and execute an inspection cycle for storm inlets by June 2025
 - Find testing partners for compost and stormwater by Dec 2024
 - Resume Citywide Safety Committee meetings (Dec 2024), schedule quarterly for 2025
4. Continue work to develop full asset inventory and contracted preventative maintenance plan
 - Work with OHM & EPIC on stormwater inventory (per workplan)
 - work with Finance Department on Asset Management Team (ongoing)

Operational Efficiency Goals

1. Work with the union to reposition the department as tactical and responsive, rather than routine; meetings to begin in Dec 2024/Jan 2025
2. Evaluate possibility of adding fourth supervisor or contract PM for construction/facilities; evaluation to begin after FCA complete

Communication Goals

1. Complete the annual mailer (Nov/Dec 2024) & establish annual budget going forward (source interdepartmental funds)
2. Develop a calendar of items for the newsletter by Q1 25
3. Work with the union to develop support for regular volunteer workdays

Conclusion

- City Council has identified a set of Strategic Priorities
- City Departments have outlined current operational focus areas
- Consider how Priorities are fulfilled by operational focus areas
- Make note of gaps and opportunities
- Reconciliation to occur on Tuesday 1/21, 6pm



REQUEST FOR LEGISLATION
January 21, 2025

For: Mayor and City Council

From: Tracey Boudreau, City Clerk

Subject: Resolution No. 2025-010 Approving the minutes of the meeting of January 7, 2025.

SUMMARY & BACKGROUND:

RECOMMENDED ACTION: Approval

ATTACHMENTS:

1. Resolution No 2025-010 Minutes
2. January 7, 2025 Council Meeting Minutes

CITY MANAGER APPROVAL:

COUNCIL AGENDA DATE: January 21, 2025

CITY MANAGER COMMENTS:

FISCAL SERVICES DIRECTOR APPROVAL:



Resolution No. 2025-010
January 21, 2025

RESOLVED BY THE COUNCIL OF THE CITY OF YPSILANTI:

THAT the minutes of the January 7, 2025 City Council Meeting be approved.

OFFERED BY: _____

SUPPORTED BY: _____

YES: NO: ABSENT: VOTE:



**MINUTES
REGULAR COUNCIL MEETING
7:00 PM - Tuesday, January 7, 2025
Council Chambers
One South Huron, Ypsilanti, MI 48197**

I. CALL TO ORDER

Mayor Brown called the meeting to order at 7:03 p.m.

II. ROLL CALL

PRESENT at roll call were Mayor Brown, Mayor Pro-Tem Wilcoxon, Council Member King, Council Member McLean, Council Member Simmons (7:05 p.m.), and Council Member Fellows (7:05 p.m.). ABSENT: Council Member Tooson.

Council Member King moved to Excuse Council Member Tooson from the meeting. Mayor Pro Tem Wilcoxon seconded the motion, and it passed upon a voice vote.

III. A MOMENT TO CENTER AND FOCUS

IV. AGENDA APPROVAL

Council Member McLean moved to Approve the AGENDA as presented. Mayor Pro-Tem Wilcoxon seconded the motion.

Yes:	(6)	Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No:	0	None
Absent:	(1)	Roland Tooson

V. PUBLIC COMMENT - 45 MINUTES TOTAL (3 MINUTES/EACH SPEAKER)

22 Members of the public spoke.

VI. PRESENTATIONS

A. AFCR Audit Report

VII. ORDINANCES FIRST READING

VIII. RESOLUTIONS/MOTIONS/DISCUSSIONS

A. Resolution No. 2025-001 Approving the minutes of the meeting of December 17, 2024.

Council Member King moved to Approve Resolution No. 2025-001 Approving the minutes of the meeting of December 17, 2024, as presented. Council Member McLean seconded the motion.

<u>Yes:</u>	<u>(6)</u>	<u>Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows</u>
<u>No:</u>	<u>0</u>	<u>None</u>
<u>Absent:</u>	<u>(1)</u>	<u>Roland Tooson</u>

B. Resolution No. 2025-002 adopting Ordinance No. 1441, entitled An Ordinance to Amend Chapter 80, Entitled "Parks and Arts" of the Code of Ordinances upon Second and Final Reading.

Council Member McLean moved to Approve Resolution No. 2025-002 adopting Ordinance No. 1441, entitled An Ordinance to Amend Chapter 80, Entitled "Parks and Arts" of the Code of Ordinances upon Second and Final Reading. Mayor Pro-Tem Wilcoxon seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

C. Resolution No. 2025-003 Approving the updated Alternate Fuel Policy recommended by the Sustainability Commission.

Council Member Simmons moved to Approve Resolution No. 2025-003 Approving the updated Alternate Fuel Policy recommended by the Sustainability Commission. Council Member King seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

D. Resolution No. 2025-004 recognizing the life and work of President Jimmy Carter, celebrating him as a role model for leaders both in and out of government, and declaring January 9, 2025 as a Citywide Day of Mourning, to coincide with President Biden's National Day of Mourning,

Council Member McLean moved to Approve Resolution No. 2025-004 recognizing the life and work of President Jimmy Carter, celebrating him as a role model for leaders both in and out of government, and declaring January 9, 2025 as a Citywide Day of Mourning, to coincide with President Biden's National Day of Mourning. Mayor Pro-Tem Wilcoxon seconded the motion.

Yes: (5) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean
No: 1 Amber Fellows
Absent: (1) Roland Tooson

E. Resolution No. 2025-005 Authorizing an increase of \$7,000 to account number 101-7-2621-757-00 to cover the grant purchases for the Clerk's Department and also add the same amount to revenue account 101-4-2621-539-00, until the funds are reimbursed by the Federal Election Security Grant.

Mayor Pro-Tem Wilcoxon moved to Approve Resolution No. 2025-005 Authorizing an increase of \$7,000 to account number 101-7-2621-757-00 to cover the grant purchases for the Clerk's Department and also add the same amount to revenue account 101-4-2621-539-00, until the funds are reimbursed by the Federal Election Security Grant. Council Member King seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

F. Resolution No. 2025-006 Directing City Staff to Create a Comprehensive City Council Member Onboarding Process.

Council Member Fellows moved to Approve Resolution No. 2025-006 Directing City Staff to Create a Comprehensive City Council Member Onboarding Process. Council Member King seconded the motion.

Council Member Fellows moved, supported by Council Member King, to Amend Resolution No. 2025-006 by changing the title of the resolution. After discussion, the motion was withdrawn.

Council Member Fellows moved to Amend Resolution No. 2025-006 by adding "and bring back to Council for review," and by changing "includes" to "may include" in the first "resolved" clause. Council Member McLean seconded the motion. The amendment to the motion passed upon a roll call vote as follows:

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

Council Member King moved to Amend Resolution No. 2025-006 by replacing the words "City Staff" with City Manager, City Clerk, and City Attorney". Council Member McLean seconded the motion. The amendment to the motion passed upon a roll call vote as follows:

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

Council Member Wilcoxon moved, supported by Council Member McLean, to Amend Resolution No. 2025-006 by adding that the Clerk provide CivicClerk information. After discussion, the motion was withdrawn.

Council Member Fellows moved to Approve Resolution No. 2025-006 Directing City Staff to Create a Comprehensive City Council Member Onboarding Process, as amended. Council Member King seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

Mayor Pro Tem Wilcoxon moved, supported by Council Member Fellows, to extend the meeting until 10:30 p.m. The motion passed unanimously upon a voice vote.

G. Resolution No. 2025-007 Requesting Washtenaw County Allocate Funds Toward the Establishment and Operation of a Permanent Shelter in Ypsilanti for Individuals Experiencing Homelessness.

Council Member Simmons moved to Approve Resolution No. 2025-007 Requesting Washtenaw County Allocate Funds Toward the Establishment and Operation of a Permanent Shelter in Ypsilanti for Individuals Experiencing Homelessness. Council Member Fellows seconded the motion.

Council Member Simmons offered, supported by Council Member Fellows, a friendly amendment by removing "homeowner" from the fifth "whereas" clause. The friendly amendment was accepted.

Council Member Simmons moved, supported by Mayor Pro Tem Wilcoxon, to Amend Resolution No. 2025-006 by adding Section 8 on Short Term Homelessness. After discussion, the motion was withdrawn.

Council Member Simmons moved to Amend Resolution No. 2025-007 by adding "local municipalities within the 48197 & 48198 zip codes, EMU" and "such as the Shelter Association" to Clause 2. Council Member McLean seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

Mayor Pro Tem Wilcoxon moved, supported by Council Member Fellows, to extend the meeting until 11:30 p.m. The motion passed unanimously upon a voice vote.

Council Member McLean moved to Amend Resolution No. 2025-007 by adding the words "Eastern Washtenaw County" after "shelter in" in Clause 1. Mayor Pro Tem Wilcoxon seconded the motion.

Mayor Pro Tem Wilcoxon offered a friendly amendment to change the wording to "Eastern Washtenaw County, preferably". The friendly amendment was accepted and the original amended amendment passed upon a roll call vote as follows:

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean,
No: (1) Amber Fellows
Absent: (1) Roland Tooson

Mayor Pro Tem Wilcoxon moved to Amend Resolution No. 2025-007 by adding the words "We suggest" to the beginning of Clause 5. Council Member Simmons seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No: 0 None
Absent: (1) Roland Tooson

Council Member McLean offered a friendly amendment, supported by Mayor Pro Tem Wilcoxon, change \$50K to \$100K in the 4th "whereas" clause. The friendly amendment was accepted.

Mayor Pro Tem Wilcoxon offered a friendly amendment that the added partners in Clause 2 be included throughout the resolution, for clarity. The friendly amendment was accepted and the original amended resolution passed upon a roll call vote as follows:

Yes:	(6)	Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No:	0	None
Absent:	(1)	Roland Tooson

The Mayor recessed the meeting at 10:39 p.m. for a short break and reconvened the meeting at 10:45 p.m.

H. Resolution No. 2025-008 Requesting the Washtenaw County Board of Commissioners Commit Funding for an Unarmed Crisis Response Program and Directing the City of Ypsilanti to Develop an RFP for the Program.

Council Member Fellows moved to Approve Resolution No. 2025-008 Requesting the Washtenaw County Board of Commissioners Commit Funding for an Unarmed Crisis Response Program and Directing the City of Ypsilanti to Develop an RFP for the Program. Mayor Pro-Tem Wilcoxon seconded the motion.

Council Member Simmons offered a friendly amendment by adding the Fire Department to Clause 3. The friendly amendment was accepted.

Council Member Fellows moved to Amend Clause 2 of Resolution No. 2025-008 by changing the first sentence to read as follows: "Requests County Partners and City staff work together to develop a **Request for Proposal (RFP)** for the Unarmed Crisis Response Program, which could include:". Council Member Simmons seconded the motion. The amendment passed upon a roll call vote as follows:

Yes:	(6)	Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No:	0	None
Absent:	(1)	Roland Tooson

Council Member Simmons offered a friendly amendment by adding "such as Care Based Safety" after "community-based organizations" in Clause 4. The friendly amendment was accepted.

Council Member Fellows offered, supported by Council Member Simmons, a friendly amendment by changing a phrase in Clause 1 to read as follows: "and exploring **other** potential funding, **including**". The friendly amendment was accepted.

Council Member McLean offered a friendly amendment by adding "the root causes of" before the word "crime" in the second "whereas" paragraph, to mirror the first. The friendly amendment was accepted.

Mayor Pro Tem Wilcoxon offered a friendly amendment for Clause 5 by replacing "will" with "Desires to" and adding "The City requests" before "regular progress reports". The friendly amendment was accepted.

Council Member Fellows moved to Approve Resolution No. 2025-008 Requesting the Washtenaw County Board of Commissioners Commit Funding for an Unarmed Crisis Response Program and Directing the City of Ypsilanti to Develop an RFP for the Program, as amended. Mayor Pro-Tem Wilcoxon seconded the motion. The amended motion passed upon a roll call vote as follows:

Yes:	(6)	Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows
No:	0	None
Absent:	(1)	Roland Tooson

Council Member King moved, supported by Council Member Fellows, to extend the meeting until midnight. The motion passed unanimously upon a voice vote.

I. Discussion regarding city plans for promoting the earned income tax credit and supporting those Ypsilanti residents eligible to claim the credit.

J. Resolution No. 2025-009 Reappointing residents Tasha Palmer and Lakesha Williams to the Ypsilanti Housing Commission.

Council Member King moved to Approve Resolution No. 2025-009 Reappointing residents Tasha Palmer and Lakesha Williams to the Ypsilanti Housing Commission. Mayor Pro-Tem Wilcoxon seconded the motion.

Yes: (6) Michelle King, Desirae Simmons, Steve Wilcoxon, Nicole Brown, Patrick McLean, Amber Fellows

No: 0 None

Absent: (1) Roland Tooson

IX. BOARD AND COMMISSION - LIAISON REPORTS

A. Police Advisory Commission

The Mayor reported Council Member Tooson is absent and there has been no meeting.

B. Human Relations Commission

Council Member King reported that the next meeting is January 16, 2025 at 6p.m. and the Chair will be presenting their annual report at the February 4th Council meeting.

C. Parks and Arts Commission

Council Member McLean reported that the next meeting is February 16th.

D. Sustainability Commission

Council Member Simmons reported the next meeting is January 13th.

E. Historic District Commission

Council Member McLean reported the meeting is next Tuesday, January 14th.

F. Planning Commission

Mayor Pro Tem Wilcoxon reported they met on December 18, 2024. Highlights include reviewing drafts of the annual report; setting meeting dates; reappointing a member of the Non-Motorized Advisory Board; and reviewing a site plan.

G. Zoning Board of Appeals

No report.

X. LIAISON REPORTS

A. SEMCOG Update

Mayor Pro Tem Wilcoxon reported he has not met with them recently. There are some upcoming events. Tomorrow Transportation Alternative Program is in session planning for next few fiscal years and there is \$10 million available each year for regional trails, pedestrian and bicycle infrastructure and Storm Water Management. January 9th engaging students and regional planning.

B. Washtenaw Area Transportation Study

Council Member Simmons reported there is a meeting coming up. The WATS Crash Report came out. Increase in overall crashes. The intersection with the highest number of crashes in our City is Cross and Adams, with 24, tying for 10th in the county. Pedestrian crashes are up, many are fatal, and they occur most in urban communities. Crashes involving cyclists increased by 33%. This is something we need to be aware of and on the look out for.

C. Urban County

Mayor Brown reported that they went over the year-end information and a report on warming shelters in the county and possible funding opportunities. The next meeting is in March.

D. Ypsilanti Downtown Development Authority

The Mayor reported that she, the City Manager and the Chief of Police held a community chat before the last meeting in December. At the actual meeting, discussions included the progress from the SHINE program and the Freighthouse Plaza project.

E. Friends of Rutherford Pool

Mayor Pro Tem Wilcoxon reported that the next meeting is tomorrow. City Manager reported that we have received the State share of the funding for the pool resurfacing and wants to thank our state partners and Mayor Pro Tem Wilcoxon.

XI. COUNCIL PROPOSED BUSINESS

Council Member Fellows -

- Would like to schedule a Commission Work Session. Council discussed, and scheduled the meeting for March 12, 2025 at 7p.m.

Council Member Fellows made a motion, supported by Council Member King, to extend the meeting until 12:15 a.m. and the motion passed unanimously upon a voice vote.

- Wants to mention the conversation of Health Insurance and acknowledge the need for single payer Medicare for all and looks to submit resolution to forward to State.

Council Member McLean -

- Presented Council's resolution on their 100th Anniversary to First United Methodist Church last Sunday.

Council Member Simmons -

- Did receive mini-grant applications and will schedule meeting to bring forth recommendations to Council, hopefully at the first meeting in February.

Council Member King -

- Asking online speaker, Anthony Morgan, to resend the emails, because King has not received them.

Mayor Pro Tem Wilcoxon -

- The ZBA is meeting Thursday to review applications, with the Watershed Council, for the Pen Dam removal. It's very exciting because we have several great proposals.

XII. COMMUNICATIONS FROM THE MAYOR

- Happy New Year!
- Scheduled meeting for Wednesday, January 15th at noon to discuss Council Agenda process and procedure.

XIII. COMMUNICATIONS FROM THE CITY MANAGER

- Reminder that the next City Council meeting will begin at 6 p.m. for the final budget priorities session.
- The City has gone live with our BS&A Cloud module and it will be fully live by the beginning of February.
- Start next round of community chats end of February, beginning of March.
- Will bring forward resolution to approve the request of Highland Cemetery to let them have our 25% of the Solar Ray agreement income.

XIV. COMMUNICATIONS

XV. PUBLIC COMMENT - CONTINUED (3 MINUTES/EACH SPEAKER)

XVI. REMARKS FROM THE MAYOR

XVII. ADJOURNMENT

A. Resolution No. 2025-, adjourning the City Council Meeting.

The Mayor adjourned the meeting at 11:59 p.m.

B. Please click [here](#) to access the City Council Contact Form. This form can be used to submit any comments/concerns you might have about this agenda.



REQUEST FOR LEGISLATION
January 21, 2025

For: Mayor and City Council

From: Patrick McLean, Council Member, Steve Wilcoxon, Mayor Pro-Tem

Subject: Resolution No. 2025-011 Reappointing Residents Brian Merlos to the Parks & Arts Commission and Stefan Szumko to the Historic District Commission.

SUMMARY & BACKGROUND:

RECOMMENDED ACTION: Approval

ATTACHMENTS:

1. Resolution 2025-011 Merlos & Szumko Reapp
2. Merlos App_Redacted
3. Szumko App_Redacted

CITY MANAGER APPROVAL:

COUNCIL AGENDA DATE: January 21, 2025

CITY MANAGER COMMENTS:

FISCAL SERVICES DIRECTOR APPROVAL:



Resolution No. 2025-011
January 21, 2025

RESOLVED BY THE COUNCIL OF THE CITY OF YPSILANTI:

THAT, the following residents be reappointed to the City of Ypsilanti Boards and Commissions as indicated below:

<u>Name</u>	<u>Board</u>	<u>Expiration</u>
Brian Merlos 1014 N Congress Ypsilanti, MI 48197	Parks & Arts Commission	07/01/2027
Stefan Szumko 232 N River St. #1 Ypsilanti, MI 48198	Historic District Commission	12/31/2027

OFFERED BY: _____

SUPPORTED BY: _____

YES: NO: ABSENT: VOTE:

Board and Commission Application for Reappointment - Submission #6738

Date Submitted: 10/18/2024

First Name*

Brian

Last Name*

Merlos

Address*

1014 N Congress

City*

Ypsilanti

State*

MI

Zip Code*

48197

Phone Number*

[REDACTED]

Email Address*

[REDACTED]

Board or Commission of Reappointment*

Parks & Arts Commission

Number of Terms Served*

1

Did you hold a Position of Leadership?*

Yes

Are you reapplying to continue as a youth member?*

☐ Yes

☒ No

During your time, how did you assist your Board or Commission to achieve its purpose as stated in the enabling legislation?*

I played an active role as a member of the Committee during my first term. Among other activities, I meaningfully contributed to conversations considering and refining resolutions that were in front of the Committee. As former chair of the now-defunct Parks & Recreation Commission, I helped to revise and submit the changed bylaws and ordinance that then went to City Council for approval when they instructed the Parks Commission to merge with the Arts commission. I designed and helped produce the Year-End report that is available on the Commission's website. I currently serve as Vice Chair of the Commission and offer a steady hand in helping to lead if/when the Chair is unavailable.

How will you continue to asisst your Board or Commission to achieve its purpose if reappointed?*

If reappointed I will continue to bring a deliberate and discerning mindset to actively improving the Ypsilanti parks system and I will bring a growth mindset to expand the possibilities of the parks, while balancing the resource constraints so we, as a Commission, can make the most of the opportunities in front of us.

Number of absences*

2

If you had over 3 absences in a calendar year please explain? (this information will not be made available to the public)*

N/A

Electronic Signature Agreement

By checking the "I agree" box below, you agree and acknowledge that 1) your application will not be signed in the sense of a traditional paper document, 2) by signing in this alternate manner, you authorize your electronic signature to be valid and binding upon you to the same force and effect as a handwritten signature, and 3) you may still be required to provide a traditional signature at a later date.

☒ I agree.

Electronic Signature

Brian D Merlos

Board and Commission Application for Reappointment - Submission #6753

Date Submitted: 11/11/2024

First Name*

Stefan

Last Name*

Szumko

Address*

232 N RIVER ST #1

City*

Ypsilanti

State*

MI

Zip Code*

48198

Phone Number*

Email Address*

Board or Commission of Reappointment*

Historic District Commission

Number of Terms Served*

1

Did you hold a Position of Leadership?*

No

Are you reapplying to continue as a youth member?*

☐ Yes

☒ No

During your time, how did you assist your Board or Commission to achieve its purpose as stated in the enabling legislation?*

Reviewed and approved exterior repairs in the Ypsilanti Historic District in accordance with the Secretary of the Interior's Standards for Rehabilitation.in the Ypsilanti Historic District

How will you continue to assist your Board or Commission to achieve its purpose if reappointed?*

Continue to review and approve exterior repairs in the Ypsilanti Historic District in accordance with the Secretary of the Interior's Standards for Rehabilitation.

Number of absences*

1

If you had over 3 absences in a calendar year please explain? (this information will not be made available to the public)*

n/a

Electronic Signature Agreement

By checking the "I agree" box below, you agree and acknowledge that 1) your application will not be signed in the sense of a traditional paper document, 2) by signing in this alternate manner, you authorize your electronic signature to be valid and binding upon you to the same force and effect as a handwritten signature, and 3) you may still be required to provide a traditional signature at a later date.

☒ I agree.

Electronic Signature

Stefan J. Szumko



REQUEST FOR LEGISLATION
January 21, 2025

For: Mayor and City Council

From: Katie Jones, Economic Development/Equity Coordinator

Subject: Resolution No. 2025-012 Approving GEI as the contractor for the removal design for Peninsular Dam. If GEI cannot enter a contract for any reason, the contract will be awarded to Interfluve.

SUMMARY & BACKGROUND:

RECOMMENDED ACTION: Approval

ATTACHMENTS:

1. RFL for EngineeringFirmPenDam_Final
2. Copy of Tabulated Scores - Pen Dam Removal Design Bids
3. Peninsular Paper Dam Removal_CED (1)
4. PeninsularPaperDam_IFE_Proposal (1)
5. Peninsular Paper Dam Removal Design and Technical Assistance Proposal_GEI_Consultants_FINAL (1)

CITY MANAGER APPROVAL:

COUNCIL AGENDA DATE: January 21, 2025

CITY MANAGER COMMENTS:

FISCAL SERVICES DIRECTOR APPROVAL:



REQUEST FOR LEGISLATION

Date: January 21, 2025

For: Mayor and City Council

From: Katie Jones, Community, Economic Development & Equity Manager

Subject: Selection of an Engineering Firm to Complete the Removal Design for the Peninsular Dam

SUMMARY & BACKGROUND:

The City released an RFP for the final design of the Peninsular Dam removal. Since then, we have convened a committee to review the RFPs. The Committee recommends that GEI Consultants of Michigan, P.C. GEI be the selected engineering firm for the final design. They will lead the team with dam removal, dam safety, sediment management, ecological restoration, and project management. They will partner with two other firms, LimnoTech and OHM. LimnoTech will provide sediment sampling field investigations, permitting public engagement and support for construction monitoring plans. OHM will oversee ongoing property boundary assessments/agreements and easement support.

The proposal for GEI for approval is for \$898,577. Aspects of the proposal that the review team felt were important were that GEI included a budget that included more than 1,000 hours more than other proposals. Given that information, their hourly rate would be lower than the other proposals, even though the overall number is higher than that of others. The committee felt that the bid with the lowest overall budget was insufficient in scope. The ongoing regular oversight of the project throughout the dam removal and restoration is critical to the project's success and important to the City, given staff capacity and constraints. If GEI cannot enter a contract, the committee recommends that Inter-Fluve be awarded the contract.

RECOMMENDED ACTION:

Based on the scoring tabulation sheet scores and a competitive review of each proposal, the reviewers recommend that GEI be awarded the contract to complete the Removal Design for the Peninsular Paper Dam. If GEI cannot enter a contract, the reviewers recommend that the contract be awarded to Inter-Fluve.

ATTACHMENTS :

- A) GEI Proposal
- B) Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying CT P.C. Proposal
- C) Interfluve Proposal
- D) Scoring Tabulation

CITY MANAGER APPROVAL:

COUNCIL AGENDA DATE:

CITY MANAGER COMMENTS:

FISCAL SERVICES DIRECTOR APPROVAL:



RESOLVED BY THE COUNCIL OF THE CITY OF YPSILANTI:

WHEREAS, The City of Ypsilanti has an interest in removing the Peninsular Dam

WHEREAS, the City has partnered with Huron River Watershed Council to both study the feasibility and work towards the removal of the dam and

WHEREAS, the City has met with a committee to review proposals for the final design of the Peninsular Dam's removal.

WHEREAS, the committee has recommended that the City Council approve awarding GEI the contract to complete the removal design for the Peninsular Dam. If GEI cannot enter a contract, the committee recommends awarding the contract to Interfluve.

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Ypsilanti approve GEI as the contractor for the removal design for Peninsular Dam. If GEI cannot enter a contract for any reason, the contract will be awarded to Interfluve.

OFFERED BY: _____

SUPPORTED BY: _____

YES: NO: ABSENT: VOTE:

For reference, the scores below are divided by the highest score given for each reviewer. This was completed as a check that scoring methodology differences between reviewers did not affect the final recommendation.

Scoring Tabulation for Bids Received to Complete the Removal Design for Peninsular Paper Dam, Ypsilanti, Michigan

Reviewer	#1 Merjent	#2 GEI	#3 CED	#4 Inter-Fluve		Normalized 1	Normalized 2	Normalized 3	Normalized 4
KG		200	390	360	400	0.500	0.975	0.900	1.000
JB		300	360	320	350	0.833	1.000	0.889	0.972
DB		230	385	315	345	0.597	1.000	0.818	0.896
KJ		310	330	340	339	0.912	0.971	1.000	0.997
AH		298	324	340	360	0.828	0.900	0.944	1.000
PS		225	400	350	250	0.563	1.000	0.875	0.625
ST		282	342	327	318	0.825	1.000	0.956	0.930
SW		0	400	325	380	0.000	1.000	0.813	0.950
Total Score		1845	<u>2931</u>	2677	2742	5.057	<u>7.846</u>	7.195	7.370

Estimate	\$838,100	\$898,577	\$894,095	\$850,860
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Estimate Notes

Includes a budget of over \$200,000 that is largely not included in other proposals related to technical assistance during construction.

Standardized estimate comparing similar costs for similar tasks:
Represents the budget estimated without inclusion of technical assistance during construction or restoration.

\$660,900	\$638,403	\$723,415	\$830,090
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Reviewer Notes

We recommend dismissing Applicant 1's proposal as insufficient. Several reviewers had significant reservations.	GEI has budgeted more than 1000 hours more than other proposals. Hourly rate comes out the lowest.	Relevant experience and local availability seem lower than the competing bids.	General concern that their omission of construction oversight budget renders their proposal incomplete.
Applicant 1 had not sufficiently reviewed the background materials and reports completed to date.	OHM as a subcontractor is retained by the City of Ypsilanti and has a long-standing relationship.		Greater specificity related to property boundary assessments was appreciated, though some of that scope of work has already been completed by OHM.
	Ongoing, regular oversight of the project through restoration is a critical component of the work.		

Recommendation:

Without objection, based on the above scores and a competitive review of each proposal, the reviewers recommend Appicant #2, GEI, be awarded the contract to complete the Removal Design for Peninsular Paper Dam. If GEI is unable to enter into a contract, the reviewers recommend the contract be awarded to Applicant #4, Inter-Fluve.



City of Ypsilanti

Removal Design of Peninsular Paper Dam and the Retention of Technical Assistance Through Construction Removal

September 16, 2024

Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT P.C.
7050 W Saginaw Hwy #200
Lansing, MI, 48917
517 827 8672

Proposal Number: 24009766P



Engineering
& Design

September 16, 2024

Katie Jones
City of Ypsilanti City Hall
1 South Huron Street
Ypsilanti, MI 48197

Ref: Removal Design of Peninsular Paper Dam and Technical Assistance through Construction Removal

Dear Ms. Jones:

Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT P.C (CED) appreciates the opportunity to submit our response for providing Professional Dam Removal Services to support the City of Ypsilanti (City). We have a thorough understanding of the requirements and expectations for this contract. CED brings an excellent reputation for responsive project management, quality deliverables, and experience to perform all the services identified by the City as we are highly experienced in all aspects of Dam Engineering.

CED has and is currently providing engineering, H&H and environmental services on several innovative, high profile local projects. Below are prime examples of our recent extremely relative experience.

- One of these is MDOTs US-23 project between I-94 and M-14 where we are providing an environmental assessment, design and contract documents for this major highway corridor including endangered mussel studies, and oversight/railroad coordination services for the Huron River/Michigan Line bridge crossing. **This is the rail line that also crosses the Peninsular Dam impoundment, where the same coordination will be required to evaluate and furnish any needed scour protection measures for that bridge's foundations.**
- CED also provided feasibility, design and construction oversight for Ann Arbor's visionary FEMA funded Allen Creek Berm Opening project that provides hydraulic conveyance during flood events, and pedestrian access to the waterfront during normal flow conditions. The design work included H&H and structural engineering; EGLE permitting, and utility coordination; design of railroad construction staging; stakeholder engagement; environmental and historical assessment; and delivery of all bid documents and grant application materials.
- We have also recently completed designing the similar Bandemer-Barton Trail and Railroad Underpass for Washtenaw County through another FEMA Pre-Disaster Mitigation Grant. From these and numerous other Michigan projects we are experienced with all EGLE and Michigan DNR permitting requirements.

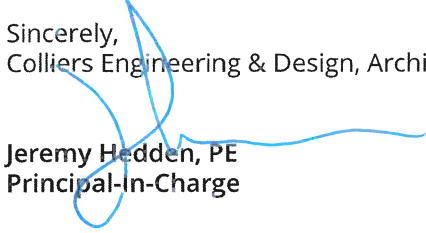
We have strategically teamed with Princeton Hydro who provided the 2019 Peninsular Dam Feasibility Study which focused on three critical issues: (1) sediment quality and quantity, (2) potential infrastructure/utility impacts, and (3) riverfront land ownership. They provided sediment sampling, site investigation, survey data/mapping, and H&H modeling. **We are currently partnering with Princeton Hydro on the removal of two federal dams in Maryland to meet similar safety, liability and ecosystem restoration objectives.** They will assist CED with the services they provided in the Feasibility Study and will perform the sediment management including sediment transport activities.

Mr. James Ensign, PE will lead the CED Team as the Contract/Project Manager, serving as the main point of contact between CED and the City, facilitating communication and coordination between all Team members and overseeing overall project execution.

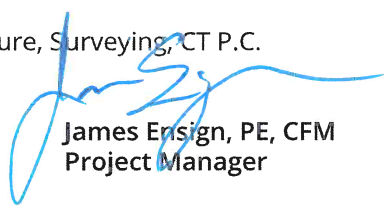
Mr. Jeremy Hedden, PE will serve as the Principal in Charge who is an authorized signatory with full authority to make representations and to negotiate for the firm.

As Senior Principal, I personally commit CED's priority effort to meet all County requirements efficiently and effectively on schedule and within budget. Thank you for your consideration and look forward to working with you. If there are any questions or you require further information, please feel free to contact our project Manager James Ensign at james.ensign@collierseng.com, 989.493.0997 or myself at jeremy.hedden@collierseng.com, 517.214.0282

Sincerely,
Colliers Engineering & Design, Architecture, Landscape Architecture, Surveying, CT P.C.



Jeremy Hedden, PE
Principal-In-Charge



James Ensign, PE, CFM
Project Manager



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Additional InformationN/A

PENINSULAR
SINCE 1867 PAPER CO.
YPSILANTI

Tab 1

Project Understanding



Engineering
& Design

Project Understanding

CED offers a Michigan led team of engineers and environmental professionals who have managed significant engineering and environmental projects along the Huron River and includes Princeton Hydro as a key partner who performed the 2019 feasibility study for the Huron River Watershed Council. Our team has the necessary capabilities in dam removal design and construction technical support experience, having worked with MDNR on other dam rehabilitation and dam removal projects, and having performed environmental analyses, and permitting, for projects in and adjacent to the Huron River to complete the removal design of the Peninsular Paper Dam and for technical assistance to support the construction activities.

While not specifically requested in this RFP, CED together with Princeton Hydro have the river restoration expertise and experience to complete a restoration design to return the 1.25 mile impoundment upstream of the dam to a natural stream channel that promotes fish passage for the target species during the spawning season, extends the aquatic connectivity of the Huron River, is designed with bioengineered features and riprap that together withstand the velocities and shear stresses for the full range of flow conditions, and provides water-based recreational activities that people enjoy. We use natural stream channel design principles as we have for USACE, National Park Service and other resource agencies follow design guidance developed by the USACE, USDA, Rosgen, EPA, and river restoration techniques consistent with the State of Michigan's Natural River program guidelines to provide stable channel designs that offer equal or improved aquatic habitat characteristics over an engineered channel. We also utilize bioengineering features including vegetation reinforced soil systems, brush layering, live willow stakes, coir mats and rolls, cottonwood posts, live fascines. This project ultimately provides the City an opportunity to better use the land along the left bank of the Huron River upstream of the dam to create an inviting and thriving public space along the river, something our team also excels in.

This project ultimately provides the City an opportunity to better use the land along the left bank of the Huron River upstream of the dam to create an inviting and thriving public space along the river, something our team also excels in.

The CED Team will review all data, findings and conclusions from the previous phases of the analysis to complete this phase, and will:

- Report to the City's Steering Committee and subject matter experts,
- Complete the final design and permitting tasks to facilitate construction,
- Provide bidding and construction administration assistance, and
- Serve as a technical advisor to the City.

Project Approach/Administration

Mr. James Ensign, PE, CFM, our proposed Project Manager is located approximately one hour away in Lansing, MI and will be able to be physically present at meetings on a weekly basis as required. He will work with the City's communications team to review draft communications for technical content, present findings at public meetings, to municipal advisors and to elected officials as needed. One of CED's strengths is providing materials for, organizing and conducting public meetings. We can also provide web site design and update web site content for our clients. For public meetings we work closely with our municipal clients to engage the steering committees by providing public meeting content in advance for review by the steering committee and public officials, particularly for projects that may be controversial in nature. CED is MDOT's prime consultant on the US-23 Environmental Assessment Project and has successfully navigated the questions and concerns of the City of Ann Arbor and interested citizens by crafting an engaging and open public meeting process after first holding meetings with and providing materials for review to MDOT. Mr. Ensign will be supported by a small team of Outreach, Communications and Grants specialists to provide the City with support that may be needed by the City.

Planning, Design and Permitting

Permits, Agreements, and Agency Consultation.

The CED Team will prioritize the identification and coordination with permitting agencies including, but not limited to, EGLE, USACE, and USFWS as well as other stakeholder agencies from the start of the project. Design plan development to address agency issues as well as identification of needed property easements will be prioritized. Initial anticipated coordination is further discussed in detail below.



Historic Preservation and Archaeological

Assessment. Our in-house Historic Preservation Specialists and Archeologists are prepared and experienced in working with the Michigan State Historic Preservation Office (SHPO) and are prepared to evaluate the current dam and associated structures and perform archeological surveys in areas of ground disturbance, as needed. Our experienced team, which includes Technical Environmental Specialists within our Water Resources group, will work closely with the engineering team throughout the design to avoid, minimize, and if needed, provide mitigation options.

Sediment/Dredged Materials Management. According to the 30% Design Report completed by AECOM, Interfluve, and Limnotech, the sediment within the impoundment comprises of mainly silty fine to medium grained sands, with some components of organics. It was also found through the extensive investigation and testing of sediment that, for most of the sediment, contaminant concentrations were below the EGLE residential human risk criteria, except for two slight exceedances, one for arsenic and one for benzo(a) pyrene. As a result, if necessary, the off-site disposal of sediment will have many options, including for use as topsoil amendment, non-structural site development fills, and other general uses. The relatively sandy nature of the sediment will dewater relatively well and will benefit from short term stockpiling prior to export from the site. Due to the relatively clean and sandy nature of the sediment, on site reuse and grading will also be possible, and could be used to develop habitat, such as hollow/hummock wetlands, fills for upland areas, for example, if a proposed park, non-structural areas are developed. As part of this task, CED will develop a sediment/dredged materials management plan including prepare phasing and dewatering plans, identify potential off-site disposal recipients, and work with the project habitat design team to relocate sediment to areas where it could be used for habitat creation.

HTRW Assessment. The CED team includes technical specialists that can perform both desktop reviews of regulatory databases and site inspections. This includes asbestos identification and project monitoring, hazardous materials surveys including Phase I/II ESAs, subsurface investigations, geotechnical investigation, underground storage tank removal monitoring, and soil waste characterization.

Property Boundary Assessments and Agreements.

The scope of services indicates that property boundary assessments and agreements are already in process that we will support this effort and guide local officials through any steps required. Although the scope includes no specific requirements, we assume that some additional topographic survey, bathymetric survey and property/easement surveys may be required to

complete the project. For this reason, CED plans to assign in-house Michigan licensed professional land surveyors as needed to provide additional support in all the potential required survey and mapping disciplines to support any additional efforts that would be required for this project. This includes topographic, bathymetric, boundary and easement surveys.

Wetland Delineation. Based on the scope of services and review of previous studies, a wetland delineation that includes assessment of wetlands that will transition to upland, remain as wetland or reform from bottomlands will be performed. In addition, we will identify wetlands that may be temporarily impacted by project activities needed to access the dam site and impoundment for demolition and removal of concrete, sediment removal and other debris removal and to construct scour countermeasures at the two upstream bridges depending upon the extent of scour countermeasures that will be needed there. Our team is prepared to begin this task, as soon as authorized, to assess all existing upland and wetland resources, within this growing season, to ensure the results of this assessment are accurate and are available to guide all design decisions.

Native, Protected, Threatened and Endangered Species. CCED will build upon the guidance provided by the USFWS IPAC tool and the Michigan Natural Features inventory (MNFI) and the previous work summarized in the Restoration Plan. For all TES species other than mussels, the previous research has indicated a low likelihood of TES involvement and also indicates that dam removal and reclamation of lands presently within the impoundment may actually provide habitat for these species of concern.

Much of the Huron River is classified as a Group 3 mussel stream (state and federally listed species known to be present) and the stretch above and below the Peninsular Dam impoundment has recent records of Elktoe, Purple Wartyback and Wavy-rayed Lampmussel, which have state special concern or threatened status. Based on the scope of services, we assume that the project team mussel survey has already been initiated and that those performing the work will bring it to completion. We assume that CED will become involved with the permitting aspects that would follow from the mussel survey and documentation which will be performed using the Michigan Freshwater Mussel Survey Protocols and Relocation Procedures, (May 2019, Ver.2) certified mussel survey experts holding a State of Michigan Endangered Species Permit.

For the US-23 project in Ann Arbor, CED is the prime consultant for MDOT and is managing the freshwater mussel specialists (GEI) conducting the Huron River mussel survey including coordination and timing to meet

all permitting and construction timeframes. Additionally, our internal staff has worked on Biological Assessments for federally endangered mussels and coordinated directly with the USFWS to identify appropriate relocation/mitigation requirements. We will build on the ongoing mussel survey efforts summarized in the Restoration Plan (2023) and follow all applicable State and USFWS regulations related to permitting.

Washtenaw County Water Resources Commissioner EGLE Floodplain Permit. A permit from the Washtenaw County Water Resources Commissioner is anticipated for modifications of two drains that enter the Huron River impoundment on the right bank. We will prepare Drain Use Permit Applications for each of these outfalls. It is likely that the WCWRC will also request easements between the current drain outlet and the new river edge to maintain a positive outlet for the drain. In addition, a Soil & Erosion Control Standards will be part of the contract documents in order to obtain a Part 91 Soil Erosion and Sedimentation Control permit for the construction activities.

EGLE Permitting. The State of Michigan's Floodplain Regulatory Authority, found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, requires that a permit be obtained from EGLE prior to any alteration or occupation of the 100-year floodplain of a river, stream or drain. EGLE has already been contacted and provided peak and low flow discharges for the study reach, but since these were originally requested over one year ago, we will need to issue another request to EGLE to provide this information. Reviews will also be necessary under other State statutes found in NREPA and include:

- Part 301: Inland Lakes and Streams
- Part 303: Wetlands Protection
- Part 315: Dam Safety
- Part 31: Floodplains (this approval will typically come with a requirement for the City to prepare a LOMR, which we have extensive experience with preparing)
- Part 91: Soil Erosion and Sedimentation Control (through Washtenaw County Water Resources Commissioner)

We anticipate environmental permitting to be the critical path to project delivery and we are both experienced and prepared to coordinate with the various permitting agencies as highlighted in our work on the Moore's Park Dam Trunnion Pin replacement where we successfully worked through all levels of Federal and Michigan State permitting to deliver a successful dam rehabilitation project on the Grand River. Our Project Manager has also worked closely with EGLE and Washtenaw County recently on several projects requiring permitting along the Huron River under these statutes.

Geotechnical Investigations for Dam and Bridges.

There are two bridges (MDOT Rail, Superior Road) located in the Peninsular Dam impoundment whose foundations may be compromised by the dam's removal as the natural stream processes will change from primarily depositional to primarily degradational until a new long-term equilibrium is reached. AECOMs preliminary scour analysis of these two bridges indicated that scour is a potential concern and to plan for inclusion of scour counter measures in the final design. We will evaluate the previous scour analyses and recommendations and coordinate with the bridge owners final scour countermeasures. The placement of cobbles upriver of the bridge abutments was viewed by AECOM as the most likely and cost-effective means of addressing abutment scour and fortifying the entire cross section at bridges was also considered as a potential option. Ultimately, the bridge owner will need to accept the final scour countermeasures. **CED is one of MDOT's go-to firms for bridge hydraulics and scour** and we have performed over 100 such evaluations in the past 15 years, including the Great Lakes Railroad over the Manistee River and I-196 over the Grand River. As such, we are experienced in providing long term aggradation and degradation estimates and performing structural stability analyses of bridge piers and abutments in the scoured condition as well as providing bridge scour countermeasures for bridges determined to be scour critical. **We also work extensively with the MDOT Office of Rail, and various long and short haul railroads including CSX and Norfolk-Southern.** We therefore understand the intricacies of working with railroads in the State of Michigan. We are presently coordinating with the MDOT Office of Rail on the US-23 project on the same rail line at another span over the Huron River upstream of Peninsular Dam.

Building Structural Analysis. We will review any previous structural inspections and assessments of the powerhouse and papermill sign with respect to determining the interrelationship of the building and dam to confirm that the building, if it were to remain, would be independently stable once the dam is removed. Secondly, we have architects and building structural engineers who can assess the building structure, electrical service, equipment, services and compliance with respect to the Michigan Building Code. We understand from review of some project materials that the City may wish to renovate and repurpose the building in connection Peninsular Park's future redevelopment, including retaining the sign as a historic feature that's recognized by the community. **If the City desires to retain and renovate the building, CED can provide all the services needed in connection with the renovation.**

Hydrologic, Hydraulic and Sediment Transport Modeling. In addition to utilizing any recent hydraulic

modeling previously performed in the Restoration Plan (2023) we will also review the effective FEMA FIS and coordinate with MDOT who is performing the hydraulic and scour analyses for the US-23 project. We will modify the existing hydraulic model using the most currently available bathymetry and LiDAR to arrive at an updated existing conditions model. Since the City is enrolled in the NFIP, changes to the FIRM in the form of a CLOMR or LOMR will need to be documented and the FIRM updated since the entire river reach will show a reduction in the SFHA. Since the SFHA is regulatory and residents' flood insurance rates are based on its limits, homeowners who are paying flood insurance premiums would benefit from completion of a LOMR that is likely to be required by EGLE.

Impoundment restoration including the proposed channel planform, channel width, channel depth, width/depth ratio, bankfull discharge (2,231 cfs) and average shear stress (~ 0.5 psf) have been developed and provide a starting point for sediment management work that will be performed under this project.

Final Removal and Restoration Design. The various elements of the final engineering and design, in combination with permitting requirements will be compiled into a set of contract documents (plans, specifications, and engineer's estimate) for bidding. The drawing set is anticipated to cover the demolition of the existing dam that retains the right abutment/retaining wall with any needed stabilization measures, removes the spillway and apron completely, and retains and stabilizes the powerhouse for future repurposing by the City.

The impoundment is presently proposed to be dewatered to the maximum extent possible by incrementally removing the 8-inch by 8-inch stoplog timbers in the 8-foot wide stoplog bay auxiliary spillway, adjacent to the powerhouse, while not exceeding a maximum drawdown rate of 0.5 feet per day. The river elevation just upstream of the dam can be lowered to approximately elevation 707 with the removal of the stoplogs, leaving approximately 5 feet of water remaining upstream of the dam under low-flow conditions.

The design work within the impoundment will include preparation of AutoCAD drawings using Civil 3D to quantify the staged sediment removal needed to provide for any future stream restoration, while providing stabilization of all disturbed areas including armoring of the bankfull channel through the former impoundment and stabilization of the created floodplain on either side of the channel. Lastly, the contract will include, as verified through scour analyses and discussion with the upstream bridge owners, the required scour countermeasures that will need to be installed as part of

this contract and prior to the complete lowering of the reservoir.

Our preliminary drawing set assumes a 60 page plan set based on the following:

- Cover sheet
- General, environmental and demolition notes
- Hydraulic data/Flood emergency action plan
- Spillway + apron demolition plans and details
- Low flow stoplog structure demolition detail
- Right abutment/retaining wall stabilization
- Powerhouse stabilization/safety measures
- MDOT rail bridge scour countermeasures
- Superior Road bridge scour countermeasures
- Soil & Erosion control drawings and details
- Dewatering plan
- Civil design plans for impoundment area
- Cross sections through impoundment area
- Bankfull channel plan, profile and details
- Landscape and floodplain restoration plantings

Bidding and Construction Administrative Assistance.

After contract documents have been issued for bidding, we will assist the City in providing interpretation and/or clarification of drawings and specifications during the bid phase, responding to bidders' questions, participating in a pre-bid meeting with interested contractors, and preparation of addenda documents if necessary. After bids are received, a post bid report would be prepared, which summarizes the detailed bid review and investigation of the lowest responsible bidder's estimate versus the engineer's estimate and ultimately recommends award for construction to the low responsible bidder.

Post Construction and Restoration Monitoring and Maintenance Plan. For during and construction of the dam removal it will important to develop a baseline monitoring plan that will address 1) water quality, 2) benthic health, 3) geomorphic impacts, 4) sedimentation at downstream infrastructure (i.e, bridges and channel capacity), 5) invasive species control during the revegetation process, and 6) adaptive management to follow up to stabilize and modify the constructed project to ensuring compliance with regulations, protection of the public, and proving ecological uplift. Therefore, the following efforts are expected to occur during the pre-construction baseline development, and the follow up monitoring and adaptive management.

To accomplish all six objectives, listed above, it will be necessary characterize the downstream reaches of the river to the extent the sediment transport model and removal phasing is completed (i.e. a phased lowering of the dam to space out sediment transport and reduce deposition impacts). Geomorphic surveys will be completed to assess the bankfull widths of the

river. Surveys need to be completed at downstream bridge crossings and representative stream channel sections. Water quality stations would also be identified to assess both turbidity during construction, with negotiated thresholds that would drive the progress of construction. During and following construction these representative river sections and bridges will be measured and at specific sediment depth thresholds, may require actively removing sediment, or extending the length of the phases to allow for dissipation of high turbidity readings and significant sediment deposited thicknesses.

Following construction surveys and geomorphic assessments of the subject cross sections and bridges will be completed to ensure that the sediment deposition does not impede the safe conveyance of floodwaters and is dissipating over time. The timeframe of monitoring is expected to require about 6 months of time. Within the project reach, any installed nature-based features (i.e. engineered wood or rock stream structures) will be inspected on a semi-annual basis, for a period of two years, and any repairs that need to be completed will be recommended in a memorandum to the client.

Monitoring of invasives and the success of voluntary and planted native vegetation will be conducted for a period of growing seasons. Any invasives found growing in the project area will be hand pulled or treated by a licensed herbicide applicator. Success will be achieved when the vegetated project area contains at least 80% vegetative coverage by native plant species.

Administration and Observation of Construction. The administration and observance of construction includes what's commonly referred to as Construction Assistance (CA) and Construction Inspection (CI). CA primarily will involve administrative office-based tasks and regular construction meetings, submittal reviews identified in a schedule of submittals. Submittals requiring a quick turn-around include: a Flood Emergency Operation Plan, Contractor's Project Schedule, and long-lead delivery items. In addition to submittals, construction phase office support also involves RFI Responses, review of Field Orders/Change Orders, and Contractor Disputes/ Interpretations.

At the same time the submittal process is ongoing with the CA Team, the CI Team is introduced to the project. The CI Team has direct responsibility for observing contractor activities to ensure that the plans and specification requirements of the contract are fulfilled before corresponding payments are made. Specific duties include record keeping, attending job meetings, and providing input related to submittals/ RFIs from an on-site perspective. Observations, site visits, site meetings, and coordination with the City will be required to promote compliance and verification, and any findings are recorded in daily reports. CED also has experience in providing optional services such as developing drawings-of-record, observation/assistance in performance tests and inspections, training, and review of Contractor prepared as-built drawings. Our staff of construction observers includes 8 inspectors certified in aggregate testing, density testing, concrete & asphalt testing in addition to completing daily inspection reports and tracking construction progress and quantities.





Tab 2

Team Organization and Experience



Engineering
& Design

The CED Team

We have an experienced team of professionals proposed to serve the City along with our subconsultant team. Our proposed organizational chart, key staff bios, and key staff resumes are provided below. Our Project Manager, James Ensign, PE, CFM with over 16 years of experience will manage this project to a successful completion and serve as the main point of contact for the City. With his expertise in Dam projects, he brings a wealth of knowledge and understanding to every project. This allows him to be proactive, thinking outside the box to solve problems for his clients.

A Dam removal project typically involves a well-organized team and institutional structure to ensure successful planning, execution, and management. This structure involves collaboration among various stakeholders, including government agencies, environmental organizations, engineering firms, local communities, and funding agencies.

James is an effective project management who stays involved with coordination among the project team and stakeholders, ensuring open communication and alignment on goals. This includes monitoring project progress and reporting regularly to track milestones and adjust as needed. It also requires addressing challenges and issues proactively as they arise, to avoid delays. Finally, managing timelines and deliverables is essential for maintaining project momentum and ensuring that objectives are met on schedule.

James will also coordinate with our engineering and design team to facilitate staying on schedule with preparing feasibility studies and environmental assessments, designing methods for removal, sediment management, and restoration plans, and addressing issues related to hydrology, sediment transport, and ecosystem impacts. Additionally, they prepare detailed construction and monitoring plans to ensure effective implementation and long-term success of the project.

Jeremy Hedden, PE will serve as the Principal-in-Charge and we understand that this role is critical for ensuring the project is executed effectively and efficiently, maintaining alignment with client expectations, and ensuring compliance with regulatory and environmental standards. He will have the right experts (engineers, environmental scientists, ecologists, contractors) assigned to the project. Because of her extensive background with water resources, dam safety, dam removal and modeling project, she can also serve as a senior advisor to the team as needed.

Key Team Personnel



James Ensign, PE, CFM will serve as the Project/Contract Manager and first point of contact for the City.

Mr. Ensign's experience includes maintenance and improvement projects administered under The Drain Code of 1956, dam and lake level projects administered under parts 307 and 315 of the Michigan Environmental Protection Act. Facilitation of these projects involve regular coordination between the Drain Commissioners, County Road Commissions, municipalities, property owners, NRCS, FEMA and the Michigan Departments of Environmental Quality, Natural Resources, Transportation, and Agriculture. Projects include dam improvements, hydrologic and hydraulic analyses, determination of floodplain elevations and delineations, lake and pond design, storm sewer systems, open channel drains and streams, preparing asset management plans, and the preparation and review of storm water management plans.



Jeremy Hedden, PE will serve as the Principal-In-Charge.

Mr. Hedden has participated in over a hundred structural design projects as well as various roadway and railroad projects. He led the structural design efforts of the award-winning Farm Lane Underpass project on the campus of Michigan State University. As a Project Manager, he has led several high-profile projects in the State of Michigan including the 9 Mile over I-75 emergency bridge replacement project which was completed in less than 2 months as part of a design-build delivery system. Mr. Hedden is an active member on AREMA Committee 8 which develops and maintains design specifications for concrete structures, slab track, and foundations involving railroad bridges. Mr. Hedden is responsible for implementing and leveraging advanced technologies into current operations to control costs, reduce scheduling, and increase safety.

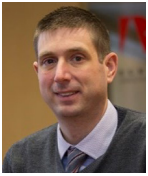


Kenneth Avery, PE, CFM, D. WRE will serve as the QA/QC Manager.

Mr. Avery has many years of experience in environmental and water resources engineering for USACE, USFWS, NPS, FEMA and state natural resource agencies. In the field of dam decommissioning, he has performed dam safety evaluations, hydrologic and hydraulic analyses, geomorphology, sediment transport and management, environmental studies and permitting.



The proposed CED management team has the expertise and experience necessary to effectively manage, coordinate, and provide trusted services to the City. Our team is available and ready to execute this contract.



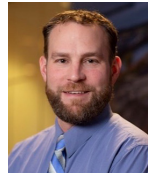
James Guistina, PE will serve as the Hydrologic, Hydraulic, & Bridge Scour Analysis Lead. Mr. Guistina is experienced in the structural and hydraulic design of bridges, dams, and culverts. He has performed hydraulic analysis on culverts, bridges, and dams for various municipalities. The analysis included culvert size/design, bridge hydraulic opening design, dam safety, dam hydraulic analysis, stream morphology, stream scour, and bank stabilization. He utilizes HEC-RAS, HY-8, HEC-HMS, SITES, Rosgen River Stability, and other programs to analyze hydraulic models to provide a thorough and practical analysis. He has a firm understanding of NYS DEC procedures including permitting, dam safety, stormwater, and exposure to environmental law tied with canal dredging operations.



Karen Missell, RLA will serve as the Environmental Review and Permitting Lead. Ms. Missell has been involved in traditional landscape architecture, ecological design, and environmental review and permitting for over 20 years. As a Regional Environmental Unit Supervisor for NYSDOT, Ms. Missell was responsible for ensuring all NYSDOT capital projects and locally sponsored federal aid projects met all NEPA requirements including cultural resources, threatened and endangered species, water resources permitting and mitigation, and other required environmental review and documentation. As a licensed Landscape Architect, she has ensured projects meet the tight PROWAG/ADA tolerances for sidewalks and curb ramps and has served as a NYSDOT Regional ADA Technical Specialist. Her extensive knowledge in plant ecology, mitigation monitoring and design, and environmental reviews allows her to create unique solutions to aesthetic, technical, and environmental challenges.



Kimberly Baptiste, AICP will serve as the Public Outreach Lead. Ms. Baptiste has a diverse background in planning, urban revitalization, site development and open space planning and brings a unique perspective to every project. A significant amount of her work involves utilizing unique approaches to gather information, educate stakeholders and build consensus around multifaceted projects with a focus on transportation, urban revitalization, placemaking and trail planning. She regularly uses planning tools to evaluate the social, economic and development implications of land use and design alternatives. Ms. Baptiste specializes in managing large-scale, multi-disciplinary projects and offers significant experience coordinating various agencies and stakeholders to reach consensus on project direction.



Joshua Repp, PE will serve as the Dam Engineering Lead. Mr. Repp has Structural Engineering experience on various multidisciplinary waterfront, navigation, hydraulic, transportation, and building projects. Mr. Repp has expertise in condition assessment of existing structures, planning, alternative analysis investigation, structural design, contract document preparation, bidding phase services, construction administration, and project management. He has completed numerous inland waterway projects for the US Army Corps of Engineers, NYS Canal Corp. and other State and Canal Authorities. Rehabilitation and restoration of navigation, water retention, and waterfront facilities has been a highlight of his experience in recent years.



Diego Rivera-Benard, PE will serve as the Geotechnical Lead. He has experience on a wide variety of engineering projects, specifically in geotechnical, structural, seismic, hydrological and hydraulic analyses and design. He has performed projects involving analyses for different types of structures, including power plants, concrete and steel buildings and earthen and concrete dams. Mr. Rivera has performed dam safety inspections, dam stability evaluations and managed field investigations in the U.S. and other countries. His experience also includes technical reviews, supervision and management of engineering projects; preparation of bid documents; coordination with State and Federal Regulatory Agencies; and development of detailed engineering reports.



Nathan VanDrunen, PE will serve as the Construction Engineering & Inspection Lead. Mr. VanDrunen has 23 years of experience of experience in surface transportation. His experience includes overseeing new bridge construction, full road reconstruction and bridge rehabilitation that consists of demolition over live traffic, staged construction, pile driving operations, as well as micro-pile construction, painting of structural steel, substructure and superstructure construction, structural steel erection and railing construction. Mr. VanDrunen's experience also includes; asset management, strategy development, cost estimating, technical writing, project management, construction management, bridge program management, project scoping, planning and design.



Kelsey Howard will serve as the Grants Lead. Ms. Howard manages the preparation of grant and loan applications and the administration of awards for CED. She communicates with funding program representatives on behalf of our clients,

reviews program guidelines, and ensures that complete, competitive applications are submitted. Ms. Howard has helped secure over \$139 million for clients’ projects, working with over 70 towns, counties, utility authorities and others.

Subconsultants

CED has worked with our subconsultant partner on multiple projects throughout Michigan. This existing professional relationship allows us to effectively communicate to ensure task assignment requirements are clearly understood and efficiently executed. This proactive teamwork, coordination and collaboration will directly result in quality on every assignment. Their technical expertise, additional resources, and trusted collaboration provides a solid foundation the City can depend on.



Princeton Hydro, LLC (PH), is a small business enterprise that focuses on providing integrated ecological and engineering consulting services. PH specializes in natural resource management, water resources engineering, geotechnical design & investigation, and regulatory compliance. Operating across the Mid-Atlantic and New England states, PH’s multidisciplinary team possesses the necessary skills to conduct comprehensive assessments, develop sustainable solutions, and successfully implement them.

PH is dedicated to enhancing ecosystems, quality of life, and communities through innovative science and engineering solutions. PH’s passion and commitment drive us to exceed client expectations. PH is known for delivering comprehensive, cost-effective ecosystem-based solutions, leveraging their expertise in urban, coastal, riverine, floodplain, and wetland environments. With over 50 technical personnel and 11 administrative staff, including individuals with advanced degrees and professional licenses, our team offers a wide range of services, including wetland restoration, geotechnical investigation, hydrology and hydrogeology, coastal resiliency, green stormwater management, aquatic ecology, and stakeholder engagement.



Geoffrey Goll, PE (PH) is a founding Partner of Princeton Hydro and has extensive experience in geotechnical engineering, stormwater management, hydrology, floodplain hydraulics, environmental assessments, and environmental permitting. His professional background is specific to water resource and geotechnical engineering. The breadth of his experience ranges from stream restoration and modeling to the design of large retaining structures and building foundations; he has provided expert consultation, engineering design and support on a

variety of projects including residential developments, solid waste transfer stations, correctional facilities, and wastewater treatment plants.

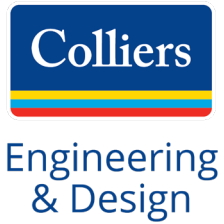


Clay Emerson, PhD, PE, CFM, (PH) has a broad range of experience throughout the water resources field. Dr. Emerson’s educational background and work experience includes a substantial amount of crossover between engineering and environmental science applications. He has experience in the monitoring, modeling, and analysis of the hydrologic changes and NPS pollution associated with land use change. Dr. Emerson has specific expertise in the field of stormwater infiltration, including unsaturated groundwater hydraulics, infiltration testing, and infiltration design.

The graphic below outlines the key staff involvement and responsibility for this project.

Key Staff Project Responsibility	
Name Firm	Percent of Project
James Ensign, PE, CFM CED	11.6%
Jeremy Hedden, PE CED	2.4%
Kenneth Avery, PE, CFM, D. WRE CED	3.2%
James Guistina, PE CED	4.3%
Karen Missell, RLA CED	4.8%
Kimberly Baptiste, AICP CED	4.8%
Joshua Repp, PE CED	3.7%
Nathan Van Drunen, PE CED	3.5%
Diego Rivera, PE CED	4.4%
Geoffrey Goll, PE PH	5.1%
Clay Emerson, PhD, PE, CFM PH	4.1%

Organizational Chart





James Ensign, PE, CFM

Project Manager | Water

Years with CED

7.5 Years

Education

BS, Civil Engineering, Michigan State University, 2009

Licenses

Michigan, Ohio, New York

Certifications

Certified Floodplain Manager (CFM)

Affiliations & Memberships

American Society of Civil Engineers (ASCE)

Association of State Dam Officials (ASDO)

Association of State Floodplain Managers (ASFPM)

Water Management Association of Ohio (WMAO)

Michigan Stormwater Floodplain Association (MSFA)

Michigan Association of County Drain Commissioners (MACDC)

Michigan Water and Environmental Association (MWEA)

Mr. Ensign has a Bachelor of Science in Civil Engineering from Michigan State University with emphasis in structural analysis and water resources. Mr. Ensign's experience includes maintenance and improvement projects administered under The Drain Code of 1956, dam and lake level projects administered under parts 307 and 315 of the Michigan Environmental Protection Act. Facilitation of these projects involve regular coordination between the Drain Commissioners, County Road Commissions, municipalities, property owners, NRCS, FEMA and the Michigan Departments of Environmental Quality, Natural Resources, Transportation, and Agriculture. Projects include dam improvements, hydrologic and hydraulic analyses, determination of floodplain elevations and delineations, lake and pond design, storm sewer systems, open channel drains and streams, preparing asset management plans, and the preparation and review of storm water management plans. His experience in the use of software technology includes MERL, SAP2000, HEC-RAS, HEC-HMS, EPA-SWMM, EPANET, Auto-CAD, ArcGIS, Field Manager, and Microsoft word processing, database, and spreadsheet programs. He is a Professional Engineer and a Certified Floodplain Manager.

Key Projects

LBWL | Moores Park Dam

Lansing, MI | Project Manager

Mr. Ensign managed the design and construction of infrastructure repair and improvements on the hydroelectric dam located on the Grand River. Improvements included replacement of the tainter gate trunnion pins, a stoplog storage rack, side seal heaters, new buoy/debris screen, and electrical distribution improvements. Project deliverables included planning and design reports, technical specifications, AutoCAD construction plans, and permitting through FERC and MDEGLE. In addition to project management, Mr. Ensign served as the technical lead for the hydrology and hydraulics for the gates, spillways, and temporary cofferdams on the project. Fees: \$235k | Construction: \$1.5 Million

CSX Transportation | Lake Michigan Shore Protection

St. Joseph, MI | Project Manager

Mr. Ensign coordinated the design and obtained the permits to repair several slope failure and damages to beach protection structures adjacent to the railroad tracks that run parallel to Lake Michigan. The

design and permitting was fast tracked to meet the necessary construction schedule. Extensive field investigations were performed. Coastal engineering analyses of waves and water levels were completed to determine the limits of the shoreline protection revetments. Fees: \$300k | Construction: \$5.2M.

MLK Bridge Aesthetic Improvements

Toledo, OH | Design Lead

Mr. Ensign is the design lead for the pump station portion of the infrastructure improvement project. Design elements include upgrading 2 existing pump stations within the pits of the Bascule bridge. The single pumps are being replaced with dual-pump setups with new electrical, controls, discharge piping and debris screening. Included are epoxy grout injections to repair several cracks in the pit walls. Deliverables included construction plans, specifications, and cost estimates. Fees: \$25,000 | Construction: TBD.

Maple River Flooding Dikes

Maple River State Game Area, MI | Project Manager

This project included assisting the MDNR with improvements to an existing dike system. This included performing an alternative analysis of various levels of improvements, including cost estimates and permitting requirements. The next stage was to provide construction plans and specifications for the preferred alternative. Colliers Engineering & Design (CED) also assisted the MDNR/DTMB with the bidding process. After selection of a contractor CED provided construction administration and on-site inspection services.

ODNR | Nimisila Reservoir

Green, OH | Project Engineer

For QA/QC of the Inspection Report, with a focus on Hydrology & Hydraulics, Constructability, and Cost Estimates. Lead Engineer for the design of improvements to the north embankment and associated appurtenances. The Study and Report included in-depth investigation into the condition of the dam, including the earthen embankment, primary spillway, and alternative outlet structures.

Lake Adrian Dam

Adrian, MI | Project Manager

This project entailed the replacement of 2 slide gates, upgrading their operators from hand operated to electrically controlled, and installing trash screens over the gates. One of the gates 30 ft. below the normal water level and its riser stem failed after an obstruction had become lodged inside of it. The design and permitting included temporary cofferdams, that were required to dry out the work area, yet pass the 100-yr design storm.



Licensed Professional Information: Professional Engineer 6201060321

Licensee Detail

License Type: Professional Engineer
License Number: 6201060321
Name: James Edward Ensign
License Issue Date: 07/10/2013
License Expiration Date: 07/10/2025
License Status: Active
County: Clinton



Jeremy Hedden, PE

Principal-In-Charge | Bridges & Structures

Years with CED

25 Years

Education

BS, Civil Engineering, Michigan State University, 1998

Licenses

Professional Engineer (PE), Michigan, Ohio, New York, Florida, Pennsylvania, North Carolina, Georgia, New Jersey, Arizona, Texas

Affiliations & Memberships

American Railway Engineering & Maintenance-of-Way Association Committee 8 Member

American Society of Civil Engineers

American Institute of Steel Construction

Mr. Hedden graduated from Michigan State University with a Bachelor of Science degree in Civil Engineering. Since joining the Colliers Engineering & Design team, he has participated in over a hundred structural design projects as well as various roadway and railroad projects. Mr. Hedden led the structural design efforts of the award-winning Farm Lane Underpass project on the campus of Michigan State University. As a Project Manager, he has led several high-profile projects in the State of Michigan including the 9 Mile over I-75 emergency bridge replacement project which was completed in less than 2 months as part of a design-build delivery system. Mr. Hedden is an active member on AREMA Committee 8 which develops and maintains design specifications for concrete structures, slab track, and foundations involving railroad bridges.

Key Projects

M-13 Huron & Eastern RR, EPE Study | MDOT

Saginaw, MI | Project Manager

This project consists of performing an Early Preliminary Engineering (EPE) study to determine a preferred alternative for addressing the deficiencies of the existing M-13 at-grade crossing with the Huron & Easterly Railroad in the City of Saginaw. Those deficiencies include: improving response time for EMS vehicles; improve the on-time performance and reduce travel times for current and future commercial traffic; reduce safety risks to the hospital and its patients; improve on-time performance of buses and parents transporting children to school; and improve pedestrian movement associated with trains blocking the traveled roadway. Alternatives studied ranged from construction of a new rail connection on existing abandoned rail right-of-way to realignment of the existing rail line to whistle bans and greasing the existing rails to reduce noise. Also, as part of this study, the following work items will be completed: summary of existing and proposed roadway conditions; development of a detailed Traffic Analysis Study; detailed field review and digital photographs; development of detailed quantity calculations and cost estimate; documentation of conformance with MDOT, AREMA and AASHTO design elements; and development of a scoping project record including all communications with local municipalities, MDOT and FHWA personnel. Maintenance of Traffic plans and specifications were also developed as part of this Feasibility Study. This project will be completed in compliance with AASHTO, AREMA and MDOT standards, specifications and procedures.

Great Lakes Central Railroad over the Manistee River

Manton, MI | Project Manager

Utilizing CM/GC as a delivery method, the existing 100+ year old bridge carrying the GLC RR over the Manistee River is in need of replacement. The existing bridge, located in Manton, MI, is under a slow order which inhibits GLC's operations along this northern Michigan line. The existing bridge consists of a main span steel truss which clears the Manistee River and is flanked by several deteriorated timber bent spans within a steep unstable slope. The new bridge will be a three span steel deck girder structure with an open deck and new walkway on the downstream side. The spill through abutments will be supported on steel H-piles while the new piers will be supported on drilled shafts placed on either side of the existing bridge to minimize track outages. Difficult access to the site, steep topography, and maintaining rail traffic as much as possible while replacing the old structure were prime reasons for utilizing CM/GC. Working directly with the Contractor, MDOT's Office of Rail, the GLC RR, CED, and MDOT's environmental staff, an optimal solution has been developed and designed. Plans and specifications are complete and construction will begin in 2025.

Michigan Line over M-39 RR Bridge Rehab

Dearborn, MI | Lead Bridge Engineer

Developed rehabilitation plans for this 6-span deck girder railroad bridge over M-39 in Dearborn, MI. Work included temporary shoring system reviewed by Amtrak for replacement of Piers 2, 3, and 4. Patching and repairs to Piers 1 and 5 as well as both abutments was also included. Steel repairs to high-load-hits on the fascia girders as well as deteriorated steel beam ends were designed. The existing railings were designed for replacement including the addition of a walkway on the south fascia cantilevered off of the existing girder. The fix was coordinated with adjacent highway bridge work for MOT. All design is in accordance with AREMA, NS, and Amtrak standards. Train service remained in service throughout construction. Due to packaging with the adjacent highway bridges, design was accelerated with Preliminary Plans developed and submitted within 2 months of authorization (41 plan sheets were at Pre-Final level). Rehabilitation staging was heavily influenced by both rail traffic service and high traffic volumes on M-39 below.

Washtenaw County Road Commission | Ford Blvd over MDOT RR

Ypsilanti Township, MI | Project Manager

Completed design plans, specifications, estimate, and railroad coordination for replacement of an existing four span side-by-side box beam bridge in Ypsilanti Township, MI. The new bridge consists of a spread prestressed concrete box beams supported on cap & column piers that are situated in front of new Mechanically Stabilized Earth retaining walls. Due to the existing poor embankment soils, grade raise, and tight right-of-way constraints, 1:1 Reinforced Soil Stabilization (RSS) walls were designed for the approaches. The project included coordination with the Norfolk & Southern RR early in the project and transitioned to MDOT/Amtrak due to an acquisition that was made during the project. Services included pre and post construction load rating of the new structure as well as the initial NBIS inspection of the new structure.

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Licensed Professional Information: Professional Engineer 6201050409

Licensee Detail

License Type:	Professional Engineer	License Number:	6201050409
Name:	Jeremy Allen Hedden		



Kenneth Avery, PE, CFM, D. WRE

Quality Assurance/Quality Control | Water

Mr. Avery has many years of experience in environmental and water resources engineering for USACE, USFWS, NPS, FEMA and state natural resource agencies. In the field of dam decommissioning, he has performed dam safety evaluations, hydrologic and hydraulic analyses, geomorphology, sediment transport and management, environmental studies and permitting.

Years with CED

40 Years

Education

MS, Water Resources Engineering, Clarkson University, 1977

BS, Civil & Environmental Engineering, Clarkson University, 1976

Licenses

Professional Engineer (PE)
Florida, Michigan, Montana, New York

Certifications

American Academy of Water Resources Engineers, Diplomat

Association of State Floodplain Managers, Certified Floodplain Manager

Association of Dam Safety Officials

Affiliations

American Society of Civil Engineers

Society of American Military Engineers

NYS Floodplain and Stormwater Managers Association

Key Projects

NYS Office of General Services | Amboy Mill Dam Decommissioning

Camillus, NY | Project Manager

Project manager for the Amboy Mill Dam decommissioning that included environmental studies, permitting and design for removal of Amboy Mill Dam and providing improved fish passage and safety for paddlers on Ninemile Creek. Coordinated a collaborative effort between NYSOGS, NYSDEC and USFWS to bring the project to successful completion. The project included topographic and boundary survey; H&H analyses; sediment testing and characterization; drawings for spillway removal, restoration of the left bank with native vegetation upstream and downstream of the dam; rip rap bank protection, cross vane and grade control structure. Prepared Joint Permit Application, Section 408 (USACE project clearance), Article 16 (state dam removal) and Part 502 (FEMA compliance). Design: 2024 | Const 2025.

Erie County DPW | Springville Dam Fish Passage Project

Springville, NY | Hydraulic Engineer

Hydraulic engineer providing engineering support to Erie County, the local sponsor of a USACE Section 206 ecosystem restoration and fish passage project, that is evaluated for implementation at a former hydropower dam. The project includes lowering of the existing spillway crest, provision of a denil type fish ladder, lamprey trap, lamprey barrier, and other amenities within this County-owned Park land. Design: 2019

Erie County DPW | Partial Decommissioning of Emery Park Dam

Aurora, NY | Project Manager

Colliers Engineering & Design developed 3 alternatives for the dam: full rehabilitation, a partial decommissioning which would lower the earthen embankment and concrete spillway to produce a dam height and maximum impoundment volume below dam safety regulatory

Kenneth Avery, PE, CFM, D. WRE

thresholds, and a full decommissioning which would completely remove the dam. Based on value analysis, it was recommended to partially decommission the dam to minimize the upfront and long-term costs to the County and reduce to a low hazard Class A dam. Based on this recommendation, developed conceptual plans and estimates, final design and preparation of bid documents and construction support. Provided wetlands plantings within the diminished reservoir. Design: 2012 | Const 2014

Battelle Memorial Institute | NESP Project P2 Lock & Dam 22 Fish Passage Improvement Project

Saverton, MO | Panel Member

Member of a panel selected to participate in the independent external peer review of the Navigation and Ecosystem Sustainability Program, Project P2, Lock and Dam 22 Fish Passage Improvement Project Implementation Report for the USACE Ecosystem Restoration Planning Center of Expertise as a subcontractor to Battelle.

USACE | Delafield Dam Decommissioning Project, US Military Academy

West Point, NY | Project Manager

Project manager for performing regulatory and permitting activities in connection with decommissioning. These included: wetland delineation for jurisdictional determination; preliminary pre-application meeting with the NYSDEC for a Dam Safety Permit; and completion of a SEQR Short Environmental Assessment Form and D-1 Supplement for Dam Safety. Design: 2021 | Const: future

Rockland County | Suffern Lane Dam Decommissioning Study

West Haverstraw, NY | Project Manager

Project manager for a study to decommission the dam due to the presence of upstream and downstream dams that have a hazard classification that were influenced by the dam. Led the hydrologic and hydraulic analyses, sediment sampling and characterization for disposal, wetlands delineation, SEQR and dam safety compliance and prepared alternative dam decommissioning options and presented to the County for consideration. Study: 2021

City of Elmira | Chase-Hibbard Dam Fish Ladder and Portage Study

Elmira, NY. | Project Manager

Project Manager and lead hydrologist for a feasibility study and preparation of a report for construction of a portage trail and fish ladder. Project included: hydrologic analysis of USGS mean daily discharges to determine operational hydraulic requirements for the fish ladder during the migration season, high flow conditions and low flow conditions; determination of target fish species; review of a previous denil fish ladder design, cost estimating and conceptual design. Study: 2006.

KENNETH R AVERY
63 PINEWOOD KNOLL
ROCHESTER, NY 14624

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James Guistina, PE

Hydrologic, Hydraulic, & Bridge Scour Analysis Lead | Water

Years with CED

8.5 Years

Education

BS, Civil Engineering, University of Buffalo, 2001

Licenses

Professional Engineer (PE), New York, Pennsylvania
West Virginia, South Carolina, North Carolina

Certifications

HEC-RAS Computer Workshop, American Society of Civil Engineers, 2007

HEC-RAS Dam Break Analysis Workshop, American Society of Civil Engineers, 2008

OSHA Ten-Hour Construction Safety Certification, 2008

ASDSO/NRCS Emergency Action Plan Development for High Hazard Dams Workshop, 2011

ASDSO/NRCS Dam Safety and Inspection Course, 2012

ASDSO/NRCS/MS UNIVERSITY Technical Seminar on Soil Mechanics for Dam Safety, 2013

Mr. Guistina is experienced in the structural and hydraulic design of bridges, dams, and culverts. He has performed hydraulic analysis on culverts, bridges, and dams for various municipalities. The analysis included culvert size/design, bridge hydraulic opening design, dam safety, dam hydraulic analysis, stream morphology, stream scour, and bank stabilization. He utilizes HEC-RAS, HY-8, HEC-HMS, SITES, Rosgen River Stability, and other programs to analyze hydraulic models to provide a thorough and practical analysis. He has a firm understanding of NYS DEC procedures including permitting, dam safety, stormwater, and exposure to environmental law tied with canal dredging operations.

Key Projects

NYSEG | Mill C Dam Intake Replacement

Plattsburg, New York | Project Manager & Lead Dam Safety Engineer

Colliers Engineering & Design was retained by NYSEG to complete a \$5 million dollar upgrade to a facility along the Saranac River in upstate New York. Per FERC mandate, the trash racks were to be upgraded to 1" spacing to protect aquatic species in the waterway. As part of this project, the deck was extended, and multiple service upgrades were added including a new trash sluice and rack racker. The project also included a review of drawdown procedures, headwater/tailwater calculations for structural design, FERC communications and coordination, and a breach mapping exercise to verify existing older mapping. Design: 2018-2019 | Construction: 2020-21

Confidential Hydro Client | EAP Development

Upstate, New York | Project Manager & Lead Dam Safety Engineer

Colliers Engineering & Design was retained by a hydroelectric facility to complete a full breach analysis and EAP development for a mid-sized plant in upstate New York. The project also included a review of emergency drain procedures, FERC communications, and coordination and classification recommendations from increased downstream development. (2020-2021)

Brookfield | Dam Classification

Falls, New York | Project Manager & Lead Dam Safety Engineer

Colliers Engineering & Design was retained by Brookfield Hydro to complete a full breach analysis and Hazard classification for a hydroelectric project along East Canada Creek. The project also

included preliminary mapping of the three different potential failure modes (PFM) and assisting with reporting of the findings. (2020-2021)

Confidential Client | Part 12D Inspection of 4 Developments

NY | Hydraulics and Project Manager

Project manager and assistant to the independent consultant for the 8th dam safety inspection of the four hydropower developments on the Saranac River. Responsible for field inspection, review of the previous Potential Failure Mode Assessment (PFMA), review and assessment of the Supplemental Technical Information, and new PFMA and Inspection Reports preparation. The work was performed, and the reports were prepared in conformance with FERC Reg's, Order 122, 18 CFR Part 12, subpart D, Safety of Water Power Projects and Project Works, as well as the FERC technical criteria Engineering Guidelines for the Evaluation of Hydropower Projects. Managed the internal and subconsultant (geotechnical) team for the review and assessment of all relevant data including settlement, movement, erosion, seepage, leakage, cracking, deterioration, seismicity, internal stresses, and hydrostatic pressures in project structures, their foundations, and abutments, stability of critical dam embankment slopes and regional and site geological conditions. Also performed evaluations of the adequacy of spillways, effects of overtopping on non-overflow structures and embankments, structural adequacy and stability of structures and embankments under all credible loading conditions, relevant hydrological data accumulated since the project was last inspected, history of the performance of the project works through analysis of data from monitoring instruments, quality and adequacy of maintenance. Evaluation 2019- present.

NYS Canal Corporation | Dam Safety Program

Various Locations in New York State | Project Manager & Lead Hydraulic Engineer.

Term Agreement to assist the NYS Canal Corporation with dam safety compliance. Assignments focused on engineering assessments of high and intermediate (Class B & C) dams, safety inspections of various dams, dam hazard classification and reclassification, various hydraulic and hydrologic studies, and structural upgrades to various dams. The Canal Corporation's inventory includes 55 high, intermediate, and low-hazard dams that fall under NYSDEC regulatory jurisdiction and 23 dams that fall under FERC jurisdiction. The dams vary in age up to 175+ years old and include various types of construction (embankment, masonry, concrete) and sizes. The dams also include a wide variety of different gate and outlet works types and configurations. Inspection included evaluation of existing structural conditions for safety and compliance with NYSDEC Part 673 regulations and "Guidelines for Design of Dams". Work also included the creation and updating of Emergency Action Plans for the high and intermediate-hazard dams.



Karen Missell, RLA

Environmental Review and Permitting Lead | Water

Years with CED

2 Years

Education

MLA, SUNY College of
Environmental Science and
Forestry, 2000

BS, Water Resource
Management, Wetland
Ecology Minor, University of
New Hampshire, 1995

Professional Registrations

Registered Landscape
Architect, New York

Ms. Missell has been involved in traditional landscape architecture, ecological design, and environmental review and permitting for large infrastructure projects for over 20 years. As a Regional Environmental Unit Supervisor for NYSDOT, Ms. Missell was responsible for ensuring all NYSDOT capital projects and locally sponsored federal aid projects met all NEPA and SEQR requirements including cultural resources, threatened and endangered species, water resources permitting and mitigation, and other required environmental review and documentation. Her extensive knowledge in plant ecology, mitigation monitoring and design, and environmental reviews allows her to create unique solutions to aesthetic, technical, and environmental challenges.

Key Projects

NYPA/NYSCC | Large Diameter Vegetation Removal

Various NY Locations | Project Manager

Responsible for technical team coordination, environmental permitting, plan and specification development and submissions for the removal of large vegetation for four dam locations in Central New York.

NYSCC | Earthen Embankment Integrity Program Guidebook Screening

Various NY Locations | Environmental Specialist/Landscape Architect

Provided technical review of the Guide Book for removal of vegetation and Final SEQR GEIS. Recommended plant species appropriate for use on the earthen embankments. Currently screening all high-risk embankment locations in accordance with the parameters outlined within the Guide Book.

NYSOGS | Amboy Mill Dam Removal

Camillus, NY | Landscape Architect

This project will remove the existing dam structure and replace it with in-stream cross vane structures. Responsible for native planting and seeding design, plans, and specifications.

NYSOGS | Mirror Lake Dam

Herkimer County, NY | Senior Environmental Technical Manager

Responsible for technical review of environmental documents including SEQR Full Assessment Form and Joint Permit Application for dam removal.

NYSOGS | Harwood Lake Dam

Cattaraugus County, NY | Senior Environmental Technical Manager

Developed site grading and planting plans and mitigation design report for compensatory mitigation for unavoidable impacts to federal wetlands associated with raising the existing dam crest 3.6 feet to meet Class C regulatory requirements.

Steuben County DPW | Smith Hill Road Bridge Replacement

Town of Erwin, NY | Team Environmental

Responsible for a state threatened and endangered mussel mitigation plan for NYSDEC for this bridge replacement project over the Cohocton River.

WNYP RR, McKean, Venango, and Crawford Counties Freight Rail and Safety Enhancement Project

Multiple locations, Pennsylvania, Environmental Lead

Responsible for environmental technical team coordination and FRA NEPA compliance for 4 Railroad bridge replacements. Project involves individual consultation under Section 7 of the Endangered Species Act for federally protected mussels, coordination with numerous State agencies for state protected resources including PASHPO and PADCNR, and coordination with FRA to comprehensively screen the locations for all NEPA requirements.

NYS DOT | Rt. 221 over E. Branch Owego Creek Tributary

Town of Harford, NY | Environmental/Landscape Architecture Project Manager

Involved the replacement of the Rt 221 bridge over the E. Branch Owego Creek Tributary, reconstruction of the bridge approaches, construction of fishing access, and PROWAG/ADA sidewalk. Project included plantings, NYSDEC fishing access coordination, NEPA/SEQR screening and documentation, design of in-stream rock vane structures to improve in-stream habitat, USACE 404 nationwide permits, and sediment and erosion control plans.

NYS DOT | Rt. 38 Bridge over Fall Creek

Villages of Freeville and Groton and Town of Dryden, NY | Environmental/Landscape Architecture Project Manager

Consisted of the replacement of the Rt 38 bridge over Fall Creek with in-stream ecological enhancements. Responsible for plantings, NEPA/SEQR screening and documentation, mussel survey coordination, USACE 404 Nationwide permits and required mitigation for temporary wetland impacts, design of in-stream rock vane structures to support aquatic habitat, and sediment and erosion control plans.

NYS DOT | Rt. 48 Bridge over Tannery Creek

Town of Granby, NY | Environmental/Landscape Architecture Project Manager.

Consisted of the replacement of the Rt 48 bridge over Tannery Creek, at the confluence of Tannery Creek with the Oswego River. The project included installation of stormwater filtration treatments, and native plantings. Responsible for NEPA/SEQR screening and documentation, USACE 404 Nationwide permits including wetland avoidance, and sediment and erosion control plans.



Kimberly Baptiste, AICP

Public Outreach Lead | Planning

Years with CED

16 Years

Education

MS, Urban Planning,
University at Buffalo

BA, Environmental Design,
University at Buffalo

Affiliations & Memberships

American Institute of Certified
Planners

American Planning
Association

National Trust for Historic
Preservation

Genesee Finger Lakes
Chapter, APA

Western Erie Canal Alliance,
President, Board of Directors

Ms. Baptiste has focused her career on supporting municipal clients. With a diverse background in planning, urban revitalization, site development and open space planning, Ms. Baptiste brings a unique perspective to every project. A significant amount of her work involves utilizing unique approaches to gather information, educate stakeholders and build consensus around multifaceted projects with a focus on transportation, urban revitalization, placemaking and trail planning. She regularly uses planning tools to evaluate the social, economic and development implications of land use and design alternatives. Ms. Baptiste specializes in managing large-scale, multi-disciplinary projects and offers significant experience coordinating various agencies and stakeholders to reach consensus on project direction.

Key Projects

City of Yonkers | Waterfront Revitalization Plan

Yonkers, NY | Project Manager

The LWRP for the Yonkers waterfront looked at current physical and economic conditions along 4.5 miles of land abutting the Hudson River. Existing conditions were considered as recommendations and future projects were identified for 5, 10, and 20 years into the future. Design components of the project included a proposed multi-use boardwalk along the waterfront, interpretive nodes, specific designs for destination sites on the water, and open space gathering areas for the public. Potential funding sources and an implementation strategy were developed to assist the City with implementing the waterfront vision.

City of Binghamton | Local Waterfront Revitalization Plan

Binghamton, NY | Project Manager

The Chenango and Susquehanna Rivers converge in Binghamton and together create a number of opportunities for an enhanced waterfront in the City. This study considered the banks of both rivers, as well as the downtown, in its waterfront revitalization boundary. The inclusion of the downtown in the boundaries was based on the understanding that the successful rejuvenation of the waterfront would need to be supported by a viable and active downtown. The LWRP included detailed development strategies and involved the NY DOS throughout the planning process. The importance of public involvement was recognized early on and a community outreach program was developed that included regular committee meetings, focus group sessions, and a public open house.

City of Oswego | NYS Route 104 Complete Streets

Oswego, NY | Project Manager

The City of Oswego is transforming the approximately 3.3-mile corridor NYS Route 104 as it passes through the City. They envision a future Route 104 that enhances the character of the corridor while improving safety and mobility options for all users. Colliers Engineering & Design, in conjunction with Alta Planning + Design, is taking a critical look at the current configuration of NYS Route 104. The project goal is to provide comfortable and safe bicycle accommodations for the residents as well as SUNY Oswego students to downtown Oswego.

City of North Tonawanda | Webster Street Green Infrastructure

N. Tonawanda, NY | Project Planner

The City of North Tonawanda hired Colliers Engineering & Design to design green infrastructure and streetscape improvements for the historic downtown core along Webster Street. The proposed project includes the design of green infrastructure improvements along the curblin to capture and filter rainwater prior to it entering the existing storm water sewer system for discharge into the Erie Canal. Green infrastructure strategies include the use of permeable pavements, rain gardens and bio-infiltration areas within enlarged curb bump outs. The project also proposes to revitalize the Webster Street streetscape through the reconstruction of existing planter boxes for use as green infrastructure. The project is anticipated too greatly diminish the volume and concentration of pollutants entering the Erie Canal, the City's most significant generator of economic activity. The project involved significant coordination with area merchants to ensure the support of business and property owners in the revitalization of the corridor.

Village of Fairport Industrial Development Agency | Northwest Quadrant Master Plan

Fairport, NY | Project Manager

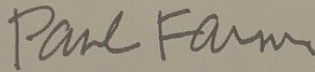
After completing various Village-wide planning studies, the Office of Community and Economic Development identified the need to take a more defined and strategic study of the northwest quadrant. The study area is primarily composed of active and transitional industrial and distribution uses with limited commercial and residential development interspersed. The Northwest Quadrant Master Plan focused on identifying future redevelopment and enhancement projects associated with industrial and commercial land uses, understanding the impacts these uses can have on adjacent residential neighborhoods. Colliers Engineering & Design facilitated a traditional master planning process to identify conceptual alternatives for strategic redevelopment parcels in the study area. The information was then embedded into a 3D GIS platform and presented to the Village in a virtual model. The model allowed stakeholders and residents to understand both existing conditions and how proposed land use changes would impact the built environment

This certificate hereby qualifies

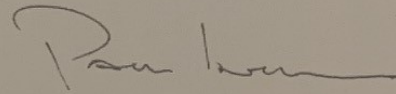
Kimberly M. Baptiste, AICP

as a member with all the benefits of a Certified Planner
and a commitment to the AICP Code of Ethics and Professional Conduct.

Certified Planner Number 023522



Paul Farmer, FAICP
Executive Director and CEO



Paul Inghram, AICP
President



The American Planning Association's
Professional Institute
**American Institute
of Certified Planners**

Making Great Communities Happen



Joshua Repp, PE

Dam Engineering Lead | Water

Years with CED

20 Years

Education

ME, Engineering (Civil-Structural), SUNY Buffalo, 2003

BS, Civil Engineering, SUNY Buffalo, 2002

Professional Registrations

Professional Engineer (PE) FL, KY, NY, OH

Affiliations & Memberships

Association for Advancement of Cost Engineering

Association of State Dam Safety Officials

Association for Bridge Construction and Design

Deep Foundation Institute

International Concrete Repair Institute

PIANC

Society of American Military Engineers

Mr. Repp has Structural Engineering experience on various multidisciplinary waterfront, navigation, hydraulic, transportation, and building projects. Mr. Repp has expertise in condition assessment of existing structures, planning, alternative analysis investigation, structural design, contract document preparation, bidding phase services, construction administration, and project management. He has completed numerous inland waterway projects for the US Army Corps of Engineers, NYS Canal Corp. and other State and Canal Authorities. Rehabilitation and restoration of navigation, water retention, and waterfront facilities has been the focus of his experience in recent years.

Key Projects

NYS Office of General Services (NYS OGS), | Clear Lake Dam Rehabilitation Design

North Collins, NY | Project Manager

Rehabilitation design of an existing earth dam and concrete spillway to comply with NYS DEC dam safety criteria (Part 673). Prepared report to reclassify the high hazard (Class C) dam to an intermediate hazard (Class B) dam. Prepared contract documents to perform a full-scale rehabilitation of the dam including, anchoring of the concrete spillway, stabilization of an existing displaced chute wall (concrete gravity), restoration of an existing intake structure and low-level-outlet system, flattening of earthen dam embankment slopes, and several site improvements. Assessment: 2014 | Design: 2016 | Construction 2017-2018

NYS Office of Parks, Recreation and Historic Preservation | Red House Lake Dam & Bridge Assessment and Design

Allegany State Park, NY | Structural Project Engineer

Prepared comprehensive dam safety engineering assessment report to summarize the existing dams' performance in terms of NYSDEC compliance requirements, including structural stability analysis on existing 160 ft long concrete gravity dam. Prepared plans specifications and a cost estimate for rehabilitate of the dam to comply with NYSDEC requirements, including anchoring of the concrete spillway, replacement of an energy dissipation system at the base of the spillway, and replacement of outlet gates to restore low-level-outlet system for the dam. The project also included temporary lowering of the impoundment, flattening of slopes for the earthen portion of the dam, and several other site improvements. Assessment: 2014 | Design: 2016 | Construction 2017-2018

Illinois Department of Natural Resources (IDNR) - Office of Water Resources (OWR), Stratton Lock and Dam Improvement Project

McHenry, IL | Project Manager

Project Manager for this engineering study considering improvements to the Lock at Stratton Lock and Dam, formerly known as McHenry Lock. The current lock is functional and provides lockages for recreational boating traffic on the Fox River but does not have the capacity to meet the current demand for recreational boat passage at peak use. This study evaluated several feasible alternatives for primary purposes of increasing the lockage capacity of the facility, including expansion (extension) of the lock downstream and construction of a new lock to the side of the existing (double lock). The final design and construction document preparation utilized the lock extension alternative, adding approximately 70' to the usable length of the lock and reducing greatly the future boating delays at the lock. Cost: \$4.3M (construction) Design: 2012 | Construction: 2014

New York State Canal Corporation | Hydraulic & Structural Stability Analysis of Movable Dam 6 at Lock E-10

Cranesville, NY | Structural Engineer

Project involved structural design and analyses for evaluation and upgrades of existing gate operation systems at eight movable dam sites following the damages to the dams from Hurricane Irene and Tropical Storm Lee during the summer of 2011. Developed new operation rule curves for lifting and lowering dam gates at each site based on new limiting strengths of structural components and measurable water levels. The evaluation included investigation of the strength of structural elements of the gates in order to establish limiting forces that can develop from heavy debris floes during flood events. Design: 2012 | Construction: 2014.

Kentucky River Authority | Kentucky River Lock and Dam No. 10 Rehabilitation Study and Design

Lexington, KY | Project Manager

Project Manager in charge of providing study and design phase services for an existing 100+ year old lock structure on the Kentucky River. Several options for lock rehabilitation were evaluated including modifications to the existing lock chamber (width reduction) and miter gate replacement to restore the lock to an operable condition for recreational use. Stability of the existing lock walls was assessed and stability improvements were investigated. Designed replacement steel miter gates (horizontally-framed) and lock wall concrete repairs, including precast concrete panel wall facing. The rehabilitation also included design of lock filling and emptying systems, dewatering bulkheads, and lock appurtenances. Design: 2016 | Construction: 2018-2019 (anticipated).



Diego Rivera Benard, PE

Senior Technical Manager/Water

Education

MS, Civil Engineering, National University of Mexico, 2005

BS, Civil Engineering, National University of Mexico, 2003

Licenses

Professional Engineer (PE), Florida, New York, California

Affiliations & Memberships

American Concrete Institute
United States Society of Dams (USSD)

American Society of Civil Engineers (ASCE)

Training

USSD Instrumentation and Performance Monitoring of Dams, November 2020

USSD Filter and Drain Design and Construction Webinar, April 2021.

USSD Semi-Quantitative Risk Assessment (SQRA) Workshop, February 2022.

Mr. Rivera has experience on a wide variety of engineering projects, specifically in geotechnical, structural, seismic, hydrological and hydraulic analyses and design. He has performed projects involving analyses for different types of structures, including power plants, concrete and steel buildings and earthen and concrete dams. Mr. Rivera has performed dam safety inspections, dam stability evaluations and managed field investigations in the U.S. and other countries. His experience also includes technical reviews, supervision and management of engineering projects; preparation of bid documents; coordination with State and Federal Regulatory Agencies; and development of detailed engineering reports.

Key Projects

NYS Canal Corporation (NYSCC) | Mud Lock (Lock C&S-1) Dam Engineering Assessment

Cayuga-Seneca Canal, New York State | Geotechnical Lead Engineer

Lead Geotechnical Engineer for the Engineering Assessment at Mudlock Dam. The assessment included a subsurface exploration, standpipe piezometer installation, field and laboratory testing and evaluation of monitoring data. Coordinated and reviewed steady-state seepage and slope stability analyses of an earth embankment and stability analysis of the concrete spillway founded on timber piles in accordance with NYSDEC Guidelines. Vertical and lateral pile resistance was evaluated for various load cases using FB-Multiplier program and a Finite Element Model developed in Plaxis 2D software. Results from the seepage and stability analyses were used to evaluate dam safety improvements including tree removal under different phreatic levels. Completed in 2024.

NYS Canal Corporation (NYSCC) | Statewide Dam Safety Engineering Services (Term Contract)

Various Locations in New York State | Geotechnical/Dam Safety Lead Engineer

Term agreement to assist the NYS Canal Corporation with dam safety compliance. Assignments focused on engineering assessments of high and intermediate (Class B & C) dams, safety inspections of various dams, dam hazard classification and reclassification, various hydraulic and hydrologic studies, and structural upgrades to various dams. The term contract included evaluation of the following dams:

- **South Lake Dam Emergency Repair:** Coordinated with subcontractors and reviewed information from subsurface exploration, laboratory and field testing and piezometer installation. Completed dam safety inspections and filter design review as part of the emergency repairs; prepared Potential Failure Mode Analysis during construction activities; reviewed geotechnical, post-seismic stability and liquefaction potential analyses as part of the Engineering Assessment. \$765K (AE Fee) 2022.
- **Little Falls Embankment Investigation and Design Emergency Repair:** Performed dam inspections and reviewed sinkhole repair alternatives. Supervised and coordinated geophysical survey and drilling activities. The purpose of this assignment was to investigate localized repairs of the concrete liner; evaluate subsurface conditions within and beneath the rock fill embankment located west of Lock E 17, adjacent to the Little Falls Hydropower intake structure; perform seepage and slope stability analyses along the rock fill embankment; perform stability analysis on the gravity wall sections adjacent to the rock fill embankment; and, evaluate and mitigate progression of the leakage observed in this area. Subsequently, participated as geotechnical subject matter expert in the Potential Failure Mode Analysis session with NYSCC. 2023

NYS Office of General Services | Rehabilitation of Conklingville Dam

Hadley, NY | Geotechnical/Dam Safety Lead Engineer

Technical Lead for geotechnical consulting and engineering services necessary to remediate identified deficiencies and bring the dam into compliance with the Federal Energy Regulatory Commission dam safety regulations. Geotechnical services include a subsurface geotechnical assessment, field and laboratory testing, detailed evaluation of piezometric data; comprehensive seepage analyses; and, evaluation of Potential Failure Modes associated with internal erosion through embankment and/or foundation soils. The evaluation of internal erosion and consequences were performed using a semi-quantitative risk analysis approach. Final Remedial Design planned for 2024; construction cost >\$20M.

NYS Canal Corporation | Delta Reservoir Dam Potential Failure Mode Analysis

Rome, NY | Geotechnical/Dam Safety Lead Engineer

Participated as geotechnical subject matter expert in the inspection and Potential Failure Mode Analysis (PFMA) session with New York State Department of Environmental Conservation (NYSDEC), New York Power Authority (NYPA), NYSCC and AECOM. Several Potential Failure Modes (PFM) were identified and Risk Reduction Measures were evaluated. 2023

NYS Canal Corporation | Madison Reservoir (Lake Moraine) Dam Potential Failure Mode Analysis

Madison, NY | Geotechnical/Dam Safety Lead Engineer

Participated as geotechnical subject matter expert in the inspection and Potential Failure Mode Analysis (PFMA) session with New York State Department of Environmental Conservation (NYSDEC), New York Power Authority (NYPA), NYSCC and AECOM. Several Potential Failure Modes (PFM) were identified and Risk Reduction Measures were evaluated. 2023



Nathan VanDrunen, PE

CEI Lead | Construction Engineering/Inspection

Years with CED

5 Years

Education

BS, Civil Engineering, Calvin College, 1998

Licenses

Michigan

Certifications

First Aid / CPR / AED

MDEQ Certified Storm Water Operator

MDEQ Soil Erosion & Sedimentation Control

MDOT Bridge Deck Construction Insp. & Bridge Rehab Insp.

Field Manager Training Computerized Office Technician

FHWA-NHI 130055: Safety Inspection of In-Services Bridges

ATSSA Certified Traffic Control Supervisor

Work Zone Safety Training OSHA Lead Abatement Training

Mr. VanDrunen has 23 years of experience of experience in surface transportation. His experience includes overseeing new bridge construction, full road reconstruction and bridge rehabilitation that consists of demolition over live traffic, staged construction, pile driving operations, as well as micro-pile construction, painting of structural steel, substructure and superstructure construction, structural steel erection and railing construction. Mr. VanDrunen's experience also includes; asset management, strategy development, cost estimating, technical writing, project management, construction management, bridge program management, project scoping, planning and design.

Key Projects

MDOT | I-96 / I-196 East Beltline Ave. "The Flip" Interchange Reconfiguration and Reconstruction

Grand Rapids, MI | Construction Engineer

This was a \$41M high impact consisted of two separate construction contracts due project completion goals and funding constraints. The 2018 contract included removal of the existing bridge, construction of two new bridges (curved steel with complex erection requirements), MSE retaining wall, wick drain installation and embankment preloading, stream relocation, over 40,000 cyds of peat excavation and muck backfill, construction of a new lane on WB I-96, temporary cross overs and temporary pavement in order to maintain traffic throughout the project. The 2019 contract included over 375,000 cyds of earth excavation, 265,000 cyds of embankment, MSE retaining wall, full HMA pavement construction and new truss signs. The new reconfigured interchange includes a new ramp from EB I-96 to the East Beltline Ave, a realigned and raised EB I-96, and a widened and lowered WB I-196. Construction on this very heavily travelled interchange required unique coordination and partnering between MDOT and the two prime contractors, public outreach, and constructability reviews on this extremely expedited project. 2018-2019

MDOT | I-96 / US-31 Interchange Reconstruction

Grand Rapids, MI | Construction Engineer

This \$10.5M expedited and high impact construction project consisted of freeway reconstruction of I-96 and portions of the I-96 US-131 interchange, including rehabilitation of 10 bridges. The project also included the reconstruction of the ramp from Plainfield

Ave. to WB I-96 and lengthening of this acceleration lane, requiring the construction of a retaining wall in a sensitive location along a lake. The freeway was closed in one direction at a time and the traffic detoured. The project included deep concrete overlays, shallow concrete overlays, partial deck and barrier replacement, substructure repairs, approximately 500 steel repairs and full painting on the EB and WB I-96 over the Grand River. 2018

MDOT | I-196 WB over the Grand River & US-131 Bridge Widening, Deck Replacement & Rehab

Grand Rapids, MI | Construction Engineer

Mr. VanDrunen was responsible for the Coordination, partnering, public outreach, constructability reviews and adhering to the environmental restrictions were critical to the success of this \$22M "Big Bridge" project. The first two years of the project consisted of building temporary rock causeways in the Grand River, cofferdams in bedrock, over 100 micro-piles, substructure lengthening, steel repairs, steel painting and rocker bearing realignments with little impact to I-196 traffic. The third year of the project included a freeway closure of WB I-196 in order to complete the deck replacement and widening of the bridge which added an additional lane and eliminated a merge point in WB I-196. The project required the relocation of the federally endangered snuffbox mussel, vibration monitoring of adjacent buildings and coordination with the City of Grand Rapids and FEMA regarding project access through a floodwall along the Grand River. 2017-2019

MDOT | M-44 Reconstruction from Wolverine Boulevard to Myers Lake Avenue

Kent County, MI | Construction Engineer

\$5M Reconstruction of 2.48 miles of M-44 included widening for a center turn lane, profile adjustment for increase sight distance, replacement of a deep sanitary sewer and drainage improvements. The project required advance relocation of gas service leads and AT&T facilities as well as coordination with various utilities during construction. Partnering and communication with Canon township to develop plans and construct the sanitary sewer replacement along with the road reconstruction with critical to the success of the project. In addition, public outreach, adhering to the environmental restrictions adjacent to Lake Bella Vista and providing access for residents were key pieces to the project. 2017

MDOT | Cascade over I-96, Interchange Reconstruction, Michigan's 2nd Diverging Diamond

Grand Rapids, MI | Construction Engineer.

Reconstruction of this interchange consisted of two new bridges, MSE retaining walls, echelon HMA paving, including construction of an adjacent Kent County Road Commission project on Cascade and coordination with the many businesses along Cascade Road. This \$16M project was the second diverging diamond interchange (DDI) completed in the state and featured unique elements such as a short barrier, colored concrete, natural stone staining, and I-96 freeway pavement marking badges. 2015-2016



Licensed Professional Information: Professional Engineer 6201049258

Licensee Detail

License Type: Professional Engineer
License Number: 6201049258
Name: Nathan M VanDrunen
License Issue Date: 07/22/2002
License Expiration Date: 07/22/2025
License Status: Active
County: Kent



Kelsey Howard

Grant Writing Lead | Grants and Funding

Years with CED

10 Years

Education

BA Political Science, University of Vermont, 2013

Grant Writing USA Workshop

Grant Management USA Workshops

Professional Registrations

Grant Professionals Association

Ms. Howard manages the preparation of grant and loan applications and the administration of awards for Colliers Engineering & Design. She communicates with funding program representatives on behalf of our clients, reviews program guidelines, and ensures that complete, competitive applications are submitted.

Ms. Howard has helped secure over \$139 million for clients' projects, working with over 70 towns, counties, utility authorities and others. In 2021 alone, over \$9.9 million was awarded for projects like water main relining and lead line replacement, public library renovations and additions, roadway reconstruction, bicycle sharrow treatments, streetscape corridor improvements, and park and recreation projects like skateparks, playgrounds, and pickleball courts. Some other projects previously funded include sanitary sewer improvements, ballfields, ADA facility upgrades, traffic signal optimization, and historic restoration and rehabilitation to carousels, monuments, train stations, and coast guard stations.

Key Projects

NJ Library Construction Bond Act Grant

- Frenchtown Public Library Repair (FTT0092)
 - Borough of Frenchtown, Hunterdon County, NJ
 - Awarded \$70,000.00 in January 2022. Provided collaborative grant writing support for highly competitive program.
- Union City Public Library Improvements (UCC056F)
 - City of Union City, Hudson County, NJ
 - Awarded \$3,236,586.50 in January 2022 for major improvements and restoration to this historically significant city library.

Landis Avenue Streetscape Improvements (SIC079)

City of Sea Isle City, Cape May County, NJ

NJEDA program funded by HUD CDBG-DR. Awarded \$1,000,000.00 for a multi-phase streetscape project in the main business district. Provided grant writing and management services. Project closed out in 2017.

Public Facilities Reconstruction

Township of Cranford, Union County, NJ

Awarded \$500,000.00 through the NJDCA Small Cities CDBG-DR (Irene) program for municipal parking lot and detention basin reconstruction. Managed grant in compliance with procurement regulations, federal and state labor standards, fair housing and citizen participation rules, and general grant terms for project design and construction administration and observation. Project closed out in 2017.

Improvements to Curtis Park (MSQ081, MSQ081A, MSQ0100)

Borough of Manasquan, Monmouth County, NJ

Secured and leveraged grants through multiple programs and rounds for this barrier-free playground project. Awarded \$55,000.00 through the NJDCA Local Recreation Improvement grant in January 2022. Monmouth County Municipal Open Space Grant program awarded \$150,000.00 in 2021 and \$90,000.00 in 2020.

La Trenta Field Complex Improvements (MVB511, MVB559)

Borough of Montvale, Bergen County, NJ

Secured multiple rounds of Bergen County Municipal Park Improvement Program funds for clay infield removal (\$113,538.00 in 2017), synthetic turf replacement (\$65,000.00 in 2018), softball infield, and parking lot and ADA accessibility improvements (\$96,309.00 in 2020).

Mallard Park Improvements (MSQ007, MSQ051)

Borough of Manasquan, Monmouth County, NJ

Provided grant writing and management services. Secured multiple rounds of Monmouth County Municipal Open Space grants - \$175,000.00 through 2014 round for ballfields and \$100,000.00 in 2017 round for site improvements and amenities. Project closed out in 2021.

Municipal Complex Hockey Rink Diversion (MCT060)

Township of Manchester, Ocean County, NJ

Major diversion application to divert municipally-owned park property from the Recreation and Open Space Inventory (ROSI). Conducted pre-application meeting, scoping hearing and pre-application package.

Water Main Relining and Valve Replacement (BLT269, BLT275, BLT282, BLT0284)

Township of Belleville, Essex County, NJ

Secured multiple rounds of Essex County CDBG funds - \$334,760.00 awarded October 2019, \$540,257.00 awarded May 2020, \$335,000.00 awarded October 2021. Requested additional \$854,175.00 in December 2021.

GEOFFREY M. GOLL, PE

PRESIDENT / A FOUNDING PRINCIPAL



26

YEARS WITH
PRINCETON HYDRO

34

YEARS OF
EXPERIENCE

EDUCATION

M. Eng. Engineering Management
U. of Wisconsin, Madison, 2013

B.S. Civil Engineering
Rutgers University, 1990

PROFESSIONAL LICENSES & TRAINING

- **Professional Engineer:** CT, DC, MD, MA, MI, NH, NJ, NY, PA, VT, VA
- US SBA (NJ), Emerging Leaders Initiative, Class of 2017
- Rosgen Level I

PROFESSIONAL ORGANIZATIONS

- Continuing Education Instructor **Rutgers Office of Continuing Education**
- Member, **American Society of Civil Engineers**
- Member, **Association of State Dam Safety Officials**
- Member, **Society of Ecological Restoration**
- Member, **American Fisheries Society**
- Member, **Society of American Military Engineers**
- Member, **American Sustainable Business Council**

EXPERIENCE

Mr. Goll is a founding Partner of Princeton Hydro and has extensive experience in geotechnical engineering, stormwater management, hydrology, floodplain hydraulics, environmental assessments, and environmental permitting. His professional background is specific to water resource and geotechnical engineering. The breadth of his experience ranges from stream restoration and modeling to the design of large retaining structures and building foundations; he has provided expert consultation, engineering design and support on a variety of projects including residential developments, solid waste transfer stations, correctional facilities, and wastewater treatment plants.

Subsurface investigations, geotechnical design, and soils classification and engineering round out his geotechnical engineering skills. He has designed and implemented over 100 subsurface investigation programs ranging from foundation investigations to septic system design, including test borings in soil, bedrock, and in-lake and harbor sediment. Additionally, the quantification and analysis of accumulated sediment within freshwater lakes and rivers has become a specialized skill. He is well versed in the processes of sediment transport and accumulation and has been in responsible charge for the design of over 500,000 cu yds of dredging projects and over 1,000,000 cu yds of sediment quantification in lakes and rivers throughout the Mid-Atlantic region.

Mr. Goll has pioneered dam removals for the purposes of fish passage in NJ and has overseen 50+ dam removal designs. His understanding of sedimentation mechanisms and management of sediment behind impoundments has been instrumental in managing the mitigation of environmental impacts during and after demolition of river and streams obstructions.

- Geotechnical Engineering and Subsurface Investigation
- Stream and River Restoration
- Stormwater Management
- Dredging
- Flood Hazard Area and Floodplain Modeling
- Dam Restoration and Removal
- Wetland Mitigation Design and Implementation
- Regulatory Permitting
- Construction Administration
- Expert Witness/Forensic Investigation for Water Resource-Related Litigation
- Assembling Project Partners for Water Resource Restoration Projects

REPRESENTATIVE PROJECTS

Huron River Watershed Council | Peninsular Paper Dam Feasibility Study
Ypsilanti, MI (2018)

Mr. Goll served as Principal-in-Charge for the targeted feasibility study for the removal of the Peninsular Paper Dam, a concrete gravity dam measuring 16 feet high. Princeton Hydro focused the feasibility study on three critical issues: sediment quality and quantity, potential infrastructure/utilities impacts, and riverfront land ownership. The completion of the feasibility study allowed project partners to pursue dam removal further, which led to the City of Ypsilanti to formally proceed with the dam removal option.

Westtown School | Westtown Lake Dam Restoration and Lake Dredging, Westtown Township*Westtown, Chester County, PA (2015-2016)*

Mr. Goll was in responsible charge of the design, permitting and construction inspection and administration for the restoration of this dam and sediment removal. The dam's outlet works were completely replaced with an emergency spillway added to the project. To increase flood storage the earthen embankment was also elevated three feet. To increase capacity of Westtown Road immediately downstream of the project, Mr. Goll worked with PennDOT and designed a 12.5 ft wide by 4.5 ft high culvert to replace the existing corrugated metal elliptical 42" wide by 36" high pipe. The lake was dredged of 56,000 cubic yards of sediment. Mr. Goll managed the day-to-day construction inspection program, overseeing field technicians for structural and geotechnical inspection, permit compliance, wetland mitigation implementation.

The Nature Conservancy | Columbia Lake Dam Removal and Stream Restoration*Knowlton Township, Warren County, NJ (2016-2019)*

Mr. Goll was the Client Manager and Engineer-of-Record for this \$6 million dam removal and river restoration, including the removal of a 110-year-old hydroelectric dam on the Paulins Kill and the restoration of over 1.5 miles of river. Mr. Goll was in responsible charge of the initial sediment borings, documentation review, and hydrologic and hydraulic modeling. He oversaw and designed the project, prepared dewatering, adaptive management, and sediment management plans. During construction, Mr. Goll provided construction administration review to ensure the project was being constructed in accordance with the plans, specifications, and permit conditions.

U.S. Army Corps of Engineers, New York District | Liberty State Park Ecosystem Restoration, Jersey City, NJ (Present)

Mr. Goll serves as Contract Manager and Senior Water Resources Engineer for the restoration of the Liberty State Park Saltwater and Freshwater Wetland and Upland Restoration Project, which will be one of the largest habitat restoration projects in New Jersey upon implementation. The project creates a resilient coastal ecosystem within a highly urbanized setting that provides both ecological and social benefits. Mr. Goll has provided engineering consultation on the dredging and dewatering design and quality control for the engineering aspects of the project.

Musconetcong Watershed Association | 5 Musconetcong River Dam Removals*Morris, Warren, & Hunterdon Counties, NJ (2003-2019)*

Mr. Goll served as the Principal-in-Charge for 5 dam removals (Gruendyke Mill Dam, Seber Dam, Finesville Dam, Riegelsville Dam, and Hughesville Dam) which included the investigation of sediment quality, composition and quantity, hydrologic and hydraulic modeling, the design of a hydraulic dredging component to manage sediment prior to removal, the design of fish passage structures to facilitate the passage of river herring, shad, and American eel. Mr. Goll oversaw sediment quantification and analysis, H&H modeling, demolition design, preparation of engineering plans, applications to NJDEP, Warren County (bridge and road opening approvals), Soil Conservation and plan approvals.

The Nature Conservancy | County Line Dam Removal*Warren County and Sussex County, NJ (2021-Present)*

Mr. Goll is the Engineer-of-Record for the removal of this run-of-the-river dam located on the Paulins Kill. Princeton Hydro was first contracted by The Nature Conservancy to conduct a feasibility study for this site and is now leading the engineering design and permitting, which includes data collection, field surveys, sediment analysis, H&H analysis, 100% engineering design plans, technical specifications, and bidding assistance.

State of New Jersey, Division of Property Management | Warren Mill Dam Sediment Investigation*Holland and Pohatcong Townships, New Jersey (2017)*

Principal-in-Charge for the Warren Mill Dam sediment investigation for NJDEP. The efforts included a bathymetric survey of the 3,700-foot-long impoundment using soundings and sediment probes. Geotechnical borings were also progressed to collect sediment samples and determine the original elevations of the riverbed along the channel. Sediment samples were tested for geotechnical engineering properties and HTRW. Mr. Goll provided consultation to the project manager on the interpretation of sediment logs and estimating sediment volumes, and he also reviewed the report for quality assurance/quality control.

Wildlands Conservancy, Inc. | Bushkill Creek, Little Lehigh, and Jordan Creek Dam Removals*Lehigh River Valley, PA (2018-Present)*

Mr. Goll served as the Engineer-of-Record for eight consecutive sequential barrier removals for the Allentown-based environmental nonprofit Wildlands Conservancy. The removal of the dams reconnected miles of river, enhanced aquatic habitat, and improved adjacent parkland and recreational fishing in the economically stressed, urban communities of Allentown, PA.



DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF PROFESSIONAL LICENSING
P.O. BOX 30670
LANSING, MI 48909

STATE OF MICHIGAN - DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF PROFESSIONAL LICENSING
PROFESSIONAL ENGINEER LICENSE

GEOFFREY GOLL

LICENSE NO.	EXPIRATION DATE	
6201066589	01/09/2025	2356100210

GEOFFREY GOLL
5 SOUTH HOMESTEAD DRIVE
YARDLEY, PA 19067

COMPLAINT INFORMATION:
THE ISSUANCE OF THIS LICENSE SHOULD NOT BE CONSTRUED
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REGULATORY AFFAIRS BY EMAILING BPLHELP@MICHIGAN.GOV
OR CALL (517) 241-0199

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
BUREAU OF PROFESSIONAL LICENSING
PROFESSIONAL ENGINEER LICENSE

GEOFFREY GOLL

LICENSE NO.
6201066589

EXPIRATION DATE
01/09/2025

2356100210

THIS DOCUMENT IS DULY
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THE STATE OF MICHIGAN



CLAY H. EMERSON, PhD, PE, CFM

SENIOR TECHNICAL DIRECTOR, ENGINEERING

15

YEARS WITH
PRINCETON HYDRO

18

YEARS OF
EXPERIENCE

EDUCATION

Ph.D. Engineering (Water Resources)

Villanova University, 2008

M.S. Environmental Engineering

Drexel University, 2003

B.S. Civil Engineering

Rowan University, 2000

PROFESSIONAL CERTIFICATIONS

Professional Engineer:

NJ (#24GE05230900)

PA (#PE078134)

Certified Floodplain Manager,
ASFP

PROFESSIONAL ORGANIZATIONS

Adjunct Faculty, **Villanova University, Rowan University**

Member, **American Water Resources Association**

Member, **New Jersey Association for Floodplain Management**

EXPERIENCE

Dr. Emerson has a broad range of experience throughout the water resources field. Dr. Emerson's educational background and work experience includes a substantial amount of crossover between engineering and environmental science applications. He is an adjunct professor at Rowan University and Villanova University within the College of Engineering where he teaches courses related to water resource engineering.

He has experience in the monitoring, modeling, and analysis of the hydrologic changes and NPS pollution associated with land use change. Dr. Emerson has specific expertise in the field of stormwater infiltration, including unsaturated groundwater hydraulics, infiltration testing, and infiltration design. He has worked on multidisciplinary teams to evaluate the impacts of urbanization on watersheds. Dr. Emerson has also conducted extensive research on the NPS pollution control and water quantity control performance of stormwater BMPs. This experience has included the design and implementation of integrated sampling and monitoring plans to determine the NPS pollution control efficiency of various types of stormwater BMPs. He also has been responsible for the dissemination of monitoring results through numerous refereed journal publications, magazine articles, and presentations.

He has significant experience in the development and application of hydrologic and hydraulic models to analyze hydraulic structures. Dr. Emerson routinely creates watershed-scale hydrologic models using standard engineering techniques and the latest software packages. Relevant software expertise includes the Army Corps of Engineers (ACOE) HEC-HMS and HEC-RAS programs. He applies these programs to determine inundation areas and potential flooding impacts. Dr. Emerson applies the results to create inundation maps, determine appropriate spillway design storms, and determine specific downstream impacts from various scenarios including hypothetical dam failures.

Dr. Emerson routinely reviews land development activities for compliance with relevant state and local stormwater and erosion and sediment control requirements. Dr. Emerson also routinely provides expert review of projects ranging from local municipal land use to federal criminal cases. He also frequently instructs at various professional continuing education courses and provides peer review for professional journal publications for multiple academic/industry journals including journals of the American Society of Civil Engineering.

- Expert Review Services
- Stormwater Management
- Groundwater Hydrology
- Hydrologic and Hydraulic Analysis
- Stormwater Infiltration
- Soil Investigation and Testing
- Expert/Peer Review
- Infiltration Testing
- Watershed Management
- Erosion and Sediment Control
- NPS Pollution Modeling
- Statistical Analysis of Hydrologic and Water Quality Data
- Education and Outreach
- Hydrologic Monitoring
- Water Quality Monitoring

REPRESENTATIVE PROJECTS

The Nature Conservancy | Columbia Dam Removal and Remnant Dam Removal

Knowlton Township, NJ (2019)

Dr. Emerson was the Senior Water Resources Engineer for this \$6 million dam removal and river restoration project. The project includes the removal of a 110-year-old hydroelectric dam on the Paulins Kill, in Northwest NJ, and the restoration of 1.5+ miles of river. Dr. Emerson provided oversight of hydraulic modeling in support of the dam removal and post-removal stream channel establishment.

U.S. Army Corps of Engineers, New York District | Spring Creek Park – North Ecosystem Restoration Project

New York, NY (2021 -Present)

Dr. Emerson served as the H&H Engineer for the restoration of a wetland located in Brooklyn. Approximately 47-acres of degraded intertidal salt marsh and uplands impacted by historic placement of dredged spoils and urbanization will be restored within Jamaica Bay. He has developed an existing conditions model to help understand the tidal effects on the wetland. His proposed conditions models help inform the proposed design and ensure that the project accomplishes its goal in restoring the wetland ecosystem.

Prince George's County | Tinkers Creek Stream Restoration

Beltsville, Maryland, (2019)

Dr. Emerson was the senior H&H Engineer for 40,500 linear feet of stream restoration design achieved through MS4 compliance using nature-based design techniques, in partnership with Prince George's County Department of the Environment and M-NCPPC. The restoration approaches include adjusting of channel banks to reestablish floodplain connectivity, stabilization of banks with natural elements and vegetation, realignment of straightened stream channels to follow a more natural sinuous pattern, and other natural element grade control structures, to slow flow and maintain bank stability. Dr. Emerson provided engineering design oversight, technical support for the function-based stream assessment, and H&H modeling.

U.S. Army Corps of Engineers, New York District | Liberty State Park Ecosystem Restoration

Jersey City, NJ (2020-Present)

Dr. Emerson serves as the Water Resources Engineer for the 235-acre resilient coastal ecosystem restoration within a highly urbanized setting, which will be one of the largest habitat restoration projects in NJ upon implementation. Dr. Emerson provides the project team with guidance on H&H modeling, reviewed the nontidal wetland design, and provided cost estimating. When completed, the project will create a freshwater and saltwater marsh within a highly urbanized setting that provides both ecological, resiliency, and social benefits.

U.S. Army Corps of Engineers, New York District | Green Brook Flood Control Project (Segments C-3/C4)

Middlesex County, NJ (2017-Present)

Dr. Emerson serves as the H&H Engineer for the design, permitting, and construction administration for Segments C3 & C4 of the Green Brook Flood Risk Management Project, located in Somerset County, NJ. The project involved the design of floodwall, closure gate, and earthen embankment. This contract, conducted through the USACE, NY District, is in design. Dr. Emerson provided direct oversight of the riverine and interior drainage analyses.

Musconetcong Watershed Association | 5 Musconetcong River Dam Removals

Morris, Warren, and Hunterdon Counties, NJ (2009-2016)

As Hydraulic Engineer, Dr. Emerson is responsible for providing design guidance related to the hydraulic modeling in support of the Hughesville Dam removal. The project included the complete removal of a 19-foot-high timber crib/concrete dam, the hydraulic and mechanical dredging of 15,000 cubic yards, and the restoration of 900 feet of the Musconetcong River. The river restoration included the installation of three rock riffles to transition the river elevation from a bridge foundation at the upstream end to the site of the removed dam.

American Rivers | Darby Creek Dam Removal and River Restoration

Delaware County, PA (2013)

Dr. Emerson provided H&H modeling and analysis to assist in the removal of obstructions and restoration of natural stream function of the lower Darby Creek. The innovative design included the relocation of 800 feet of stream in Darby Borough from a dammed, channelized, and incised river reach to a sinuous stream that reconnects the channel and its floodplain.





Tab 3

Firm Experience



Engineering
& Design

Firm Experience

CED's key staff have provided Dam Engineering Services on numerous City, County, and Municipal projects for multiple clients throughout the U.S. Below is an abbreviated list of similar completed projects. We will leverage this experience to help manage and successfully execute this contract for the City.

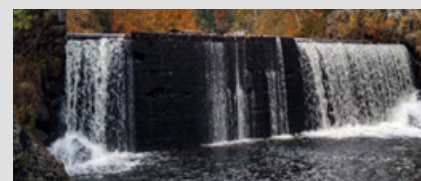
CED Project Experience

Project Description

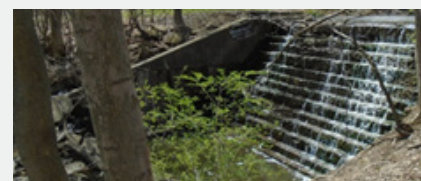
Delafield Dam, US Army Military Academy, West Point, NY. The Delafield Dam, an earth-filled dam, was previously operated as an outdoor swimming facility. The pond was drained to eliminate the risk of failure posed by seepage through the dam. To help clear the project for decommissioning, CED performed several regulatory and permitting activities. These included: wetland delineation to determine that the project area was not jurisdictional; organized and conducted a virtual preliminary pre-application meeting with the NYSDEC for a Dam Safety Permit; and completed a SEQR Short Environmental Assessment Form and D-1 Supplement for Dam Safety. CED will be providing dam safety compliance services during the construction phase of the project.



Suffern Lane Dam, Rockland County, NY. Suffern Lane Dam, located on Minisceongo Creek, is owned and maintained by Rockland County. Due to the presence of upstream and downstream dams that have a hazard classification that is influenced by Suffern Lane Dam, its location in a densely populated area, and its deteriorated condition Rockland County sought to decommission the dam. The dam is 15 ft. high, has a 51 ft. long spillway, and abutments constructed of masonry and concrete with earth embankments. CED performed hydrologic and hydraulic analyses, sediment sampling and characterization for disposal, wetlands delineation, SEQR and Dam Safety compliance and prepared alternative dam decommissioning options and presented to the County for consideration.



Woodside Dam, Ohio Department of Natural Resources, Mahoning County, OH. CED prepared construction plans and assist in the decommissioning of the Woodside Dam. The establishment of a temporary access route to the site, removal of a portion of the existing structure down to an elevation at or close to existing sediment levels in the impoundment such that any remaining structure is no longer classified as a regulated dam. The disposal of generated spoils on site and restoration of disturbed areas including dam spillway, adjacent embankment, and access route.



Amboy Mill Dam; NYS Office of General Services (NYSOGS) and NYS Department of Environmental Conservation (NYSDEC), Town of Camillus, Onondaga County, NY. Amboy Mill Dam, located on Ninemile Creek, was built in 1905 by the Amboy Wadding Company for water supply. The dam was abandoned sometime during the early 1900's, no longer serving its original purpose, and was partially removed following a flood in 2017. Ninemile Creek is a FEMA mapped stream and the dam causes a backwater effect during high flows which contributes to flooding of municipal facilities in Amboy as well as a subdivision located on the right bank of Ninemile Creek. CED provided: topographic and boundary survey; hydrologic and hydraulic analyses; sediment testing and characterization; and drawings for removal of the spillway, restoration of the left bank with native vegetation upstream and downstream of the dam; rip rap bank protection, cross vane and grade control structure. Removal of the dam and accumulated debris will eliminate the backwater effect and reduce frequency of flooding. The dam became part of a USACE clearing and snagging project in the late 1970's. Therefore, CED also prepared Section 408 (USACE) and Article 16 (NYSDEC) permits and supporting engineering and environmental documentation.



Emery Park Dam, Town of Aurora, Erie County, NY. CED provided dam safety evaluation and compliance, safety inspections, engineering assessments, dam breach analyses and inundation mapping, and design engineering services to support the County's dam safety program that included ten dams. Emery Park Dam was not listed in the NYSDEC dam inventory. Subsequent safety inspections and field work provided recommendations to the County to bring the dam into compliance with NYSDEC Part 673 regulations. CED also performed a hazard classification analysis in which a high hazard Class C classification was assigned to the dam. CED developed three alternatives for repairing the dam: full rehabilitation; partial decommissioning to lower the earthen embankment and concrete spillway to produce a dam height and maximum impoundment volume below regulatory thresholds; and a full decommissioning that would completely remove the dam. Based on a 20-year value analysis, the County selected partial decommissioning option. CED developed construction documents to lower the earthen embankment 6.5 feet and lower the spillway crest 8.5 feet, and provided engineering oversight during construction. The partial decommissioning of the dam was completed in November 2013.





Project Profile

Project Highlights

Client:

Lansing Board of Water
and Light

1201 South Washington
Avenue, Lansing, MI 48910

Contact:

Sean Looman, PE
517.930.5395
Sean.Looman@LBWL.com
PM: Cheryl Loudon

Completion:

2021

Services:

Dam Engineering,
Structural Engineering,
Hydraulic & Hydrology
Analysis, Topographic
Survey, Mechanical
Engineering

Moores Park Dam Trunnion Pin Replacement

Lansing, MI

Project Description

Colliers Engineering & Design (CED) was contracted by the Lansing Board of Water and Light (LBWL) to prepare a design for the replacement of trunnion pins on the 3 tainter gates. Additional items added to the scope include; de-icing measures, safety upgrades, a stoplog rack, new upstream buoys, new flashboards, and a method for installing temporary cofferdams upstream of the Obermeyer gate.

Serving as the prime consultant, CED was directly responsible for reviewing available files, plans, FERC reports, and historical information, presenting conceptual alternatives, designing the proposed improvements, bidding services, and providing construction administration services. CED is also responsible for overseeing a survey subconsultant providing topographical and construction staking services.



Engineering
& Design

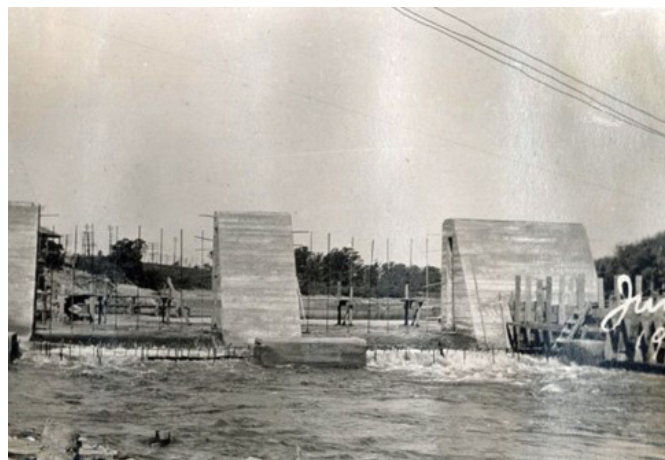
PENINSULAR PAPER DAM FEASIBILITY STUDY

YPSILANTI, MI

PROJECT PERIOD: FEBRUARY 2018- MARCH 2019
FEE: \$122K

The Huron River Watershed Council (HRWC), in partnership with the City of Ypsilanti, had been exploring options for the future of the Peninsular Paper Dam, the revitalization of Peninsular Park, and the long-term restoration of the Huron River. In 2017, HRWC contracted with Princeton Hydro to lead a targeted feasibility study for the removal of the dam.

The original dam structure was built in 1867 to provide power for paper manufacturing. The dam failed catastrophically in 1918 and was rebuilt two years later. The powerhouse is a prominent feature free-standing "PENINSULAR PAPER CO. SINCE 1867 YPSILANTI." The dam is classified as a concrete gravity dam that measures 16 feet high and is owned by the City of Ypsilanti.



The City was considering the removal of the dam because it no longer generated power or served an economic purpose. The removal of the spillway would also remove owner obligation for inspections, maintenance, and repair; reduce the legal liability and public safety hazard; likely improve water quality; restore 1 mile of impoundment to free-flowing conditions; and reconnect over 2 miles of river.

The study focused on three critical issues: (1) sediment quality and quantity, (2) potential infrastructure/utilities impacts, and (3) riverfront land ownership.



Princeton Hydro surveyed the impoundment and manually probed the sediment to estimate sediment volume and the anticipated river profile and alignment post-dam removal. Princeton Hydro's team also collected sediment samples from barge-mounted vibracoring equipment. Samples were analyzed for a variety of potential pollutants and compared with several human health and ecological criteria.

Princeton Hydro's assessment of the post-removal river alignment supported the assessment of impacts to waterfront landowners and bridges spanning the impoundment. A detailed deed search identified properties that would be unaffected or potentially redefined by the change in normal water's edge. Bridge design plans were analyzed with respect to the anticipated river profile to anticipate the need for potential mitigation.

Princeton Hydro's feasibility study allowed project partners to pursue dam removal further, leading the City of Ypsilanti to formally proceed with the dam removal option.



KEY SERVICES

Project Management
Sediment Sampling
Site Investigation
Survey Data and Mapping
H&H Modeling

REFERENCE

Huron River Watershed Council
Daniel Brown, Watershed Planner
1100 North Main Street
Suite 210
Ann Arbor, MI 48104
734-769-5123
dbrown@hrwc.org



COLUMBIA DAM REMOVAL, STREAM RESTORATION, AND POWERHOUSE DEMOLITION

KNOWLTON TOWNSHIP, NJ

PROJECT PERIOD: AUGUST 2015 - APRIL 2019
FEE: \$540K / CONSTRUCTION: \$6M

In Northwest New Jersey on the Paulins Kill, an important tributary to the Delaware River, the century-old hydroelectric Columbia Dam was removed. Princeton Hydro was contracted by American Rivers to design and permit the removal and contracted by The Nature Conservancy (TNC) to provide engineering oversight of the removal. Additional project partners included U.S. Fish and Wildlife Service, RiverLogic Solutions, NJDEP Division of Fish and Wildlife Service, and SumCo EcoContracting.

The Columbia Dam was constructed as a Ransom hollow dam around 1906 and consisted of an 18-foot-high by 250 feet wide wall of structural concrete cells, a powerhouse, and 38-acre impoundment. The impoundment contained 300,000 cubic yards of sediment and was about 1.5 miles in length. Our team of engineers and ecologists studied the feasibility of removal by collecting sediment samples, performing bioassay tests, and conducting a hydraulic analysis of upstream and downstream conditions. A major component of the project investigation included the progression of barge-mounted standard penetration borings (SPT), geotechnical characterization of sediment, analytical testing for contamination, and biological laboratory (assay) testing of the sediment. Following surveys, field investigations, analysis, and modeling, Princeton Hydro prepared the engineering plans and construction details, and sediment management, demolition, dewatering, and adaptive management plans. Along with plan preparation, NJDEP (Land Use Regulation, Dam Safety, and Division of Fish & Wildlife, and State Historic Preservation Office (SHPO), Warren County Soil Conservation District, and Warren County Highway permits were acquired.

During construction, Princeton Hydro provided construction administration services, including construction observation, payment requests, and requests for information from the contractor. In addition, we also managed periodic progress meetings and interaction with the regulatory permit issuers.

In April 2019, for the first time in over a century, American Shad (*Alosa sapidissima*) returned upstream of the Columbia Dam site, just months after the main dam was removed. Prior to this removal, American Shad and other migratory fish could not make it past the large dam structure to swim upstream to their important breeding grounds.



KEY SERVICES

- Dam Removal Design
- Geotechnical Investigation
- H&H Analysis
- Sediment Management Plan
- Cost Estimating
- Construction Oversight
- Drone Photography

REFERENCE

The Nature Conservancy New Jersey
Barbara Brummer
200 Pottersville Road
Chester, NJ 07930
908-879-7262
bbrummer@tnc.org

Tab 4

Anticipated Project Schedule and Budget

Project Schedule

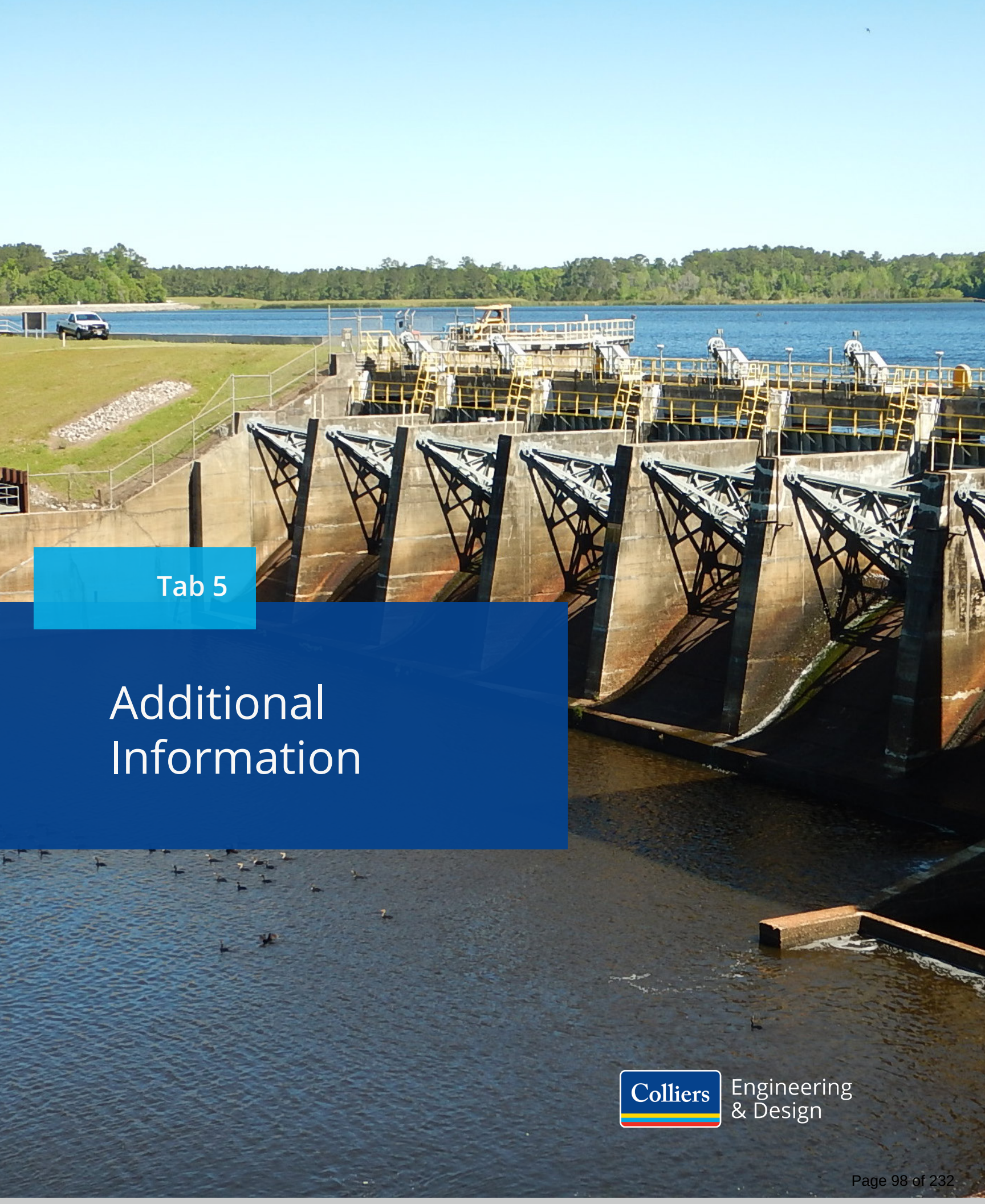
Upon successful contract award, the CED team is prepared to begin work immediately. Below is our anticipated schedule which prioritizes field work activities to facilitate design and permitting activities to ensure the project can begin construction in August 2025.

	2024				2025												2026	2027
	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26 - Dec-26	Jan-27 - Sep-27
Project Award																		
Additional Environmental Studies																		
Wetland Delineation/Habitat Assessment																		
HWRM (as needed)																		
Archeology/Architecture (as needed)																		
Mussel Relocation Additional Information																		
Public Outreach and Communication																		
Present Findings at Public Meetings (as needed)																		
Support Grant Applications (as needed)																		
Permitting																		
Easement Support (As Needed)																		
Pre-Application Meeting with permitting agencies (USACE/EGLE)																		
Permit Submittal (USACE/EGLE)																		
Final Permit Received (Anticipated)																		
Design																		
Building/Structural Analysis																		
Design Development Sediment Transport and H&H Analysis																		
Spoils Management Analysis																		
60% Plan Development for Dam Removal/Spoils Management																		
60% Plan Review and Comments																		
90% Plan Development for Dam Removal/Spoils Management																		
Final Review and Comment																		
Finalized Construction Plans, Specifications, and Cost Estimate for Dam Removal																		
RFP for Construction Services																		
Construction																		
Bidding/Award																		
Mussel Relocation Activities (as required)																		
Construction Administration and Inspection																		
Post Construction Maintenance and Monitoring Plan																		
Post Construction Warranty Support																		
River Restoration Design (Activities completed as funding allows)																		
60% Design Plans for Full River/Habitat Restoration																		
60% Plan Review and Comments																		
90% Design Plans for Full River/Habitat Restoration																		
90% Plan Review and Comments																		
Final Review and Comment																		
Finalized Construction Plans, Specifications, and Cost Estimate																		

Project Budget

Below is our proposed project budget. We have estimated **\$811,615** for the overall design and construction phases. The overall fee of \$894,095 includes river restoration design.

 Engineering & Design	Project Manager		QA/QC Engineer		Principal in Charge		Lead Hydraulic Engineer		Lead Sediment Transport		Lead Structural Engineer		Lead Geotechnical Engineer		Lead Environmental		Public Outreach & Grants		Senior Engineer/Scientist		Engineer/Scientist		Junior Engineer/Scientist		Cadd Technician		Administrative		
	James Ensign, PE, CFM		Ken Avery, PE, CFM		Jeremy Hedden, PE		Jim Guisitina, PE		Geoffrey Goll, PE		Josh Repp, PE		Diego Rivera, PE		Karen Missell, RLA		Kimberly Baptiste, AICP		Varies		Varies		Varies		Varies		Varies		
	Rate =	\$225	Rate =	\$250	Rate =	\$250	Rate =	\$225	Rate =	\$300	Rate =	\$225	Rate =	\$225	Rate =	\$225	Rate =	\$225	Rate =	\$175	Rate =	\$150	Rate =	\$125	Rate =	\$130	Rate =	\$100	
	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	Hours	(\$)	
Meetings																													
Project Kickoff	3	\$675		\$0	3	\$750	3	\$675	3	\$900	3	\$675	3	\$675	3	\$675		\$0		\$0		\$0		\$0		\$0	3	\$300	\$5,325
Progress meetings	36	\$8,100	12	\$3,000	12	\$3,000	24	\$5,400	24	\$7,200	24	\$5,400	24	\$5,400	24	\$5,400	12	\$2,700		\$0		\$0		\$0		\$0	24	\$2,400	\$48,000
Steirng Committee Meetings (4)	16	\$3,600	4	\$1,000	4	\$1,000	8	\$1,800	8	\$2,400	8	\$1,800	8	\$1,800	8	\$1,800	4	\$900		\$0		\$0		\$0		\$0	12	\$1,200	\$17,300
Project Stakeholder Meetings (2)	8	\$1,800		\$0	4	\$1,000	4	\$900	4	\$1,200	4	\$900	4	\$900	4	\$900	8	\$1,800		\$0		\$0		\$0		\$0	4	\$400	\$9,800
Additional Environmental Studies																													\$80,425
Wetland Delineation/Habitat Assessment	4	\$900		\$0		\$0	2	\$450	2	\$600		\$0		\$0	8	\$1,800		\$0	60	\$10,500		\$0	20	\$2,500	16	\$2,080		\$0	\$18,830
HWRM (as needed)	4	\$900	2	\$500		\$0		\$0	24	\$7,200		\$0	16	\$3,600		\$0		\$0	40	\$7,000		\$0	40	\$5,000		\$0		\$0	\$24,200
Archeology/Architecture (as needed)	4	\$900		\$0		\$0		\$0		\$0		\$0		\$0	24	\$5,400	24	\$5,400	40	\$7,000	40	\$6,000		\$0		\$0		\$0	\$24,700
Mussel Relocation Additional Information	4	\$900		\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$0	40	\$7,000	40	\$6,000	40	\$5,000		\$0		\$0	\$18,900
Public Outreach and Communication																													\$86,630
Public Outreach and Communication	40	\$9,000		\$0	4	\$1,000	8	\$1,800	8	\$2,400		\$0		\$0	4	\$900	80	\$18,000		\$0	40	\$6,000	20	\$2,500	20	\$2,600	20	\$2,000	\$46,200
Present Findings at Public Meetings (as needed)	8	\$1,800		\$0	4	\$1,000	2	\$450	4	\$1,200	2	\$450	2	\$450	2	\$450	40	\$9,000		\$0		\$0		\$0		\$0	20	\$2,000	\$16,800
Support Grant Applications (as needed)	8	\$1,800	4	\$1,000	2	\$500	8	\$1,800	8	\$2,400	8	\$1,800	8	\$1,800	8	\$1,800	40	\$9,000		\$0	40	\$6,000	40	\$5,000	40	\$5,200		\$0	\$38,100
Permitting																													\$101,100
Easement Support (As Needed)	8	\$1,800	4	\$1,000	4	\$1,000		\$0		\$0		\$0		\$0		\$0		\$0	16	\$2,800	40	\$6,000	40	\$5,000		\$0		\$0	\$17,600
Pre-Application Meeting with permitting agencies (USACE/EGLE)	8	\$1,800		\$0	4	\$1,000		\$0		\$0		\$0		\$0		\$0		\$0		\$0	8	\$1,200		\$0		\$0		\$0	\$4,000
Permit Submittal (USACE/EGLE)	16	\$3,600	8	\$2,000	4	\$1,000	12	\$2,700	12	\$3,600	12	\$2,700	12	\$2,700	40	\$9,000		\$0		\$0	40	\$6,000		\$0	40	\$5,200	24	\$2,400	\$40,900
Permit Revisions	8	\$1,800	4	\$1,000	2	\$500	4	\$900	4	\$1,200	4	\$900	4	\$900	20	\$4,500		\$0		\$0	20	\$3,000		\$0	20	\$2,600	12	\$1,200	\$18,500
Design																													\$81,000
Building/Structural Analysis	8	\$1,800	2	\$500	2	\$500		\$0		\$0	24	\$5,400		\$0		\$0		\$0	40	\$7,000		\$0	40	\$5,000		\$0		\$0	\$20,200
Design Development Sediment Transport and H&H Analysis	16	\$3,600	16	\$4,000	2	\$500	40	\$9,000	40	\$12,000		\$0	16	\$3,600		\$0		\$0	80	\$14,000	80	\$12,000		\$0		\$0		\$0	\$58,700
Spoils Management Analysis	16	\$3,600	2	\$500	2	\$500		\$0	8	\$2,400		\$0	8	\$1,800	8	\$1,800		\$0	40	\$7,000		\$0		\$0		\$0		\$0	\$17,600
60% Plan Development for Removal/Spoils Management	40	\$9,000	16	\$4,000	8	\$2,000	4	\$900	16	\$4,800	16	\$3,600	8	\$1,800		\$0		\$0	80	\$14,000		\$0	80	\$10,000	80	\$10,400		\$0	\$60,500
60% Plan Review and Comments	8	\$1,800	16	\$4,000	8	\$2,000	4	\$900	8	\$2,400	8	\$1,800	8	\$1,800		\$0		\$0	8	\$1,400		\$0	24	\$3,000	24	\$3,120		\$0	\$22,220
90% Plan Development for Removal/Spoils Management	40	\$9,000	8	\$2,000	8	\$2,000	4	\$900	8	\$2,400	8	\$1,800	8	\$1,800		\$0		\$0	40	\$7,000		\$0	40	\$5,000	40	\$5,200		\$0	\$37,100
Final Review and Comment	16	\$3,600	8	\$2,000	8	\$2,000	4	\$900	4	\$1,200	4	\$900	4	\$900		\$0		\$0	8	\$1,400		\$0	16	\$2,000	16	\$2,080		\$0	\$16,980
Final Construction Plans, Specs, & Estimate for Removal	40	\$9,000	16	\$4,000	8	\$2,000	40	\$9,000	24	\$7,200	40	\$9,000	40	\$9,000	40	\$9,000		\$0	40	\$7,000		\$0	80	\$10,000	40	\$5,200	40	\$4,000	\$84,400
RFP for Construction Services	16	\$3,600	4	\$1,000	4	\$1,000	4	\$900	4	\$1,200	4	\$900	4	\$900	4	\$900		\$0	40	\$7,000		\$0		\$0	40	\$5,200	8	\$800	\$23,400
Construction																													\$341,100
Bidding/Award	8	\$1,800	2	\$500	2	\$500	4	\$900	4	\$1,200	4	\$900	4	\$900	4	\$900		\$0	8	\$1,400	8	\$1,200	8	\$1,000	8	\$1,040		\$0	\$12,240
Construction Administration and Inspection	120	\$27,000	8	\$2,000	8	\$2,000	8	\$1,800	8	\$2,400	8	\$1,800	8	\$1,800	8	\$1,800	24	\$5,400		\$0	120	\$18,000	120	\$15,000	40	\$5,200	40	\$4,000	\$88,200
Post Construction Maintenance and Monitoring Plan	8	\$1,800	2	\$500	2	\$500	8	\$1,800	8	\$2,400		\$0	8	\$1,800	8	\$1,800		\$0	16	\$2,800	16	\$2,400	16	\$2,000	24	\$3,120		\$0	\$20,920
River Restoration Design (Activities completed as funding allows)																													\$121,360
60% Design Plans for Full River/Habitat Restoration	16	\$3,600	2	\$500	2	\$500	4	\$900	4	\$1,200		\$0	4	\$900	4	\$900		\$0	16	\$2,800	24	\$3,600	24	\$3,000	24	\$3,120		\$0	\$21,020
60% Plan Review and Comments	8	\$1,800	8	\$2,000	2	\$500	4	\$900	4	\$1,200		\$0	4	\$900	4	\$900		\$0	4	\$700	8	\$1,200	8	\$1,000	8	\$1,040		\$0	\$12,140
90% Design Plans for Full River/Habitat Restoration	8	\$1,800	2	\$500	1	\$250	2	\$450	2	\$600		\$0	2	\$450	2	\$450		\$0	16	\$2,800	24	\$3,600	24	\$3,000	24	\$3,120		\$0	\$17,020
90% Plan Review and Comments	4	\$900	2	\$500	1	\$250	2	\$450	2	\$600		\$0	2	\$450	2	\$450		\$0	4	\$700	8	\$1,200	8	\$1,000	8	\$1,040		\$0	\$7,540
Final Review and Comment	8	\$1,800	2	\$500	1	\$250	2	\$450	2	\$600		\$0	2	\$450	2	\$450		\$0	8	\$1,400	16	\$2,400	16	\$2,000	16	\$2,080		\$0	\$12,380
Final Construction Plans, Specifications, & Estimate	8	\$1,800	2	\$500	1	\$250	2	\$450	2	\$600		\$0	2	\$450	2	\$450		\$0	8	\$1,400	16	\$2,400	16	\$2,000	16	\$2,080		\$0	\$12,380
																													\$82,480
Hours/Costs	563	\$126,675	156	\$39,000	117	\$29,250	211	\$47,475	249	\$74,700	181	\$40,725	213	\$47,925	233	\$52,425	232	\$52,200	652	\$114,100	588	\$88,200	720	\$90,000	544	\$70,720	207	\$20,700	\$20,700
Percentage of total hours	11.6%		3.2%		2.4%		4.3%		5.1%		3.7%		4.4%		4.8%		4.8%		13.4%		12.1%		14.8%		11.2%		4.3%	Total Cost	\$894,095



Tab 5

Additional Information



Engineering
& Design



Engineering
& Design

Firm Overview

Colliers Engineering & Design is a trusted provider of multi-discipline engineering, architecture, consulting and design services delivering *customized solutions* to public and private clients.

Established in 1984 as Maser Consulting, Colliers Engineering & Design provides its same dedicated leadership, systems and services to clients. Today, the firm employs over 2,600 professionals nationwide. Over its history, the company has consistently been recognized nationally by Engineering News Record as a Top 500 Design Firm and ranked on The Zweig Group Hot Firm List of fastest growing companies.

Driven by our values of quality, accountability, and safety in the work environment, our dedicated professionals take pride in their commitment to providing clients the highest standards of customer service. Our full-service, in-house resources, advanced technologies, and proven project management approach combine to provide accessibility to resources and strategies that maximize the success of our clients' project potential.

Building Division

- Architecture
- Electrical Engineering
- Interior Design
- Mechanical
- Structural
- Planning

Civil/Site Division

- Civil/Site
- Landscape Architecture

Geo/Environmental Division

- Environmental
- Geotechnical
- Natural Resources

Governmental Services Division

- GIS
- Municipal
- Water/Wastewater
- Grants & Funding

Infrastructure Division

- Bridges & Structures
- Highways & Traffic Engineering
- Construction Engineering & Inspection
- Water
- Dam Engineering & Safety
- Traffic Planning
- Rail

Project/Program Management

- Project Management
- Commissioning & Energy

Survey/Geospatial Division

- Survey/Geospatial
- Land Services
- SUE Services

Telecom & Utility Division

- Telecom
- Utility Design Engineering





Engineering
& Design

At a Glance



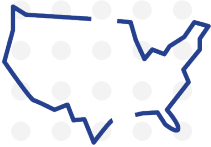
Mission

Advancing the built environment to accelerate the success of our communities, clients, and people.



Vision

To lead our industry with proven expertise and innovative, sustainable solutions through an exceptional work culture and client experience.



offices
nationwide



industry
professionals



serving our
clients since

75+ | 2600+ | 1984



#50

ENR's Top 500 Design
Firm rankings for 16
consecutive years

Environment, Social, Governance

ESG is the blueprint to doing what's right. As an industry leader, Colliers Engineering & Design has a responsibility to ensure that the built environment is constructed with a commitment to the inclusivity, health and welfare of our people, clients, communities. Our ESG strategy, *Elevate the Built Environment*, includes measurable targets to ensure that ESG remains at the forefront of how we do business.

Accelerating success.

Dam Engineering

Providing full-service support to dams and waterway structures across the nation in both the public & private sectors.

Colliers Engineering & Design engineering professionals have extensive experience in providing all services relating to dam inspection and rehabilitation. We are well-versed in geotechnical condition evaluation; engineering analysis; design and construction administration; and hazard classification services for dams. Our professionals also prepare Operations and Maintenance Manuals (O&MM) and Emergency Action plans (EAP) for all types of dams.

Our professionals have an in-depth knowledge of Dam Safety Standards that set forth procedures for applications to construct, repair, modify, maintain, and inspect dams. Our thorough comprehension of the applicable building and design codes, permitting, and regulatory process necessary to comply with these standards ensures a successful project. We have working relationships with local, county, state, and federal agencies that are critical to maintaining the integrity of a project while keeping it to schedule and budget.



- Dam Inspections
- Safety & Integrity Evaluations
- Topographic Surveys
- Hydrologic Evaluations
- Emergency Action Plans Preparation
- Hazard Classifications
- Flood Routings & Breach
- Spillway Design
- Geotechnical Investigations
- Stability Analysis
- Seepage Analysis
- Underwater Inspection
- Structural Evaluations & Repair
- Design Drawing Preparation
- Specifications Preparation
- Construction Management
- Regulatory Permitting
- O&MM Preparation
- EAP Preparation



Engineering
& Design



Engineering & Design

Colliers Engineering & Design is a trusted provider of multi-discipline engineering, design and consulting services providing customized solutions for public and private clients through a network of offices nationwide.

For a full listing of our office locations, please visit colliersengineering.com

1 877 627 372

*Civil/Site • Architecture • Traffic/Transportation • Governmental • Survey/Geospatial
Infrastructure • Geotechnical/Environmental • Telecommunications • Utilities/Energy*



Removal Design of Peninsular Paper Dam and Technical Assistance Through Construction Removal

City of Ypsilanti

September 16, 2024





September 16, 2024

RE: Request for Proposals for the Removal Design of Peninsular Paper Dam

Katie Jones
City of Ypsilanti City Hall
1 South Huron Street
Ypsilanti, MI 48197

(734) 483-9646
kjones@cityofypsilanti.com

Offices Nationwide
1539 Grand Ave.
2nd Floor
Saint Paul, MN 55105
interfluve.com

Dear Katie,

Inter-Fluve, AECOM, and LimnoTech are pleased to present the City of Ypsilanti with our Statement of Qualifications for the Permitting and Final Design phase of the Peninsular Paper Dam Removal. Our team is eager to continue our partnership with the City, HRWC, and the other project stakeholders on this important project. We are looking forward to efficiently picking up where we left off in previous project phases in which our team performed necessary site investigations, developed conceptual design alternatives, and developed 30% engineering designs.

Due to our depth of experience with the past project phases, our team of dam removal experts is intimately familiar with the details of the project, including the Huron River's geomorphology, hydrology, and hydraulics, impounded sediment characteristics, and the structure of Pen Dam, and has detailed understanding of how the river will function and evolve following dam removal. We understand the City's budget and schedule goals and key regulatory and stakeholder priorities. Working collaboratively, we will strive to balance these considerations with river restoration outcomes and engineering due diligence.

Our team is strong, skilled, and experienced. For this phase, Inter-Fluve will lead the team as the prime consultant due to our depth of experience leading the implementation of dam removal and river restoration projects. AECOM will be responsible for structural removal engineering, bridge crossing stabilization, and supporting investigations. LimnoTech will provide sediment quality and permitting expertise. A new team member, Wightman Associates, will provide services related to property boundary assessments and agreements.

Inter-Fluve and AECOM have collaborated in recent years on the Boardman River Dam Removals, the Kletsch Park Dam Fishway in Glendale, WI, and are currently collaborating on the Baldwin Dam removal in Baldwin, Michigan. LimnoTech and Inter-Fluve have a long history of successful projects, including the Don River Port Lands Restoration, a \$1.2 billion urban wetland and river restoration in Toronto.

Our team offers the City:



Integrated Science and Engineering for a Safer, Greener Ypsilanti: Our team combines science and engineering to develop strategies for complex aquatic restoration challenges. This interdisciplinary approach makes us a natural fit to further the City's mission of working creatively and collaboratively to enhance the natural and built environment.

- ▶ The Inter-Fluve project team completed the geomorphic assessments and bathymetric and sediment **surveys**, and have an unmatched knowledge of conditions in the Huron River.
- ▶ Project team staff understand the **geotechnical complexities** of long-term evolution of the site, including the stability of sediments, exposed banks, and sensitive bluff areas.

- ▶ Project team staff have specific experience with removing dams with **railroads** running either adjacent to (Patapsco River, MD) or across the impoundment (Underwood Creek, WI).
- ▶ Project team staff have specific experience with **road and sewer crossings** within impoundments (Albion Dams, MI; Pucker Street Dam, MI; Boardman Dams, MI; Patapsco River, MD; Megunticook River, ME, among others).
- ▶ Project team staff have specific experience with **demolition and removal** of large urban dams adjacent to historic buildings, apartment complexes, retaining walls, and other sensitive infrastructure (Mill River Dams, MA; Shawsheen River Dams, MA; Eel River, MA; Patapsco River Dams, MD; Megunticook River, ME).
- ▶ River engineering expertise at Inter-Fluve and LimnoTech includes the latest advances in dam removal **sediment transport modeling** in both 1D and 2D formats.



Community Focus, Global Expertise: Ypsilanti is a special place that balances a respect for its historic roots with a forward-looking approach. Although our project team includes nationally and internationally renowned experts in dam removal, the driving force for our work is to provide services to the communities we care about.

- ▶ With LimnoTech's headquarters in Ann Arbor and AECOM and Wightman offices across Michigan, our team is **deeply embedded in the region**. Inter-Fluve has been leading river restoration projects in Michigan for 25 years, building relationships with State, municipal, county, and Tribal partners
- ▶ Project team members have collectively facilitated dozens of **dam removal public meetings**, and know what works and what doesn't. We have met with the public and key stakeholder groups for the Peninsular Paper Dam removal and understand the community's needs. We have developed effective means of information gathering and dissemination, including interactive meeting and communication strategies.



Proven Partnerships and Streamlined Processes: Beyond the science and engineering, dam removals are about relationships and communication.

- ▶ Our team has extensive experience working within **Michigan's regulatory landscape**, including established relationships with EGLE and USACE. We prioritize early and proactive communication to streamline the permitting process.
- ▶ With a strong track record of **collaboration** and strong trust between team members, we operate as a cohesive unit. We will coordinate internally to deliver cohesive results.
- ▶ **As the team that delivered the 30% designs, we bring essential institutional knowledge and are ready to move directly into 60% designs without delay.**

We look forward to engaging with you on this transformational project and welcome the opportunity to discuss our qualifications, approach, and scope in greater detail. Please do not hesitate to reach out to Nick Jordan with any questions regarding this proposal

Best Regards,

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1. Firm Background & Profiles

For this phase of the dam removal, we have reassembled the project team from the previous stages. With decades of dam removal experience, **Inter-Fluve** will be leading this project phase with the same team that delivered the 30% designs. **LimnoTech**'s role will involve sediment analysis and permitting support, and **AECOM**'s role will include civil, structural, and geotechnical engineering; floodplain permitting; permitting support; wetland delineation and assessment; rare, threatened, and endangered species clearance; and historic preservation and archaeological assessment.

Joining our team is **Wightman and Associates** (Wightman) to provide property boundary assessment support. Inter-Fluve has collaborated with Wightman on multiple dam removal projects in Michigan, including the Pucker Street Dam Removal.

Responsibility and Stability

Inter-Fluve recently celebrated our 40th anniversary. Our principals assigned to this project have all enjoyed long tenures with the company:

- ▶ Jonathon Kusa, PE, LEED AP (10 years)
- ▶ Mike Burke, PE, P.Eng. (19 years)
- ▶ Marty Melchior, FP-C (23 years)

Our firms have a strong track record of success in the industry, with principals bringing decades of experience to the table. Insurance and financial documents are available upon request to provide further assurance of our commitment to the project and our capacity to manage risks effectively.

Experience

In addition to working on previous phases of the Peninsular Paper Dam removal project, Inter-Fluve has a portfolio of more than 2,700 aquatic habitat restoration projects. More than 150 of our projects have involved dam removal. Details of representative projects and a list of dam removals we have worked on are included at the end of this section.

Inter-Fluve has conducted habitat and geomorphic assessments on more than 3,000 miles of stream around the world. We have worked on assessments that have led to large-scale planning and restoration efforts for a variety of clients, including NOAA, the US Bureau of Reclamation, World Wildlife Fund, US Army Corps of Engineers, US Forest

Service, as well as nonprofit organizations and government agencies (municipal, county, state, federal, and tribal) throughout the country.

A relevant example of a dam removal that featured pilot channel and limited floodplain excavation, combined with future adaptive management of the impoundment, our removal of the Pucker Street Dam on the Dowagiac River is comparable in scope and complexity, and was successfully completed in collaboration with a municipal government, EGLE and MI DNR coordination. We encourage you to contact Jeff Dunlap, Utilities Manager for the City of Niles at (269) 683-4700 ext. 2071 or utilitiessea@nilesmi.org for more information.

Inter-Fluve staff, including Marty Melchior and Mike Burke, have long been involved with developing dam removal standards of practice on a national and state level. Marty and Mike both served on the Federal Subcommittee on Sedimentation Dam Removal Sediment Management Task Force, and have also served on committees to develop dam removal practice standards in the Gulf of Maine, New England, the Pacific Northwest, Midwest and the Chesapeake Bay area. Marty is currently working with American Rivers and the US Forest Service to develop a technical dam removal class for Federal employees.

Location and Local Expertise

Inter-Fluve's Midwest offices are located in Saint Paul, MN and Lodi, WI, and we frequently work on projects in Michigan. LimnoTech is conveniently headquartered in Ann Arbor, while AECOM and Wightman have offices across the state. Our team has maintained strong working relationships with staff at permitting agencies such as MDNR and EGLE through our work on dam removal projects throughout Michigan. We worked closely with MDNR fisheries to establish acceptable standards for large wood installation on the Boardman



Community Focus, Global Expertise

Dam removal is a big part of what we do. This past year, Inter-Fluve's 67 river restoration practitioners have overseen the removal of four dams and about a dozen levees and flow control structures across the country. We are currently in the design phase for an additional 30+ dam removals.

River projects, and have worked with EGLE and MDNR on acceptable methods for sediment transport analysis and impoundment sediment management at the three Boardman Dams, five dam removals in Albion, MI, the Baldwin Dam removal and the Pucker Street Dam removal projects. We have also collaborated closely with EGLE and MDNR staff on large-scale river restoration projects on the Dowagiac River between 2015 and 2023.

Quality of Work

Since 1984, Inter-Fluve has been making waves in the restoration industry by integrating natural sciences with water resources engineering to develop approaches to aquatic habitat restoration challenges. A few recent accolades include:

- ▶ **2024 Grand Award, American Council of Engineering Companies (ACEC) Oregon** (Middle Fork John Day River – Vinegar to Vincent Habitat Restoration Project)
- ▶ **2022 Silver Award, ACEC Washington and National Recognition Award, ACEC National** (Nason Creek Upper White Pine Stream Channel & Floodplain Habitat Enhancement)
- ▶ **2022 Grand Award, ACEC Minnesota and National Recognition Award, ACEC National** (Minnehaha Creek, Arden Park Restoration)
- ▶ **2021 National Honor Award, ACEC and Grand Award, ACEC Maryland** (Bloede Dam Removal & Patapsco Interceptor Relocation)
- ▶ **2021 Southwest Michigan Planning Commission Graham Woodhouse Intergovernmental Effort Award and 2023 Engineering Merit Award, ACEC Michigan** (Pucker Street Dam Removal)
- ▶ **2021 Engineering Honorable Conceptor Award, ACEC Michigan and National Recognition Award, ACEC National** (Boardman River Dam Removals)



Proven Partnerships

Inter-Fluve and LimnoTech are currently working on the Don River Mouth Naturalization in Toronto. Read more here: <https://www.waterfrontoronto.ca/our-projects/don-mouth-naturalization-and-ports-lands-flood-protection>.

Ability to Complete Scope of Services

We look forward to discussing our team's scope, schedule, and budget in greater detail with the City. We recognize the targeted project schedule is ambitious and appreciate project team's desire to rapidly implement the dam removal project. Inter-Fluve is accustomed to delivering significant restoration projects on expedited timelines, including in recent years the Kletzsch Park Dam Fishway and planning of four confidential large dam removals in New England. We will prioritize scheduling necessary investigations to support timely submission of permit applications. We anticipate submitting permits following the 60% design development stage.

Inter-Fluve

Founded in 1984, Inter-Fluve (www.interfluve.com) has been a pioneer in the field of science-based river restoration design and engineering. Over the last 40 years, Inter-Fluve has developed an unparalleled approach to restoration using natural river processes to create projects that not only achieve their design criteria, but persist through time. To date, our portfolio includes more than 2,700 projects, completed on four continents.

Inter-Fluve's team of 67 scientists and engineers maintain expertise in fish passage, dam removal, large wood placements, hydraulic modeling, geomorphic assessment, bio-engineering, topographic and bathymetric surveying, stream simulation, as well as planning and implementation management. Known for our in-house, interdisciplinary approach, our engineers understand the complexities of working within dynamic natural environments and our scientists understand the importance of sound engineering design. Inter-Fluve does business in Michigan as Inter-Fluve Engineering, PLLC.

Inter-Fluve is a federally recognized small business with offices throughout the country. We annually commit 7% of our revenue to non-profit organizations that educate people on the need for aquatic restoration activities.

LimnoTech

LimnoTech is an environmental science and engineering firm headquartered in Ann Arbor, Michigan, with regional offices in Washington, DC, Minneapolis-St. Paul, and Los Angeles. LimnoTech has successfully undertaken environmental and water resource projects of every size throughout the United States and internationally since its founding in 1975. Our clients include municipalities, regional governmental

units, the federal government, industry, non-governmental organizations, legal firms, landscape architecture firms, and other engineering firms.

LimnoTech offers the latest water science and engineering expertise in numerous disciplines within the areas of watershed and waterway management, contaminated site and sediment evaluation and restoration, permitting and regulatory assistance, water sustainability and stewardship, ecosystem studies, and applied research. LimnoTech staff offers a unique blend of diversity and depth. LimnoTech senior staff are internationally recognized experts in their fields, and more than 75% of staff possess advanced degrees in their fields of expertise, including environmental engineering, geology, geophysical sciences, hydrology, ecology, and economics.

LimnoTech has a national reputation for the development and application of scientific tools to address complex water resource and environmental engineering issues, especially as they relate to water quality and risk assessment, and selection and design of management and remediation alternatives. For four decades, the firm has been a leader in the development and application of numerical models describing watershed hydrology, hydrodynamics, sediment transport, river and coastal geomorphology, contaminant transport, and ecological function. LimnoTech models and analyses have been used to find solutions to a broad array of technically challenging environmental and water resources problems around the world.

AECOM

AECOM is an international leader in the design and construction of dams and reservoirs, as well as the decommissioning and removal of dams. With a comprehensive team of specialists working across the full project lifecycle, they deliver solutions to the world's most complex water resource problems.

While having global reach and expertise to pull from, AECOM's local offices and project teams are dedicated to collaborating with local agencies and stakeholders and improving conditions in their communities. .

Having successfully completed the Alternatives Analysis and 30% Design of the Peninsular Paper Dam Removal project, the AECOM team's understanding of the project is unmatched.

Wightman

Wightman (www.gowightman.com) is a full-service consulting firm with a dynamic team of more than 200 professionals. They analyze, advise, design, and deliver successful projects in partnership with government, commercial, educational, and energy organizations throughout the Great Lakes region. Founded in 1946, their firm has 10 locations, including Allegan, Benton Harbor, Hastings, Kalamazoo, Royal Oak, and Southgate, Michigan, as well as Fort Wayne, Plymouth, Portage, and South Bend, Indiana.



Community Focus, Global Expertise

Wightman is a proud Michigan-based firm and LimnoTech's Ann Arbor headquarters are a short drive from the dam site.



Boardman River, MI. Inter-Fluve and AECOM led restoration work following the removal of the three dams that has once again made the site a popular spot for anglers.

Organization Chart



City of Ypsilanti
Project Owner

HRWC, EGLE, MDNR, and others
Project Partners



Nick Jordan, PE
Project Manager, Water
Resources Engineer

Jonathon Kusa, PE, LEED AP
Principal in Charge

Marty Melchior, FP-C
Principal Ecologist &
Geomorphologist

Mike Burke, PE, P.Eng.
Principal Engineer

Maren Hansell, PE
Engineer of Record

Garrett Shear, PWS, CMWP
CAD Drafter & Environmental
Scientist

Adam Weis, EIT
Hydrology & Hydraulics

Jackie Van Der Hout, CE
River Ecologist



Mario Sebastiani, PE
Engineer, H&H
Modeling Lead

Taylor Wiegand, PE
Civil & Hydraulic
Engineer

Aaron Humphrey, PE
Geotechnical Lead

Jason Plum, PE
Dam Removal Lead

Dan Broekhuizen, PE
Structural Lead

Jon O'Brock, PE
Geotechnical
Subsurface Exploration

Michael Shore, CFM
Hydrologic &
Hydraulic QA/QC

Seth Gentzler, PE
Dam Removal QA/QC



Brendan Cousino, PE
Principal, Sr. Civil &
Environmental Engineer



Jeff Bradford, PS
Property Survey
Lead

Mike Freeman
Surveyor

2. Project Summary Narrative

The Peninsular Paper Dam (Pen Dam) is located on the Huron River in Ypsilanti, Michigan approximately 550 feet upstream of the Leforge Road bridge. Constructed in 1867 to provide hydropower for paper manufacturing, the dam no longer serves its original purpose and all power-generating equipment has been removed. The removal of Pen Dam presents a significant opportunity to restore approximately 1.25 miles of the Huron River, improve ecological health, and enhance public safety and community amenities. The dam is a priority removal for MDNR to improve habitat connectivity within the Huron River corridor.

The Inter-Fluve project team consists of technical experts who work on dam removal, river restoration, and contamination remediation projects across Michigan and the nation. Inter-Fluve has worked closely with AECOM and LimnoTech to conduct supporting analyses and preliminary design of the Pen Dam removal since 2021 and our team is intimately familiar with the details of site investigations, site conditions, analyses, and designs. We are well prepared to further advance the project through the permitting, final design, bidding, and construction phases. We understand the details of key details relevant to the design. Significantly, we understand the nuances of the previously conducted depth to refusal probing, sediment sampling, geomorphic assessment, and bathymetric survey, key pieces of information that undergird the impoundment restoration design. Additionally, we have developed one- and two-dimensional (1D/2D) hydraulic models for the restoration design, and we have the ability to quickly and efficiently update these models



Inter-Fluve's Garrett Shear collecting survey data downstream of Pen Dam in the Huron River in 2021.

to reflect changes to design conditions and re-evaluate sediment transport, fate, and analysis following restoration.

The Inter-Fluve team recognizes that construction cost of the dam removal and impoundment restoration project is a primary concern for the city. We understand that a critical cost factor is the management of impounded sediment and restoration of the impoundment behind the dam. Impounded sediments must be managed appropriately to re-establish river processes, comply with regulatory requirements, and avoid habitat impacts. To date, our analyses have demonstrated that stockpiling the majority sediments in key areas of the impoundments best manages ecological restoration, public safety, and project cost. This scheme is reflected in HRWC's preferred "blended alternative", which is in the project's 30% designs. The designs call for disposing excavated sediments within berms in the impoundment footprint and creating a stable channel with a small floodplain bench. This technique that has led to success on the Boardman River dam removals and the Pucker Street dam removal in Niles, MI. While this technique can limit the flood-prone area of the restored river, it is far less costly than off-site sediment disposal and results in a stable, functional channel and floodplain system that does not harm downstream areas.

During the permitting and final design phase of the project, we propose to collect a limited number of sediment samples to more precisely define the extents of sediment contamination, and will work with MDNR and EGLE staff to refine the project's sediment management plan to best meet regulatory requirements and the City's goals. We will evaluate in detail the feasibility and cost of using hydraulic dredging or other means to transport excavated sediment to spoils piles.

Permitting coordination and supporting investigations will comprise much of the first portion of this phase of the project, while development of draft and final biddable construction documents will comprise the latter stages. Our team is preparing to conduct investigations and coordination in Autumn 2024 to support permit application submittal concurrent with the 60% design deliverable in February 2025. We anticipate multiple coordination meetings will be required to fully resolve impounded sediment management considerations with agencies. Extensive coordination with USACE, EGLE, MDNR, and Washtenaw County, among others, will be required.

Our team has decades of experience restoring impoundments and understands the processes that shape geomorphic and ecological conditions in these areas. We will continue to identify restoration elements that could safely be delayed until a future project phase.

The following paragraphs outline the Inter-Fluve project team's understanding of the requested scope of services required for the successful removal of Pen Dam and restoration of the Huron River. To best meet the City's desires for Peninsular Park and the Huron River, we welcome the opportunity to discuss the scope of services for the project in greater detail.

Project Administration

Facilitate Project Partner Update Meetings

Regular updates will be provided to project partners, including the City of Ypsilanti and the Huron River Watershed Council. This task will include meetings and updates with the client/stakeholder team, as well as coordination with state and federal agencies involved in permitting, design guidance, and the Huron River remediation effort. We assume biweekly progress meetings for the anticipated project duration of one year, each lasting one hour and held over Teams or Zoom.

Support for Grant Applications

The project team will assist the City in identifying and applying for grants to fund the dam removal and river restoration efforts. Assistance will include gathering necessary data, preparing application materials, and prioritizing deadlines for grant submittals. We have included up to 60 hours in the budget to support this sub-task.

Public Communication

The project team will assist the City in preparing for and facilitating Public Information Meetings to educate the public on the removal and restoration process, and to gather additional public input on design and implementation considerations.

We propose that two public outreach sessions will be held: one at the 60% design stage and another at the 100% design stage. Comments from the public and stakeholder groups, will be considered while advancing the 30% design documents to the final design level. Staff from Inter-Fluve, AECOM, and LimnoTech are budgeted to attend and support both public meetings.



Community Focus, Global Expertise

In 2023, Inter-Fluve collaborated with the USDA Forest Service International Programs office to lead a dam removal workshop in Romania—the first event of its kind.

Project Management

The team's Project Manager, Nick Jordan, will manage staff to complete tasks on schedule and within budget. Inter-Fluve will communicate regularly with City and HRWC staff and invoice the project on a monthly basis. The budget will be tracked within Inter-Fluve's Ajera-Delteck project accounting software which produces real-time reports for the project at the task level. The Ajera tools will allow for accurate tracking of effort and budget for the entire Inter-Fluve team. The schedule will be closely managed by our project manager, Nick, who will maintain frequent contact with our teaming partners to achieve on-time completion of deliverables.

Planning, Design, and Permitting

Permitting, Agreements, and Agency Consultation

At the outset of the project, the project team permitting lead (LimnoTech) will identify necessary permits, agreements, and consultations with relevant agencies and prepare a permitting matrix. A priority will be placed on securing these permits as early as feasible to avoid delays. This task includes one pre-permitting coordination meeting and follow up meetings to discuss regulator's thoughts on the proposed project.

Historic Preservation and Archaeological Assessment

AECOM historical and cultural resources professionals will conduct an assessment of the site for compliance with state and federal historic preservation requirements. Archaeological findings will be documented and addressed appropriately in coordination with stakeholders and SHPO. We assume that all cultural/historic resources data can be obtained digitally and will not require an on-site appointment, meetings, or application fees with the Michigan SHPO. A desktop review report will be used to determine if field studies are warranted.

Supplementary Sediment Data Collection and Spoils Management

In earlier phases of the project, sediment sampling showed that there were exceedances of the ecological and public health screening criteria. Supplemental sediment sampling will be performed in the areas where previous sampling showed exceedances of the ecological and public health criteria to define the areal extent and anticipated sediment volumes of material that would need to be managed. LimnoTech will collect up to ten (10) supplemental sediment cores from a boat using a vibracore. Each sampling location will be recorded using an on-board global positioning system (GPS) with sub-meter accuracy. The cores will be advanced to refusal (hardpan) and the estimated depth of core penetration into the sediments will be measured and recorded. Sediment cores will be extracted for visual characterization and core lengths and sediment recoveries will be recorded. Boring logs for each core will be prepared.

For this scope of work, it is assumed that the sediment samples will be composited from each core by collecting selected intervals from each core to collect a depth-average representative sample. Duplicate cores will be collected upstream and downstream of the dam as specified in the QAPP. The samples collected upstream of the dam will be analyzed for Michigan 10 Metals, and PAHs as identified in the Michigan EGLE WRD-48 guidance for Sediment Testing for Dredging Projects. Sediment samples will also be characterized based on particle sizes down to the #200 sieve (clay/silt particles).

LimnoTech will prepare a summary technical memorandum to document the results of the sediment sampling program, including a summary of field activities, map of the actual sediment sampling location, and results of the laboratory analyses. We will identify samples that exceed screening levels identified by EGLE, US EPA, and other agencies for predicted effects concentrations for sediment contaminants, as well as residential soil cleanup criteria for floodplain soils that may require remediation as a part of the dam removal process. These will be mapped with the previous sediment sampling locations and results to identify the approximate aerial extent of sediment that does not meet the ecological and public health criteria for the project. LimnoTech and Inter-Fluve will collaborate to update the previously prepared Sediment Management Plan for the project based on the updated sampling.

Hazardous and Toxic Waste Assessment

Assessment of sediment sampling results is intended to identify hazardous or toxic compounds as described in the previous task. Radioactivity assessments are not included in the scope of work, but may be added via addendum.

Property Boundary Assessments and Agreements

Wightman will lead activities necessary to coordinate establishing property boundary lines within the scope area. Staff will leverage prior research conducted by SME Surveying (under contract to HRWC) to gather the necessary deeds, subdivision plats, and right of way maps needed to establish the noted property lines. Our team anticipates that property boundary surveys are requested to accurately define the limits of easements and post-restoration property boundaries. Survey crews will measure monumentation on site that will allow our staff to calculate the parcel lines and develop a base drawing showing the location and associated tax number and owner information for each of the properties. This survey will establish the parcel boundaries for the R.A. Nicholl's Huron River Hills Plat, which does not reference the waterline as a fixed boundary. Staff will create and place door hanger notifications in advance of survey crew mobilization. Easements required for construction or post-restoration access may be added to the scope on a per-easement basis, and may include easements used for construction access locations, stockpile locations, or other construction activities. The precise number of parcel reconfigurations is presently unknown but can be added to this scope as necessary.

Wetland Delineation and Assessment

AECOM wetland delineators will conduct a field wetland delineation to assess the impact of the dam removal on existing wetlands. The wetland delineation will include preparation of field forms and reporting, and coordination with regulators to determine wetland types and mitigation requirements, if any.

Rare, Threatened, and Endangered Species Clearance

AECOM will conduct desktop reviews and coordination with agency staff to identify and verify the presence of rare, threatened, or endangered species in the project area. Coordination with agencies will identify seasonal restrictions and necessary avoidance/protection measures that must be implemented during the construction period. The project



Integrated Science and Engineering

Inter-Fluve staff have contributed to dam removal standards for state agencies in Maine, New Hampshire, Massachusetts, Pennsylvania, Maryland, and Wisconsin.

team understands HRWC is conducting mussel surveys and relocation work, and this task will coordinate with those efforts to avoid duplication of work.

Permitting with Washtenaw County Water Resources and EGLE

The project team will secure the necessary floodplain permits from the Washtenaw County Water Resources Commissioner and the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Floodplain permit application fees are not included in this proposal and are assumed to be paid by the client. While the project team recommends remapping the Huron River's regulatory floodplain, post-dam conditions, and obtaining a Conditional Letter of Map Change prior to construction and a Letter of Map Change post-construction from FEMA, this is not included in this proposal.

Geotechnical Investigation of Dam and Bridge Fortifications

Materials Testing Consultants (MTC) will perform 2 soil borings to a maximum depth of 60 feet in the vicinity of the Pen Dam to support the design of temporary cofferdams and water control measures during dam removal. Soil sampling will be conducted every 5 feet of boring using the Standard Penetration Test. AECOM's geotechnical engineering staff will evaluate boring results to evaluate temporary cofferdam designs. Cofferdam design and water control plans will be coordinated with sediment excavation and impoundment restoration work to safely remove the dam structure while meeting restoration goals and regulatory drawdown requirements.

AECOM's bridge engineering staff will also finalize previously conducted scour analyses of the Superior Road and the railroad bridge from the 30% design phase. AECOM will continue to coordinate with MDOT and the railroad to further support design of scour countermeasures. Scour countermeasure design will consider findings of the updated hydraulic models and proposed elevations of riffles under post-dam removal conditions. AECOM's previous engineering analyses have found that the depth of predicted

scour is near the bottom of Superior Road's pier foundations, and riprap placed along the bed and banks will be required. The depth of the railroad bridge's foundations are presently unknown, but have been identified as requiring scour countermeasures.

Because both bridges act as constrictions in the river corridor, the hydraulic and geomorphic impacts of the bridges will extend upstream and downstream following dam removal. Countermeasures designed by AECOM's bridge engineers will be integrated with impoundment restoration using 2D model results to avoid flow contraction/expansion related bank erosion in adjacent areas.

Structural Analysis for Building Stability

During the design process, the project team will consider and assess structural stability of the powerhouse relative to dam demolition work and post-removal river hydraulics. These analyses will focus on conducting engineering due diligence assessments relative to the dam removal project and will be based on existing available documentation.

The project team welcomes the opportunity to discuss the future of the powerhouse building in greater detail with the City. Depending on the City's vision for the powerhouse building and Peninsular Park as a whole, we are prepared to assist the City in integrating qualified architectural, structural engineering, and/or landscape architecture into the project.

Hydrologic, Hydraulic, and Sediment Transport Modeling

The project team has developed hydrologic, hydraulic, and sediment transport models for the Pen Dam removal and is intimately familiar with the details of the models and analyses. Models developed during the 30% design phase will be updated in subsequent design phases to support the final design of the river restoration, dam demolition, and water control plans. Model analyses will include updating 2-D hydraulic models for detailed engineering analysis of impoundment restoration design, bridge scour assessments, and structural stability assessments. 1-D hydraulic models will be updated to for engineering of dam demolition and drawdown, delineating proposed floodplain boundaries, and assessing sediment transport potential during drawdown and following project completion.

Final Removal and River Restoration Design

The final design will build upon the 30% design plans, ultimately advancing them to the 100% design stage for review by the project partners. The team is intimately familiar with the costs, risks, and habitat benefits associated with each aspect of the design and is prepared to carry previously conducted analyses into the next design phases.

Given the high profile of the project, we believe that 60% and 90% intermediate design deliverables are appropriate. The 60% (Preliminary Design) deliverable will be developed primarily to support project permit applications and will include the sheets developed for 30% design, plus additional sheets detailing erosion control details, existing conditions, utilities, construction access and staging, dam demolition details, water control details, existing conditions within the impoundment, updated spoils management plans, bank and bed construction details, and bridge scour countermeasure plans. Technical specifications and construction cost estimates, and a Basis of Design report will be submitted at this design stage as well.

The 90% (Pre-Final) deliverable will include the items submitted at 60% and will consider comments from regulators, stakeholders, and the public. Added items at the 90% design stage will include planting plan details, additional construction details, and a draft bid package for project partner review. Project cost estimates, Basis of Design Report, and technical specifications will be updated and submitted.

The 100% (Final) deliverable will be stamped by Professional Engineers registered in Michigan and will consider comments received on the 90% deliverable. Project cost estimates (bid list), Basis of Design Report, and technical specifications will be updated and submitted.

Bidding Period Assistance

The project team will assist the City to develop the bid package and recommend selection of a Contractor for project implementation. The team is prepared to develop the draft and final bid packages, facilitate a virtual pre-bid meeting, respond to RFIs, and review bids, and recommend selection of a qualified contractor.



Shawsheen River, MA. Inter-Fluve led the removal of the Marland Place Dam, shown before (inset) and after removal.

Technical Assistance Following Design Phase

The project team has extensive experience assisting clients implement successful dam removal and river restoration projects. Oftentimes, the construction phase of a dam removal project requires near-full time on-site observation combined with off-site administration. In addition, successful projects feature more targeted construction observation by qualified, experienced professionals for key aspects of the project such as structure demolition, large wood installation, and riffle construction. The project team recommends scoping construction observation and administration tasks at a time when the scope and schedule of construction activities is more clearly defined.

Post-Construction and Restoration Monitoring Plan

The project team will coordinate with the Steering Committee to prepare a post-construction monitoring and maintenance plan for restored river. It is expected that this will include attending up to six (6) meetings with the Steering Committee to review the draft plan and recommendations, and coordinate on long-term monitoring and maintenance responsibilities between the City of Ypsilanti, the Huron River Watershed Council, and other project partners. This plan will outline the necessary maintenance activities to improve the success of the restoration efforts following the end of the contractor's maintenance and warranty period and will provide recommendations for supplemental vegetation and habitat restoration efforts. The plan will also detail

recommended post-restoration monitoring to demonstrate success and comply with project permit requirements. Monitoring recommendations are also expected to include recommendations for baseline conditions in downstream areas to assess the changes that may be attributable to the dam removal in the future. The project team has allocated \$20K of budget to this subtask based on similar project efforts. The specific scope and budget for this task will be revised once the construction phase is being implemented and specific project outcomes are better known.

Observation of Contracted Construction Efforts

The Inter-Fluve team recommends scoping this task in a future project phase. The project team anticipates providing technical assistance and on-site owner representation during the construction phase, including routine inspections and detailed oversight of critical project elements. This oversight is intended to successfully implement the dam removal project in adherence to the design plans and environmental regulations.

Administration of Construction Work

The Inter-Fluve team recommends scoping this task in a future project phase. The project team anticipates this task includes administration and observation of construction work following the bid award, including holding regular progress meetings, reviewing RFIs, reviewing payment applications, and monitoring adherence to project permit conditions, schedule, and budget.



Inter-Fluve developed a blended alternative impoundment restoration plan based on site investigations and HRWC's stated preferences.

3. Team Background

The following is a list of all staff assigned to work on the Peninsular Paper Dam Removal Design. Sections 4 and 5 contain additional staffing information. Resumes of key staff are included at the end of this section, and resumes of other staff are included as an appendix.

Inter-Fluve Staff

Key Inter-Fluve Staff

NICK JORDAN, PE

- ▶ Role: Project Manager and Water Resources Engineer
- ▶ Years of Experience: 7
- ▶ Years with Inter-Fluve: 5
- ▶ Location: Saint Paul, MN

MARTY MELCHIOR, FP-C

- ▶ Role: Principal, Geomorphology & Ecology Lead
- ▶ Years of Experience: 28
- ▶ Years with Inter-Fluve: 23
- ▶ Location: Lodi, WI

MIKE BURKE, PE, P.ENG.

- ▶ Role: Principal, Engineering QA/QC
- ▶ Years of Experience: 29
- ▶ Years with Inter-Fluve: 19
- ▶ Location: Damariscotta, ME

MAREN HANSELL, PE

- ▶ Role: Engineer of Record
- ▶ Years of Experience: 12
- ▶ Years with Inter-Fluve: 6
- ▶ Location: Saint Paul, MN

Additional Inter-Fluve Staff

JONATHON KUSA, PE, LEED AP

- ▶ Role: Principal in Charge
- ▶ Years of Experience: 25
- ▶ Years with Inter-Fluve: 10
- ▶ Location: Saint Paul, MN

GARRETT SHEAR, PWS, CMWP

- ▶ Role: Fieldwork & Ecological Design
- ▶ Years of Experience: 11
- ▶ Years with Inter-Fluve: 6
- ▶ Location: Milwaukee, WI

JACKIE VAN DER HOUT, CE

- ▶ Role: Ecological Design
- ▶ Years of Experience: 4
- ▶ Years with Inter-Fluve: 1
- ▶ Location: Saint Paul, MN

ADAM WEIS, EIT

- ▶ Role: Engineering Support
- ▶ Years of Experience: 3
- ▶ Years with Inter-Fluve: 1
- ▶ Location: Saint Paul, MN

LimnoTech Staff

Key LimnoTech Staff

BRENDAN COUSINO, PE

- ▶ Role: Principal, Sr. Civil & Environmental Engineer
- ▶ Years of Experience: 23
- ▶ Years with LimnoTech: 10
- ▶ Location: Ann Arbor, MI

Additional LimnoTech Staff

MICHELLE PLATZ, PHD

- ▶ Role: Post-Construction Monitoring Planning

CULLEN O'BRIEN

- ▶ Role: Sediment Testing

JAMES HARTRICK, EIT

- ▶ Role: Engineering Support

AECOM Staff

Key AECOM Staff

MARIO SEBASTIANI

- ▶ Role: AECOM Project Manager, H&H Modeling Lead
- ▶ Years of Experience: 12
- ▶ Years with AECOM: 8
- ▶ Location: Cincinnati, OH

TAYLOR WIEGAND, PE

- ▶ Role: Civil & Hydraulic Engineering
- ▶ Years of Experience: 7
- ▶ Years with AECOM: 5
- ▶ Location: Traverse City, MI

AARON HUMPHREY, PE

- ▶ Role: Geotechnical Lead
- ▶ Years of Experience: 22
- ▶ Years with AECOM: 16
- ▶ Location: Grand Rapids, MI

JASON PLUM, PE

- ▶ Role: Dam Removal Lead
- ▶ Years of Experience: 24
- ▶ Years with AECOM: 17
- ▶ Location: Traverse City, MI

DAN BROEKHUIZEN, PE

- ▶ Role: Structural Lead
- ▶ Years of Experience: 36
- ▶ Years with AECOM: 23
- ▶ Location: Grand Rapids, MI

MICHAEL SHORE, CFM

- ▶ Role: Hydrologic & Hydraulic QA/QC

- ▶ Years of Experience: 38
- ▶ Years with AECOM: 28
- ▶ Location: Cleveland, OH

SETH GENTZLER, PE

- ▶ Role: Dam Removal QA/QC
- ▶ Years of Experience: 28
- ▶ Years with AECOM: 22
- ▶ Location: Oakland, CA

JON O'BROCK, PE (MTC)

- ▶ Role: Geotechnical Subsurface Exploration
- ▶ Years of Experience: 16
- ▶ Location: Grand Rapids, MI

Additional AECOM Staff

VIK GAUTAM, PE

- ▶ Role: Geotechnical QA/QC

BETHANY GOODRICH, PE

- ▶ Role: Structural Engineering Support

DOUG PARMALEE

- ▶ Role: Structural QA/QC

ANIT KOIRALA

- ▶ Role: Hydraulic Modeling Support

JUSTYNA PLATU

- ▶ Role: Civil Engineering Support

RYAN EDISON, PE

- ▶ Role: Scour QA/QC

BILL LEOPOLD

- ▶ Role: Wetlands and T&E Lead

HANNAH APATANG

- ▶ Role: Wetlands and T&E

ADAM CROWE

- ▶ Role: Wetlands and T&E

ALLISON CARR

- ▶ Role: Wetlands and T&E

KEVIN STREAKER

- ▶ Role: Wetlands and T&E

LEILA SABOORI

- ▶ Role: SHPO Lead



Community Focus, Global Expertise

Large consulting firms often rely on Inter-Fluve's specialized knowledge of dam removal science and engineering. GEI, Stantec, Jacobs, AECOM, and GHD have all brought us on to advise or manage complex dam removal projects.

Principal Profiles

This section contains the profiles of principal-level staff assigned to work on the Peninsular Paper Dam Removal Project. Resumes of key staff are included at the end of this section, and resumes of other staff are included as an appendix.

Inter-Fluve Principals

Marty Melchior, FP-C

GEOMORPHOLOGY & ECOLOGY LEAD

Marty has 28 years of experience in dam removal, fish passage, natural channel design, applied fluvial geomorphology, engineered wood design, bioengineering, and biotic assessment. He has participated in state and federal workshops on geomorphology and dam removal committees within the Federal Subcommittee on Sedimentation. Marty is a regular instructor for river restoration curricula at Harvard University, the U of MN and UW-Madison, and teaches large wood applications for the US Forest Service. In 2013, Marty and Inter-Fluve were selected as one of the River Alliance of Wisconsin's *20th Anniversary River Heroes*. Marty is an accomplished aquatic entomologist and a certified professional fisheries biologist with the AFS.

Mike Burke, PE, P.Eng.

ENGINEERING QA/QC

Mike is a professional engineer with 29 years of experience in every step of the aquatic ecosystem engineering process: data acquisition, hydrologic, hydraulic and fluvial process analyses, applied restoration, fish passage planning and design, and construction oversight. Mike has extensive experience with detailed hydraulic and hydrodynamic modeling of regulated rivers across the country. His interests include addressing the ecologic impacts of water resources development and habitat restoration based on understanding of large scale physical influences and ecologic response. He has worked with diverse project partners throughout his career, including remote village councils in the mountains of Nepal, individual landowners, Tribal governments, local, state

and federal agencies, water and power utilities, and regional transportation authorities.

Jonathon Kusa, PE, LEED AP

PRINCIPAL IN CHARGE

Jonathon is a professional engineer with 25 years of experience. He provides leadership to Inter-Fluve's engineers, scientists and technicians across the country. He technically supports complex urban projects and is managing a significant multi-dam removal project in the Northeast. His diverse experience in water resources engineering translates into unique solutions to surface water management challenges. Jonathon has a well-rounded technical background in erosion control, transportation, wastewater, site development, river restoration, and hydrologic and hydraulic modeling. Jonathon enjoys facilitating public involvement meetings for complex water resources and transportation projects, lectures at Harvard University, and regularly presents at conferences and workshops throughout the country.

LimnoTech Principal

Brendan Cousino, PE

PRINCIPAL, SR. CIVIL & ENVIRONMENTAL ENGINEER

Brendan is a Principal and Senior Civil and Environmental Engineer at LimnoTech. He has 22 years of professional experience in both the public sector and consulting. His work is focused on the management, restoration, and revitalization of water resources in urban environments, including work to improve water quality, aquatic ecology, and flood protection. His work includes helping communities understand water quality impacts from their regulated stormwater, CSO, and treatment plant discharges and providing communities with regulatory compliance and permitting support. Brendan's work also involves designing and restoring urban waterways, including creating sustainable public spaces that help to reduce flood risks, provide natural recreation opportunities, and improve aquatic habitat.

Brendan has extensive experience in developing and applying complex watershed hydrology, river hydrodynamics, water quality, and sediment transport models. He has a broad range of engineering experience, with projects including the design of municipal infrastructure systems, green infrastructure design, asset management, total maximum daily load assessments, watershed characterizations, sediment dredging and disposal, operations and maintenance planning, and capital project planning and budgeting.



Community Focus, Global Expertise

Inter-Fluve is one of a select group of firms under the American Rivers Dam Removal Master Service Contract.

AECOM Principals

Aaron Humphrey, PE

GEOTECHNICAL LEAD

Aaron's dam and levee experience includes inspection, design, risk assessment, modification, and removal serving as both a technical task lead and overall project manager on project teams throughout Michigan and the United States for municipal, state, federal, utility companies, and private dam owners.

Jason Plum, PE

DAM REMOVAL LEAD

With 24 years of professional experience with significant civil and municipal engineering projects, Jason focuses on civil design and construction management. He has been a lead project engineer for multiple large dam removals and significant river restoration projects in Michigan. He has experience with structure demolition, dewatering and sediment control, and overall site grading and restoration, as well as permitting and coordination experience with owners and contractors, funding sources and permitting agencies.

Dan Broekhuizen, PE

STRUCTURAL LEAD

Dan is experienced in the analysis and design of structures constructed from many different materials, including structural steel, reinforced concrete, prestressed concrete, and timber. In addition to his work on transportation project over the last 20 years, Dan has also worked on a number of dam removal projects. His work has included evaluation of existing dams, review of existing plans, developing cost estimates, writing specifications, and designing and detailing any structural components for various jobs.

Michael Shore, CFM

HYDROLOGIC & HYDRAULIC QA/QC

Michael performs and reviews hydrologic and hydraulic calculations and assists engineers with all aspects of hydrologic/hydraulics and civil design. He also designs civil projects, performs quantity calculations, and creates permit drawings. He is highly knowledgeable in all aspects of hydrology, hydraulics, surveying, and civil design and brings many years of dam removal experience to the team.

Seth Gentzler, PE

DAM REMOVAL QA/QC

Seth is a leader in the dam removal industry, managing the technical and environmental compliance work for four of the largest dam removal projects on the West Coast. Seth is an AECOM vice president and senior engineer, as well as the West Coast Practice Lead for the Hydrology and Hydraulics practice. He excels at bridging the gap between engineering and habitat restoration, facilitating discussion to find common ground within a wide range of expertise and perspectives, and transforming project concepts into buildable, permissible construction documents.

Wightman Principal

Jeffrey Bradford, PS

PROPERTY SURVEY LEAD

With more than 35 years of surveying experience, Jeff oversees projects from field to finish including construction layout for road, bridge and associated ramp and earthwork design, ALTA NSPS Land Title Surveys, land development surveys, topographical surveys, boundary surveys and Public Land Survey System (PLSS) land corner remonumentation. He oversees the day to day operations for both the field and office work performed by the Benton Harbor Survey team. Some of his responsibilities are: client contact, estimating, survey research, calculations, drafting (CAD), legal descriptions and billing.



Similkameen River, WA. Inter-Fluve has been contracted through various phases of the Enloe Dam removal. Following concept designs and hydraulic modeling for fish passage, we were contracted by Stantec to support design and permitting.



PROJECT MANAGER, WATER RESOURCES ENGINEER

Nick Jordan, PE

Nick is an engineer and project manager with experience, assessing and designing habitat features in fluvial and coastal systems. His expertise includes hydraulic modeling, large wood design, geomorphic assessments, and hydrologic analysis with a range of statistical and deterministic methods. As a project manager, Nick has worked on dam removals, fish passage channels, river remeanders, and bank stabilization projects. Nick also has extensive field experience collecting data including data logger deployment, GPS/total station survey, flow measurements, sediment probing and sampling, and water quality sampling. Nick was Inter-Fluve's internal project manager and engineering lead for previous phases of the Peninsular Paper Dam Removal and will serve as project manager for the permitting and final design phase.

EXPERTISE

Hydraulic Modeling
Fluvial and Coastal Geomorphology
Fish Passage Design
Engineered Large Wood Design
Stream Channel Design
Field Data Collection
Dam Removal Planning & Design
Construction Oversight

EDUCATION

MS, Civil & Environmental Engineering
University of Wisconsin-Madison, 2017
BS, Geological Engineering & Geology
University of Wisconsin-Madison, 2014

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Professional Engineer: MI, MN, WI
Partnership for River Restoration and
Science in the Upper Midwest, Technical
Committee Chair, 2023-2024
International Association for Great
Lakes Research (IAGLR)
American Water Resources Association
(AWRA)
Wisconsin Association of Floodplain,
Stormwater, and Coastal Managers
(WAFSCM)



SELECTED PROJECT EXPERIENCE

Pucker Street Dam Removal Niles, MI (2014-2023)

As a subconsultant to Wightman and Associates, Inter-Fluve provided design, permitting, and construction observation services for the removal of the dam located just downstream of the Pucker Street Bridge on the Dowagiac River. The dam is 100 feet long and 38 feet high and was constructed in 1928. It was decommissioned as a power generator in 1995. Project goals included safe recreation, boat passage, as well as fish passage for trout, steelhead, and salmon. Construction was completed in 2021. Nick performed construction oversight.

Peninsular Paper Dam Removal Analysis & 30% Design Ypsilanti, MI (2021-2023)

As part of a team with LimnoTech and AECOM, Inter-Fluve collected data and performed preliminary analyses to support future design and construction activities to remove the Peninsular Paper Dam, located on the Huron River. Our role involved geomorphic and bathymetric survey to assist with sediment management recommendations. Nick worked on 2D hydraulic modeling, project management, led the alternatives analysis, and performed the sediment transport/management assessment.

Removal of Four Hydropower Dams New England (2023-Present)

Inter-Fluve is leading a team of consultants (including GEI) to assist a conservation nonprofit in purchasing and removing four large, regionally significant hydropower dams in New England. Since 2023, Inter-Fluve has conducted detailed hydrologic and hydraulic analyses, fish passage assessments, biological reviews, infrastructure reviews, sediment investigations, structural

disposition studies, and stakeholder coordination to support the planning for removal of the dams. Nick is serving in a project management capacity and is leading H&H analyses and sediment investigations.

Baldwin Dam Removal Baldwin, MI (2022-Present)

As a subconsultant, Inter-Fluve was contracted by the Conservation Resource Alliance to investigate removal of Baldwin Dam, located on the Baldwin River at the site of a former fish hatchery. We performed a geomorphic assessment, habitat assessment, and sediment survey, and are currently contracted through final dam removal design. Nick worked on the survey, geomorphic and feasibility assessment, and is now project manager for the site design.

Albion Dam Removal Albion, MI (2022-Present)

As a subconsultant to Wightman and Associates, Inter-Fluve was contracted by the City of Albion to perform feasibility studies for the removal of five dams along the Kalamazoo River. Following the study, Inter-Fluve was retained to design the removal of all five dams and river restoration efforts. Nick is assisting with data collection, survey, geomorphic assessment, hydraulic modeling, and design.

Dowagiac River Restoration Cass Co., MI (2019-Present)

Inter-Fluve was contracted Pokagon Band of Potawatomi Indians to develop designs for a 3,300-foot reach of the Dowagiac River with the objective of increasing and enhancing coldwater fish habitat, maintaining recreational boater passage, and reestablishing the aesthetics of the historic channel. Nick is project manager.



PRINCIPAL ECOLOGIST & GEOMORPHOLOGIST

Marty Melchior, FP-C

Marty has 28 years of experience in dam removal, fish passage, natural channel design, applied fluvial geomorphology, engineered wood design, bioengineering, and biotic assessment. He has participated in state and federal workshops on geomorphology and dam removal committees within the Federal Subcommittee on Sedimentation. Marty is a regular instructor for river restoration curricula at Harvard University, the U of MN and UW-Madison, and teaches large wood applications for the US Forest Service. In 2013, Marty and Inter-Fluve were selected as one of the River Alliance of Wisconsin's 20th Anniversary River Heroes. Marty is an accomplished aquatic entomologist and a certified professional fisheries biologist with the AFS.

EXPERTISE

Dam Removal
Channel Design
Geomorphic Assessment
Urban River Restoration
Cranberry Bog Restoration
Project Management
Bioengineered River Bank Stabilization
Fish Passage Analysis
Stream Ecology
Construction Oversight

EDUCATION

MS, Fisheries
University of Minnesota, 1998
BS, Molecular Biology
North Dakota State University, 1989

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Wisconsin Small Dam Committee
Certified Fisheries Professional,
American Fisheries Society

SELECTED PROJECT EXPERIENCE

Peninsular Paper Dam Removal Analysis & 30% Design **Ypsilanti, MI (2021-2023)**

As part of a team with LimnoTech and AECOM, Inter-Fluve collected data and performed preliminary analyses to support future design and construction activities to remove the Peninsular Paper Dam, located on the Huron River. Our role involved geomorphic and bathymetric survey to assist with sediment management recommendations. Marty led the geomorphic assessment and post-removal channel design.

Pucker Street Dam Removal **Niles, MI (2014-2023)**

As a subconsultant to Wightman and Associates, Inter-Fluve provided design, permitting, and construction observation services for the removal of the dam located just downstream of the Pucker Street Bridge on the Dowagiac River. The dam was 100 feet long and 38 feet high and was constructed in 1928. It was decommissioned as a power generator in 1995. Project goals included safe recreation, boat passage, as well as fish passage for trout, steelhead, and salmon. The removal was completed in 2021, and Inter-Fluve then led river restoration in the former impoundment. Marty provided initial site assessment, design input and review, and construction oversight.

Boardman River Dam Removals **Traverse City, MI (2011-2019)**

Inter-Fluve was part of a design team for the \$25M removal of Boardman, Sabin and Brown Bridge Dams on the Boardman River. The project reconnected 160 miles of free-flowing coldwater stream, restored more than three river miles of native coldwater fisheries habitat and more than 250 acres of wetlands. Marty assisted in developing concept designs, sediment

management guidelines for the Brown Bridge removal, and conducted site reconnaissance and sediment depth surveying for the project.

Albion Dam Removal **Albion, MI (2022-Present)**

As a subconsultant to Wightman and Associates, Inter-Fluve was contracted by the City of Albion to perform feasibility studies for the removal of five dams along the Kalamazoo River. Following the study, we were retained to design the removal of all five dams and river restoration efforts. Marty has provided QA/QC.

Baldwin Dam Removal **Baldwin, MI (2022-Present)**

As a subconsultant, Inter-Fluve was contracted by the Conservation Resource Alliance to investigate removal of Baldwin Dam, located on the Baldwin River at the site of a former fish hatchery. We performed a geomorphic assessment, habitat assessment, and sediment survey, and are currently contracted through final dam removal design. Marty worked on the field assessment and developed concept designs.

Tyler & Beyer Dam Feasibility Study **Ypsilanti, MI (2022-Present)**

As a subconsultant, Inter-Fluve was contracted by Washtenaw County, Michigan to investigate possibilities for removing or partially removing the 31-foot Tyler and 20-foot Beyer Dams on Willow Run Creek, a tributary to the Huron River. We were then contracted to provide review for removal designs. Marty led the field assessment, contributed to design, and provided QA/QC.





PRINCIPAL WATER RESOURCES ENGINEER

Mike Burke, PE, P. Eng.

Mike Burke is a professional engineer with 29 years of experience in every step of the aquatic ecosystem engineering process: data acquisition, hydrologic, hydraulic and fluvial process analyses, applied restoration, fish passage planning and design, and construction oversight. Mike has extensive experience with detailed hydraulic and hydrodynamic modeling of regulated rivers across the country. His interests include addressing the ecologic impacts of water resources development and habitat restoration based on understanding of large scale physical influences and ecologic response. He has worked with diverse project partners throughout his career, including remote village councils in the mountains of Nepal, individual landowners, Tribal governments, local, state and federal agencies, water and power utilities, and regional transportation authorities.

EXPERTISE

Water Resources Data Acquisition
Hydrologic, Hydraulic and Fluvial
Process Analyses
Dam Removal Planning
Applied Aquatic Restoration Planning
Stream Channel Design
Fish Passage Design
Project Management
Construction Oversight

EDUCATION

MS, Civil Engineering
Center for Ecohydraulics Research
University of Idaho, 2006
BS, Civil Engineering
University of Wisconsin, 1993

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Professional Engineer: CA, ID, MA, WI,
ME, RI, NH, MI, VT, NB
American Society of Civil Engineers
(ASCE)
American Council of Engineering
Companies (ACEC) of Maine
International Association of Hydraulic
Engineering and Research



SELECTED PROJECT EXPERIENCE

Pucker Street Dam Removal Niles, MI (2014-2023)

Inter-Fluve provided design, permitting, and construction observation services for the removal of the dam located just downstream of the Pucker Street Bridge on the Dowagiac River. The dam was 100 feet long and 38 feet high and was constructed in 1928. It was decommissioned as a power generator in 1995. Project goals included safe recreation, boat passage, as well as fish passage for trout, steelhead, and salmon. Construction was completed in 2021. Mike provided senior engineering support and QA/QC.

Boardman River Dam Removals Traverse City, MI (2011-2019)

Inter-Fluve was part of a design team for the \$25M removal of Boardman, Sabin and Brown Bridge Dams on the Boardman River. The project reconnected 160 miles of free-flowing coldwater stream, restored more than three river miles of native coldwater fisheries habitat and more than 250 acres of wetlands. Mike was Inter-Fluve's project manager and engineer of record.

Peninsular Paper Dam Removal Analysis & 30% Design Ypsilanti, MI (2021-2023)

As part of a team with LimnoTech and AECOM, Inter-Fluve collected data and performed preliminary analyses to support future design and construction activities to remove the Peninsular Paper Dam, located on the Huron River. Our role involved geomorphic and bathymetric survey to assist with sediment management recommendations. Mike provided QA/QC.

Patapsco River, Simkins & Bloede Dam Removals Ellicott City, MD (2011-2018)

The removal of the Simkins and Bloede Dams are part of a larger project to remove all four dams

along 175 miles of the Patapsco River restoring fish and aquatic organism passage and habitat and ecosystem balance along the Patapsco River. Inter-Fluve was contracted by American Rivers and its partners to complete alternatives analysis through final design for both removals. Simkins was removed in 2010 and the \$17.9M Bloede Dam Removal, in Maryland's most visited state park, was completed in 2018. The Bloede project included relocation of 1600 LF 42" pressurized sanitary sewer interceptor, and restoration/stabilization of 4,000 LF of river. Mike served in an independent engineering QA/QC role for the final designs and construction documents for these projects.

Removal of Four Hydropower Dams New England (2023-Present)

Inter-Fluve is leading a team of consultants (including GEI) to assist a conservation nonprofit in purchasing and removing four large, regionally significant hydropower dams in New England. Since 2023, Inter-Fluve has conducted detailed hydrologic and hydraulic analyses, fish passage assessments, biological reviews, infrastructure reviews, sediment investigations, structural disposition studies, and stakeholder coordination to support the planning for removal of the dams. Mike is project manager.

Milltown Dam Removal St. Stephen, NB / Calais, ME (2019-Present)

Contracted by NB Power, Inter-Fluve is part of a team for the removal of one of the oldest operating hydroelectric generating stations in Canada. The removal of the dam and construction of a 500-foot channel-spanning nature-like fish passage will open spawning habitat to alewives, American shad, American eels and Atlantic salmon. Construction began in 2023 and is ongoing. Mike is project manager and engineer of record.



REGIONAL DIRECTOR & SR. WATER RESOURCES ENGINEER

Maren Hansell, PE

Maren has 12 years of experience managing and leading multidisciplinary project teams to design unique and comprehensive solutions for an array of water resources challenges. As a professional engineer and PSMJ-trained project manager with a passion for ecology and native ecosystems, she brings a niche skillset, understanding, and enthusiasm to her work. Her recent projects have included concrete-lined channel renaturalization; dam removal; aquatic and shoreline habitat restoration; flood hazard mitigation; resiliency design; and watershed management. Maren's interests and expertise also include construction administration, construction oversight, and public outreach. In addition to her work as an engineer and project manager, Maren facilitates Inter-Fluve's internal project management training and is the Midwest Regional Director.

EXPERTISE

River Bank and Bluff Toe Stabilization
Dam Removal Evaluation and Design
Urban Shoreline & Stream Restoration Design
Watershed Management Planning & Design
Flood Management Planning
Riparian Habitat Restoration
Climate & Coastal Resiliency
Construction Oversight

EDUCATION

MS, Environmental Engineering & Science, *honors*, Johns Hopkins University, 2015
BS, Environmental Engineering, *cum laude*, Tufts University, 2012

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Professional Engineer: HI, IL, MI, MN, RI, SD, WI
American Society of Civil Engineers (ASCE)
Society for Military Engineers (SAME)

SELECTED PROJECT EXPERIENCE

Pucker Street Dam Removal Niles, MI (2014-2023)

As a subconsultant to Wightman and Associates, Inter-Fluve provided design, permitting, and construction observation services for the removal of the dam located just downstream of the Pucker Street Bridge on the Dowagiac River. The dam was 100 feet long and 38 feet high and was constructed in 1928. It was decommissioned as a power generator in 1995. Project goals included safe recreation, boat passage, as well as fish passage for trout, steelhead, and salmon. The removal was completed in 2021, and Inter-Fluve then led river restoration in the former impoundment. Maren was project manager.

Peninsular Paper Dam Removal Analysis & 30% Design Ypsilanti, MI (2021-2023)

As part of a team with LimnoTech and AECOM, Inter-Fluve collected data and performed preliminary analyses to support future design and construction activities to remove the Peninsular Paper Dam, located on the Huron River. Our role involved geomorphic and bathymetric survey to assist with sediment management recommendations. Maren provided QA/QC.

Albion Dam Removal Albion, MI (2022-Present)

As a subconsultant, Inter-Fluve was contracted by the City of Albion to perform feasibility studies for the removal of five dams along the Kalamazoo River. Following the study, we were retained to design the removal of all five dams and river restoration efforts. Maren is project manager.

Baldwin Dam Removal Baldwin, MI (2022-Present)

As a subconsultant, Inter-Fluve was contracted by the Conservation Resource Alliance to investigate removal of Baldwin Dam, located

on the Baldwin River at the site of a former fish hatchery. We performed a geomorphic assessment, habitat assessment, and sediment survey, and are currently contracted through final dam removal design. Maren is project manager.

Tyler & Beyer Dam Feasibility Study Ypsilanti, MI (2022-Present)

As a subconsultant, Inter-Fluve was contracted by Washtenaw County, Michigan to investigate possibilities for removing or partially removing the 31-foot Tyler and 20-foot Beyer Dams on Willow Run Creek, a tributary to the Huron River. We were then contracted to provide review for removal designs. Maren has provided QA/QC.

Elijah Root Dam Removal Portage, MI (2021)

As a subconsultant, Inter-Fluve completed a dam removal feasibility study for the Elijah Root Dam which included hydraulic analysis, sediment sampling and sediment management analysis, and an alternatives evaluation weighing several removal alternatives by key metrics developed for the project. Maren provided QA/QC.

Steel and Sears Dam Removal Feasibility Assessment Rock Island, IL (2022-Present)

Inter-Fluve is contracted through a consulting partner by the Illinois Department of Natural Resources – Office of Water Resources to evaluate the removal or partial removal of two dams on the Rock River, both located in Rock Island. The low-head dams present a significant safety hazard to the public. The team will evaluate recreational, safety, flooding, and sedimentation issues associated with any changes to the two dams. Inter-Fluve is specifically tasked with the evaluation of the geomorphic, ecological, and river restoration engineering elements of the dam removal project. Maren is project manager.



Brendan Cousino, PE

Principal, Senior Civil and Environmental Engineer

Brendan is a Principal and Senior Civil and Environmental Engineer at LimnoTech. He has 22 years of professional experience in both the public sector and consulting. His work is focused on the management, restoration, and revitalization of water resources in urban environments, including work to improve water quality, aquatic ecology, and flood protection. His work includes helping communities understand water quality impacts from their regulated stormwater, CSO, and treatment plant discharges and providing communities with regulatory compliance and permitting support. Brendan's work also involves designing and restoring urban waterways, including creating sustainable public spaces that help to reduce flood risks, provide natural recreation opportunities, and improve aquatic habitat.

Brendan has extensive experience in developing and applying complex watershed hydrology, river hydrodynamics, water quality, and sediment transport models. He has a broad range of engineering experience, with projects including the design of municipal infrastructure systems, green infrastructure design, asset management, total maximum daily load assessments, watershed characterizations, sediment dredging and disposal, operations and maintenance planning, and capital project planning and budgeting.

SELECTED PROJECT EXPERIENCE

Peninsular Paper Dam Removal Project, Ypsilanti, MI.

Project manager for additional data collection and study to support the removal of the existing historic dam. This project included bathymetric and depth of refusal data collect to evaluate the quantity of sediment accumulation, developing a hydraulic model of the restored river channel, scour evaluation at existing bridge piers, and sediment sampling to identify ecological and public health risks from pollutant levels in the impoundment sediments.

Beyer and Tyler Dam Removal Project, Ypsilanti, MI.

Project manager for additional data collection and study to support the removal of the existing historic dam. This project included bathymetric and depth of refusal data collect to evaluate the quantity of sediment accumulation, and sediment sampling to identify ecological and public health risks from pollutant in the impoundment sediments. Sediment sampling included analysis of PFAS in the sediments from nearby airport and historical industrial uses.

Flat Rock and Huroc Dam Removal Feasibility Study, Flat Rock, MI.

Project manager for LimnoTech's data collection and study to support the Dam Removal Feasibility Study of existing historic dams on the Huron River. This project included bathymetric and depth of refusal data collected to evaluate the



AREAS OF SPECIALIZATION

Hydrologic, Hydraulic & Hydrodynamic Modeling

Surface Water Quality Modeling

Water Quality Sampling & Assessment

Stormwater Management & Collection System Modeling

Municipal Engineering & Urban Restoration

EDUCATION

**MS, Civil Engineering (Water Resources),
University of Michigan**

**BSE, Civil & Environmental Engineering,
University of Michigan**

PROFESSIONAL CERTIFICATIONS OR TRAINING/ETC

**Professional Engineer, Michigan
(6201052745)**



quantity of sediment accumulation, and sediment sampling to identify ecological and public health risks from pollutant in the impoundment sediments.

Port Lands Flood Protection Project, Toronto, ON.

Project manager for the design phase of LimnoTech's ongoing work in the construction phase to develop a restoration plan for the lower Don River in Toronto. LimnoTech efforts include creating and application of complex 2D hydrodynamic and sediment transport models of the lower Don River to evaluate extreme-event floodwater conveyance and sediment transport under the full range of wet-weather conditions, as well as the range of normally encountered flows and lake levels. The models were used iteratively throughout the design process to evaluate the geomorphology and varying ecological regimes along the 1.5 km of river to be developed and restored, and to inform the required maintenance dredging to maintain a sediment trap to ensure long-term flood conveyance capacity.

Ralph C. Wilson Jr. Centennial Park, Detroit, MI.

Project manager for LimnoTech's work in the design of this transformative waterfront park. The park design transforms the waterfront from a hardened bulkhead to include a revetment shoreline that supports a water garden, river connected wetland, and areas of riparian habitat integrated into the park design. LimnoTech provided hydrodynamic and water quality modeling to support the design and regulatory compliance, as well as water quality and sediment data

collection, and contaminated sediment remediation design. Water quality in the Detroit River at this site is impacted during wet weather by CSO discharges that need to be considered to protect public health. LimnoTech also designed the aquatic and riparian habitat features to support ecosystem restoration.

GLWA Combined Sewer Overflow Long Term Control Plan Update, Detroit, MI.

Brendan led the watershed and in-stream water quality modeling task as a part of the overall project to develop an updated LTCP to address remaining untreated combined sewer overflow discharges as required by GLWA and DWSD's NPDES permit. He oversaw the technical work to update of the SWMM urban stormwater quality and hydraulic model, and update and calibration of an in-stream HSPF water quality model. The HSPF model was updated to run in the HSP2 (python) framework and integrated into the optimization framework to allow for system optimization

based on water quality outcomes. He oversaw the development and calibration of a 2D hydrodynamic and water quality model of the Detroit River in the areas impacted by GLWA CSO discharges. He provided key leadership in the modeling coordination between multiple firms for updating the hydrologic and hydraulic models, and integrating the water quality model results to inform the key decisions on CSO control recommendations and regulatory negotiations.

Ford Cove Restoration Project, Grosse Pointe Shores, MI.

Hydrodynamic model using the FVCOM framework for the Lake St. Clair to support the design of aquatic habitat restoration in a cove and around an artificially created island on the Ford House estate. This work included an assessment of the impact of wind-driven circulation velocity currents impacting long-term shoreline stability. A companion SWAN wind-wave model was also developed to simulate wind-driven waves to design offshore shoals to protect the shallow, still-water habitat areas and shoreline protection.

Saw Mill Run Integrated Watershed Management Plan, Pittsburgh, PA.

Brendan was the project manager to prepare an integrated watershed plan in a highly developed urban watershed with many impairments, including nutrients, CSO/SSOs discharges, and acid mine drainage (AMD) from historical coal mining, and highly variable flows that contribute to flooding and bank erosion. This project considered green infrastructure alternatives to the traditional, end-of-pipe solutions to address the CSOs and SSOs in the watershed, as well as stormwater controls. There were several regulatory requirements for this project to meet, including consent orders for CSO/SSO reduction, and TMDLs for nutrients, sediment and AMD with stormwater controls required. Project included detailed watershed and in-stream water quality modeling to characterize the impact of pollutant loads from CSOs, SSO, and stormwater sources.

Mario Sebastiani

AECOM Project Manager/H&H Lead

Education

MS, Civil Engineering, University of Louisville

BS, Civil Engineering, University of Louisville

Years of Experience

12

Trainings

AECOM Project Management Training

USACE Dam Risk Assessment Training

HEC-RAS Dam Breach Analysis and 2D Modeling 3-Day Training, Ohio Dam Safety Organization

Areas of Expertise

Hydrology/Hydraulics
Project Management

Mario has more than 12 years of experience in civil engineering and water resources. He has played a key role in floodplain analysis, stormwater management, dam safety and design, dam removal, and stream restoration projects. His hydrologic and hydraulic modeling, design, and construction field experience, paired with strong written and verbal communication skills, provides clients with efficient solutions.

Relevant Project Experience

Project Manager, Huron River Watershed Council, Peninsular Paper Dam Removal, City and Township of Ypsilanti, Michigan. Project Manager for the alternatives analysis and preliminary dam removal and river restoration design. Mario also advised the hydraulic analysis of a portion of the Huron River to support potential future design and construction activities to remove the Peninsular Paper Dam. The hydraulic analysis included the development of existing and potential future conditions hydraulic models of a stretch of the Huron River and a scour evaluation at the Superior Road Bridge and the Railroad Bridge within the Peninsular Paper Dam's impoundment. The hydraulic analysis was performed in HEC-RAS and the inundation mapping was performed using RAS Mapper and ArcMap. The bridge scour analysis was performed using the Michigan Department of Transportation guidelines.

Project Manager, Michigan Department of Natural Resources, Swan Creek Pond Dam Removal Feasibility Study, Allegan County, Michigan. Mario served as the Project Manager on the Swan Creek Pond Dam Removal Feasibility project. The feasibility of partial and full dam removals was analyzed to improve fish passage, restore the stream to pre-dam conditions, restore floodplain wetlands, and remove aging infrastructure. Hydraulic analyses of Swan Creek were performed using HEC-RAS unsteady 2-dimensional flow models.

Project Manager, City of Allegan and MDNR, Allegan City Dam Removal, Allegan, Michigan. Project Manager and Hydrologic and Hydraulic Technical Lead for the dam removal design. Mario was tasked with managing all aspects of the project and responsible for performing a hydraulic analysis of a portion of the Kalamazoo River to support the removal of the Allegan City Dam. The hydraulic analysis consisted of the development of a HEC-RAS model to support the proposed river drawdown

and dam removal design and to assess the proposed restored channel and floodplain through the impoundment to improve the riverine ecosystem including fish passage and habitat quality.

Technical Lead, Great Lakes Fishery Commission, Baldwin Dam Removal and Sea Lamprey Barrier, Baldwin, Michigan. Mario served as the Sea Lamprey Barrier Lead. The project objective was to allow for dam removal and river restoration while constructing a sea lamprey barrier. The project included the development of dam removal, river restoration, and sea lamprey barrier alternatives and coordination with team partners consisting of conservation groups, state and federal environmental regulators, and local participants involved in future planning of area of river restoration. The height of the sea lamprey barrier was determined using HEC-RAS 1D and 2D models to understand the river conditions under various flood events.

Project Manager, Kentucky Natural Resources Conservation Service, Kentucky Statewide. Mr. Sebastiani served as the Project Manager and Hydrologic and Hydraulic Technical Lead tasked with the review of dam breach hydrographs, dam breach hydraulic modeling, and dam breach inundation mapping for 32 dams across the Commonwealth of Kentucky. The hydrologic and hydraulic analyses were conducted in accordance with the 2022 National Watersheds Program Manual, the Natural Resources Conservation Service Technical Release 210-60 Manual, and Kentucky Division of Water Dam Safety requirements. Dam failure flood profiles and inundation maps were developed in HEC-RAS unsteady 2-dimensional flow models .

TAMMY SEITER

- Role: Archeologist

BEN GOODWIN

- Role: Archeologist

DREW BROWNING

- Role: Permitting Support

RUTUJA SUTAR

- Role: Field Engineer

SAMIRA JAHAN

- Role: Field Engineer

Wightman Staff

JEFF BRADFORD, PS

- Role: Property Survey Lead
- Years of Experience: 35
- Years with Wightman: 35
- Location: Benton Harbor, MI

MIKE FREEMAN

- Role: Surveyor
- Years of Experience: 19
- Years with Wightman: 8
- Location: Benton Harbor, MI



Project manager Nick Jordan, PE attends a public outreach meeting in Albion, MI. This project, a partnership between Inter-Fluve and Wightman, involves the removal of five dams along the Kalamazoo River in the City of Albion.

4. Project Examples

Dam Removal Expertise

Pucker Street Dam Removal

NILES, MI (2014-2023)

The \$7.8 million Pucker Street Dam Removal project on the Dowagiac River was completed in 2021. The 100-ft long, 38-ft high concrete hydroelectric dam was constructed in 1928, and as of 2008 the reservoir had 160 acre-feet of storage with an estimated 1,000,000 cubic-yards of impounded sediment stored within the impoundment. The project included decommissioning of the turbines and power equipment, demolition of the powerhouse, dam removal, and river channel restoration. Approximately 250,000 cubic yards of impounded sediment will be excavated to create a pilot channel within the 6200 LF impoundment river reach.

Wightman and **Inter-Fluve** successfully teamed during the design and construction phases of the project. Inter-Fluve's role included geomorphic field assessment, depth of refusal survey, hydrologic and hydraulic analysis, sediment management alternatives, permitting support, final design (plans, specifications, and cost estimates) of the river channel, construction administration support, and construction oversight of river restoration elements.

Southwest Michigan Planning Commission (SWMPC)
Graham Woodhouse Intergovernmental Effort Award

American Council of Engineering Companies, Michigan Chapter, 2023 Engineering Merit Award

Berrien County Drain Commissioner, 2023 Keep it Blue Leadership Award

CLIENT PROJECT MANAGER:

Jeff Dunlap, Utilities Manager
City of Niles Utilities Department
333 N 2nd St, Ste 201
Niles, MI 49120

(269) 683-4700 ext. 2071
utilitiessea@nilesmi.org

GENERAL CONTRACTOR:

Milbocker & Sons Inc.
1256 29th St
Allegan, MI 49010



Dowagiac River, MI. Drone images of the Pucker Dam site before, during, and after removal. Photo credit: Jeff Dunlap, City of Niles.

Boardman River Dam Removals

TRAVERSE CITY, MI (2011-2019)

Boardman, Sabin and Brown Bridge dams were three of the dams that comprised the Traverse City Light & Power hydroelectric project. Removal of the dams reconnected 160 miles of free flowing coldwater stream and directly restored more than three river miles of native coldwater fisheries habitat, more than 250 acres of wetlands, and nearly 60 acres of upland habitat. As a subconsultant to **AECOM** working with the US Army Corps of Engineers, Grand Traverse Band, Grand Traverse County, Conservation Resource Alliance, and other partners, **Inter-Fluve** led the sediment management and river restoration design, and assisted in structure removal design for the \$25 million project to remove the dams. Drawdown of Brown Bridge was completed in fall 2012 and restoration of the channel and floodplain completed in January 2013. In 2016 and 2017, Inter-Fluve completed construction oversight of large wood installation in the impoundment.

The Boardman Dam (1,000 feet long, 41 feet tall) was removed in fall 2017 with restoration completed in 2018, and the Sabin Dam (700 feet long, 20 feet tall) was removed in fall 2018 with restoration completed in 2019. Project elements for the various removals include fish habitat assessment and fish passage design, hydraulic and geomorphic analysis, reference reach sampling, sediment depth of refusal assessments and volume estimates, sediment sampling, analysis and management plan development, conceptual through final design and preparation of construction documents, construction cost estimates, and construction oversight. This project is considered the largest river restoration project in the history of Michigan.

American Council of Engineering Companies, Michigan Chapter, 2021 Honorable Conceptor Award

American Council of Engineering Companies, 2021 National Recognition Award



Boardman River, MI. A view of the river before (inset) and after removal of the Brown Bridge Dam.

CLIENT PROJECT MANAGER:

Brett Fessell, Restoration Section Leader
 Grand Traverse Band of Ottawa and Chippewa Indians
 Natural Resources Department
 3505 Putnam Rd
 Peshawbestown, MI 49682

(231) 866-6063

brett.fessell@gtbindians.com

GENERAL CONTRACTORS:

Molon Excavating
 125 Buckshot Dr
 Traverse City, MI 49685

Michels Corporation
 817 Main St
 Brownsville, WI 53006

Job Site Services
 4395 Wilder Rd
 Bay City, MI 48706

M.J. VanDamme
 301 Avenue A
 Gwinn, MI 49841

Additional Project Examples

Baldwin Dam Removal

BALDWIN, MI (ONGOING)

The Baldwin Fish Hatchery Dam was built in the 1920s and is located in Baldwin, Michigan on the Baldwin River. The dam and the surrounding site were formerly used as a fish rearing station operated by the Michigan Department of Natural Resources (MDNR). Like many dams around Michigan, the dam no longer serves its original purpose, is deteriorating, and is developing potential safety concerns. In 2020, the dam had an emergency drawdown where the boards at the dam were removed. The boards have not been replaced. Even with the boards removed, the downstream weirs at the dam still impound water and prevent fish passage through this section of the Baldwin River. In 2010/2011 and 2019, significant flooding also occurred in this area, which caused property damage and the eventual closure of the Eighth Street bridge, which is adjacent to and downstream of the dam. The City of Baldwin is in the process of reconstructing the Eighth Street bridge with construction completion anticipated in 2023.

In 2022, **AECOM** was commissioned to lead a team, including **Inter-Fluve**, to assess options by gathering additional data and identifying potential methods for dam removal. By late 2023, the preferred sea lamprey barrier location, type, and stream alignment were selected. The design phase for the dam removal and stream restoration under the preferred alternative commenced in the summer of 2024. The project scope extends to the preparation of bid documents for dam removal and restoration, encompassing construction cost estimates, final plans, and specifications.

Tyler and Beyer Dam Removal Alternatives Analysis

WASHTENAW CO., MI (2022)

This project involved data collection and analysis to evaluate dam removal alternatives for the Tyler and Beyer Dams on Willow Run. The data collection included depth of refusal surveys, sediment sampling, contaminant analysis, and developing a water quality model to assess the impact of phosphorus release on downstream Belleville Lake, which is subject to a total phosphorus TMDL. The Tyler and Beyer Dams, located near Willow Run Airport, were constructed in 1940–1942 by Henry Ford for hydropower but are now deteriorating and serve no purpose. The Washtenaw County Water Resources Commissioner (WCWRC) is considering their removal.

LimnoTech partnered with **AECOM** and **Inter-Fluve** to perform depth of refusal surveys to estimate sediment volume in the impoundments and develop a watershed model to evaluate long-term sediment and phosphorus loads. The surveys showed approximately 28,000–35,000 cubic yards of sediment trapped in the impoundments. The dam removal alternatives analyzed the potential downstream transport of sediment and phosphorus to Belleville Lake, considering both full removal of both dams and partial removal of Beyer Dam. Our work provided WCWRC with essential data to advance the project design phase and engage funding partners and regulatory agencies. **Inter-Fluve** is a subcontractor for the ongoing removal design.

Proven Partnerships



AECOM and Inter-Fluve are on a team that was awarded the USACE-Detroit District contract to provide architecture and engineering design services throughout the Great Lakes.

Selected Inter-Fluve Dam Removal/Fish Passage Projects

PROJECT / RIVER / DAM	RIVER/STREAM	STATE	YEAR (S)
Pucker Street Dam Removal	Dowagiac River	MI	2014-2019
Green River Dam Removal	Green River	MI	2004-2005
Sabin Dam Removal	Boardman River	MI	2011-2019
Boardman Dam Removal	Boardman River	MI	2013 - 2017
Brown Bridge Dam Removal	Boardman River	MI	2011-2014
Nemahbin Roller Mill Dam Removal	Bark River	WI	2007-2010
Bruemmerville Dam Removal	Silver Creek	WI	2010-2011
Newburg Dam Removal	Milwaukee River	WI	2012-2015
Kletzsch Park Dam Fish Passage	Milwaukee River	WI	2017-2024
Littleton Dam Removal	Wapsipinicon River	IA	2009
Churchill Woods Dam Removal	DuPage River	IL	2008
Fullersburgh Woods Dam Removal	Salt Creek	IL	2008
Oak Brook Dam Removal	Salt Creek	IL	2008
Paper Mill Dam Removal	Cacoosing Creek	PA	2017-2023
Red Brook Dam Removals	Red Brook	MA	2008
Sawmill Dam Removal	Eel River	MA	2010
State Hospital Dam Removal	Mill River	MA	2007-2013
West Britannia Dam Removal	Mill River	MA	2007-2018
Whittenton Dam Removal	Mill River	MA	2007-2014
Balmoral Dam Removal	Shawsheen River	MA	2007-2017
Marland Place Dam Remval	Shawsheen River	MA	2007-2017
Traphole Brook Dam Removal	Traphole Brook	NH	2019-2022
Washburn Dam Removal	Mohawk River	NH	2021-2024
Simkins Dam Removal	Patapsco River	MD	2009-2019
Bloede Dam Removal	Patapsco River	MD	2009-2019
Howland Dam Bypass Channel	Penobscot River	ME	2014-2019
Coopers Mill Dam Removal	Sheepscot River	ME	2015-2019
Head Tide Dam Removal	Sheepscot River	ME	2015-2018
Upper Town Dam Removal	Sabattus River	ME	2019-2022
Mill Street Dam Removal	Sabattus River	ME	2019-2023
Baird Creek Splash Dam Removal	Baird Creek	WA	2020-2024
Hemlock Dam Removal	Trout Creek	WA	2007-2009

5. Project Schedule

The requested schedule targets bidding the project in August 2025. We recognize the schedule is ambitious and appreciate project team's desire to rapidly implement the dam removal project. Inter-Fluve is accustomed to delivering significant restoration projects on expedited timelines, including in recent years the Kletzsch Dam Fishway and planning of four confidential large dam removals in New England. We will prioritize scheduling necessary investigations to support timely submission of permit applications. We anticipate submitting permits following the 60% design stage.

Given the aggressive schedule, Nick Jordan, the team's project manager, will be in frequent communication with project partners regarding the status of critical investigations and project milestones. We will work to deliver the project on schedules satisfactory to the project partners.

Task	2024				2025								
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.
1. Project Administration and Grant Applications													
2. Public Communications													
3. Pre-Permitting Coordination													
4. Permit Applications													
5. Historic Preservation & Archaeological Assessments													
6. Supplemental Sediment Sampling													
7. Spoils Management and Hazardous Waste Assessments													
8. Property Boundary Assessments & Agreements													
9. Wetland Delineation and Assessment													
10. T&E Species Clearance													
11. Washtenaw County & EGLE Floodplain Permitting													
12. Geotech. Investigations													
13. Building Stability Assessments													
14. H&H, Sed Trans Modeling													
15. 60% Dam Removal Design Development													
16. 90% Dam Removal Design Development													
17. Final Design and Bid Package Preparation													
18. Bid Period													

6. Budget

The project team is familiar with and appreciative of the efforts conducted so far to secure adequate design and construction funding for the project. We believe the \$850,000 for engineering services is adequate for the permitting and final design phases, but additional funding will be required to provide comprehensive engineering services during the construction period.

We have developed our preliminary scope and budget for the project based the level of effort needed to responsibly complete the requested scope of services within the requested schedule. Scope and schedule changes will require budget re-analysis. A breakdown of our proposed budget and estimated hours for each sub-task are provided below. Hourly rates and time estimates for key staff are provided on the following page.

We welcome the opportunity to discuss our proposed scope and budget with you.

Construction Costs

The project team will continue to evaluate construction costs throughout the permitting and final design phase and will communicate our findings with project partners. We have conducted extensive budget analyses of conceptual alternatives of the Peninsular Paper Dam Removal and understand tradeoffs between geomorphic risks and construction costs. We will collaborate to identify and apply for grants and funding opportunities. Construction costs associated with impoundment restoration fall into two general categories: impounded sediment management and ecological uplift. We will work to find engineering solutions that satisfy regulatory requirements, meet project goals, and fit within available funding.

Budget Summary

Task	Hours Budgeted	Fee
Task 1: Project Administration, Grant Assistance, and Meetings	756	\$149,110
Task 2: Permitting, Agreements, and Agency Consultation	138	\$25,830
Task 3: Historic Preservation and Archaeological Assessment	66	\$8,890
Task 4: Spoils Management	176	\$41,160
Task 5: Hazardous, Toxic, and Radioactive Waste Assessment	20	\$4,000
Task 6: Property Boundary Assessments and Agreements	412	\$90,010
Task 7: Wetland Delineation and Assessment	262	\$35,290
Task 8: Rare, Threatened, and Endangered Species Clearance	146	\$19,840
Task 9: Permitting with Washtenaw County Water Resources and EGLE	140	\$22,430
Task 10: Geotechnical Investigation of Dam and Bridges ¹	96	\$38,370
Task 11: Structural Analysis for Building Stability	66	\$12,770
Task 12: Hydrologic, Hydraulic, and Sediment Transport Modeling	483	\$83,420
Task 13: Final Removal and Restoration Design	1,470	\$258,540
Task 14: Bid Period Services	208	\$40,430
Task 15: Technical Assistance Following Design Phase ²	100	\$20,770
TOTAL	4,539	\$850,860

Notes:

1. Includes drilling costs and lab analysis.

2. Does not include costs for construction period administration, engineering services, or on-site observation.

Billable Rates for Key Staff

	Staff	Billing Category	Hourly Rate	% of Project
Inter-Fluve	Nick Jordan, PE	Staff, Project Manager	\$177	10.3
	Marty Melchior, FP-C	Technical Principal	\$230	4.2
	Mike Burke, PE, P.Eng.	Technical Principal	\$230	1.9
	Maren Hansell, PE	Senior Staff	\$212	4.5
	Jonathon Kusa, PE, LEED AP	Principal	\$307	0.7
	Garrett Shear, PWS, CMWP	Staff	\$177	5.0
	Jackie Van Der Hout, CE	Staff	\$177	4.1
	Adam Weis, EIT	Technical Staff	\$138	6.5
LimnoTech	Brendan Cousino, PE	Principal	\$224	6.0
	Michelle Platz, PhD	Sr. Staff	\$184	1.1
	Cullen O'Brien	Staff	\$164	0.5
	James Hartrick, EIT	Staff	\$154	2.4
AECOM	Mario Sebastiani, PE	AECOM Project Manager, H&H Modeling Lead	\$183	7.0
	Taylor Wiegand, PE	Civil & Hydraulic Engineering	\$160	1.3
	Aaron Humphrey, PE	Geotechnical Lead	\$263	4.7
	Jason Plum, PE	Dam Removal Lead	\$170	2.3
	Dan Broekhuizen, PE	Structural Lead	\$204	1.2
	Michael Shore, CFM	Hydrologic & Hydraulic QA/QC	\$188	2.3
	Seth Gentzler, PE	Dam Removal QA/QC	\$354	0.7
Wightman	Jeff Bradford, PS	Property Survey Lead	\$275	1.6
	Mike Freeman	Surveyor	\$175	3.1

Appendix: Additional Staff Resumes



PRINCIPAL WATER RESOURCES ENGINEER CEO & PRESIDENT

Jonathon Kusa, PE, LEED AP

Jonathon is a professional engineer with 25 years of experience. He provides leadership to 65 engineers, scientists and technicians across the country. His diverse experience in water resources engineering translates into unique solutions to surface water management challenges. Jonathon has a well-rounded technical background in erosion control, transportation, wastewater, site development, river restoration, and hydrologic and hydraulic modeling. Jonathon enjoys facilitating public involvement meetings for complex water resources and transportation projects, lectures at Harvard University, and regularly presents at conferences and workshops throughout the country.

EXPERTISE

Stormwater Management
Erosion Control
Hydrologic & Hydraulic Modeling
Bioengineered Stream Stabilization
Project Management
Public Outreach
Construction Oversight

EDUCATION

MS, Civil Engineering - Water
Resources & Environmental Systems
North Carolina State University, 1999
BA, Public Policy Analysis -
Environmental Science & Geology
University of North Carolina, 1996

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Professional Engineer: CA, IA, MI, MN,
NY, SD, OR, WA, WI
LEED Accredited Professional, 2009
Society of American Military Engineers

SELECTED PROJECT EXPERIENCE

Pucker Street Dam Removal Niles, MI (2014-2023)

As a subconsultant to Wightman and Associates, Inter-Fluve provided design, permitting, and construction observation services for the removal of the dam located just downstream of the Pucker Street Bridge on the Dowagiac River. The dam was 100 feet long and 38 feet high and was constructed in 1928. It was decommissioned as a power generator in 1995. Project goals included safe recreation, boat passage, as well as fish passage for trout, steelhead, and salmon. The removal was completed in 2021, and Inter-Fluve then led river restoration in the former impoundment. Jonathon was project manager for early project phases.

Boardman River Dam Removals Traverse City, MI (2011-2019)

Inter-Fluve was part of a design team for the \$25M removal of Boardman, Sabin and Brown Bridge Dams on the Boardman River. The project reconnected 160 miles of free-flowing coldwater stream, restored more than three river miles of native coldwater fisheries habitat and more than 250 acres of wetlands. Jonathon provided engineering QA/QC.

Removal of Four Hydropower Dams New England (2023-Present)

Inter-Fluve is leading a team of consultants (including GEI) to assist a conservation nonprofit in purchasing and removing four large, regionally significant hydropower dams in New England. Since 2023, Inter-Fluve has conducted detailed hydrologic and hydraulic analyses, fish passage assessments, biological reviews, infrastructure reviews, sediment investigations, structural disposition studies, and stakeholder coordination to support the planning for removal of the dams. Jonathon is principal in charge.

Patapsco River, Simkins & Bloede Dam Removals

Ellicott City, MD (2011-2019)

The removal of the Simkins and Bloede Dams are part of a larger project to remove all four dams along 175 miles of the Patapsco River restoring fish and aquatic organism passage and habitat and ecosystem balance along the Patapsco River. Inter-Fluve was contracted by American Rivers and its partners to complete alternatives analysis through final design for both removals. Simkins was removed in 2010 and the \$17.9M Bloede Dam Removal, in Maryland's most visited state park, was completed in 2018. The Bloede project included relocation of 1600 LF 42" pressurized sanitary sewer interceptor, and restoration/stabilization of 4,000 LF of river. Jonathon was project manager.

Don River Mouth Naturalization & Port Lands Flood Protection

Toronto, ON (2015-Present)

Inter-Fluve is part of a team, working alongside LimnoTech and others, contracted to assist with the \$1B project re-routing the mouth of the river and restoring it as a feature of Toronto's waterfront. This project has included collaborating with landscape architects to integrate passive use park amenities into sensitive ecological areas with high visitor use. A novel ecosystem now under construction, it will be the centerpiece of new neighborhoods, parks, and green spaces and also provide the flood protection necessary to develop the Port Lands. Jonathon is the project manager and engineer of record for the habitat components of the project.





WETLAND SCIENTIST & CAD DRAFTER

Garrett Shear, PWS, CMWP

Garrett has 11 years of experience as a CAD Drafter and Environmental Scientist for civil and environmental engineering firms. His background includes drafting for projects involving dam removal, stream bank stabilization, channel re-meandering, roadways, underground utilities, and site grading. In addition to his CAD expertise, Garrett is an accomplished environmental scientist with a focus on wetland and stream habitat assessment and restoration. He also works on riparian and wetland planting plans and invasive species monitoring and control.

EXPERTISE

Computer Aided Drafting & Design
AutoCAD Civil 3D
GIS
Wetland Delineation & Restoration
Plant Identification
Habitat Assessment
Invasive Species Surveying
Topographic Surveying

EDUCATION

BS, Reclamation, Environment & Conservation, Emphasis in Biology, University of Wisconsin-Platteville, 2013

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Professional Wetland Scientist, Society of Wetland Scientists
Certified Minnesota Wetland Professional
ACA level II River Kayak Instructor
IMAGINiT AutoCAD Civil 3D

SELECTED PROJECT EXPERIENCE

Peninsular Paper Dam Removal Analysis & 30% Design Ypsilanti, MI (2021-2023)

As part of a team with LimnoTech and AECOM, Inter-Fluve collected data and performed preliminary analyses to support future design and construction activities to remove the Peninsular Paper Dam, located on the Huron River. Our role involved geomorphic and bathymetric survey to assist with sediment management recommendations. Garrett assisted with the site survey and drafting.

Pucker Street Dam Removal Niles, MI (2014-2023)

As a subconsultant to Wightman and Associates, Inter-Fluve provided design, permitting, and construction observation services for the removal of the dam located just downstream of the Pucker Street Bridge on the Dowagiac River. The dam was 100 feet long and 38 feet high and was constructed in 1928. It was decommissioned as a power generator in 1995. Project goals included safe recreation, boat passage, as well as fish passage for trout, steelhead, and salmon. The removal was completed in 2021, and Inter-Fluve then led river restoration in the former impoundment. Garrett assisted with construction oversight and vegetation management planning.

Baldwin Dam Removal Baldwin, MI (2022-Present)

As a subconsultant, Inter-Fluve was contracted by the Conservation Resource Alliance to investigate removal of Baldwin Dam, located on the Baldwin River at the site of a former fish hatchery. We performed a geomorphic assessment, habitat assessment, and sediment survey, and are currently contracted through final dam removal design. Garrett worked on the survey and data processing.

Don River Mouth Naturalization & Port Lands Flood Protection Toronto, ON (2015-Present)

Inter-Fluve is part of a team, working alongside LimnoTech and others, contracted to assist with the \$1B project re-routing the mouth of the river and restoring it as a feature of Toronto's waterfront. This project has included collaborating with landscape architects to integrate passive use park amenities into sensitive ecological areas with high visitor use. A novel ecosystem now under construction, it will be the centerpiece of new neighborhoods, parks, and green spaces and also provide the flood protection necessary to develop the Port Lands. Garrett assisted with designing habitat details.

Albion Dam Removal Albion, MI (2022-Present)

As a subconsultant to Wightman and Associates, Inter-Fluve was contracted by the City of Albion to perform feasibility studies for the removal of five dams along the Kalamazoo River. Following the study, we were retained to design the removal of all five dams and river restoration efforts. Garrett has worked on the DOR and bathymetric surveys and is developing the engineering drawings.

Dowagiac River Restoration Cass Co., MI (2019-Present)

Inter-Fluve was contracted Pokagon Band of Potawatomi Indians to develop designs for a 3,300-foot reach of the Dowagiac River with the objective of increasing and enhancing coldwater fish habitat, maintaining recreational boater passage, and reestablishing the aesthetics of the historic channel. Garrett worked on the site survey, drafting, and construction oversight.





ECOLOGIST

Jackie Van Der Hout, CE

Jackie is an ecologist with five years of interdisciplinary experience in freshwater biology, fluvial geomorphology, environmental planning, and hydrology. Their experience includes habitat assessments, water quality monitoring, invasive species management, stormwater management, and hydraulic and hydrologic modeling. They have research experience in stream biogeochemistry, urban watershed restoration, and instream barrier removal, as well as experience managing river restoration projects from the Midwest to the Pacific.

EXPERTISE

Plant Ecology
Watershed Hydrology
Stream Assessments
Data Analysis
Technical Writing
GIS
Project Management
Public Engagement

EDUCATION

MEM, Water Resources, Duke University, 2023
BA & BS, Political Science and Freshwater Ecology, The Evergreen State College, 2018

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Certified Ecologist, Ecological Society of America
Aquatic Plant Surveyor, Minnesota DNR

SELECTED PROJECT EXPERIENCE

Albion Dam Removal **Albion, MI (2022-Present)**

As a subconsultant to Wightman and Associates, Inter-Fluve was contracted by the City of Albion to perform feasibility studies for the removal of five dams along the Kalamazoo River. Following the study, we were retained to design the removal of all five dams and river restoration efforts. Jackie developed the relative elevation and vegetation models and has assisted with the sediment management plan.

Removal of Four Hydropower Dams **New England (2023-Present)**

Inter-Fluve is leading a team of consultants (including GEI) to assist a conservation nonprofit in purchasing and removing four large, regionally significant hydropower dams in New England. Since 2023, Inter-Fluve has conducted detailed hydrologic and hydraulic analyses, fish passage assessments, biological reviews, infrastructure reviews, sediment investigations, structural disposition studies, and stakeholder coordination to support the planning for removal of the dams. Jackie has assisted with GIS analysis.

Pike River - County Road KR Stream Corridor & Wetland Restoration **Somers, WI (2023-2024)**

Inter-Fluve was contracted by the Root-Pike Watershed Initiative Network to conduct a survey and develop concept designs for the remainder of a 1,700-foot segment of the Pike River. Jackie worked on mapping, design, and permitting.

Ike's Creek Restoration **Bloomington, MN (2023-Present)**

Inter-Fluve was contracted by the Minnesota Valley National Wildlife Refuge Trust in partnership with the USFWS and other

partners to develop designs for Ike's Creek, a marl-dominated trout stream near the Mall of America threatened by ravine and bluff erosion from surrounding development. Construction is planned for 2025. Jackie is assistant project manager. They have also worked on the site investigation, design, permitting, and reporting.

LaBier Dam Removal **North Hudson, NY (2022-Present)**

Boreas Pond was formed after the LaBier Flowage was dammed in 1915. As a subcontractor to Schnabel, Inter-Fluve was contracted to conduct a geomorphic assessment, estimate sediment volume, develop plansets, and write a technical report to support permitting for dam removal. We are currently developing final designs. Jackie assisted with GIS analysis and reporting.

Red Clay Creek Dams **New Castle Co., DE (2023-2024)**

In partnership with the University of Delaware, Inter-Fluve secured a NFWF grant to conduct an analysis of 11 dams on Red Clay Creek. Our study included a visit to each site to assess geomorphology, fish passage, dam conditions, and removal feasibility. Jackie assisted with cost estimates and the final report.

Cadott Dam Fish Passage Assessment **Cadott, WI (2023-2024)**

Inter-Fluve was contracted by the Wisconsin Department of Natural Resources to develop alternatives for fish passage at the Cadott Dam on the Yellow River. Species of interest include lake sturgeon, smallmouth bass, walleye, muskellunge, and northern pike. Jackie assisted with fish passage design, concept development, and report writing.





ENGINEER IN TRAINING

Adam Weis, EIT

Adam has three years of experience in hands-on fieldwork, research, and engineering consulting roles. He previously served as a hydrologic research assistant, assessing flood reduction and water quality practices, and later joined the US Forest Service. His field experience includes surveying streams, designing and installing beaver dam analogs, constructing stream gages, and monitoring water quality across pristine and logged watersheds while working for the Forest Service in Wyoming, Montana, and the National Park Service in California. Adam has conducted stream restoration projects; analyzed hydrologic recovery post-wildfires; measured physical, chemical, and biological attributes of streams; and optimized wastewater treatment.

EXPERTISE

Hydrologic and Hydraulic Modeling
GIS
Field Surveys
Restoration Design
Sediment Analysis
Dam Removal
Hydrologic Data Analysis

EDUCATION

MS, Environmental Engineering,
University of Iowa, 2021
BSE, Chemical Engineering, University
of Iowa, 2019

PROFESSIONAL AFFILIATIONS & REGISTRATIONS

Engineer in Training

SELECTED PROJECT EXPERIENCE

Albion Dam Removal

Albion, MI (2022-Present)

As a subconsultant to Wightman and Associates, Inter-Fluve was contracted by the City of Albion to perform feasibility studies for the removal of five dams along the Kalamazoo River. Following the study, we were retained to design the removal of all five dams and river restoration efforts. Adam has worked on hydrologic and hydraulic modeling and the sediment management plan.

Removal of Four Hydropower Dams

New England (2023-Present)

Inter-Fluve is leading a team of consultants (including GEI) to assist a conservation nonprofit in purchasing and removing four large, regionally significant hydropower dams in New England. Since 2023, Inter-Fluve has conducted detailed hydrologic and hydraulic analyses, fish passage assessments, biological reviews, infrastructure reviews, sediment investigations, structural disposition studies, and stakeholder coordination to support the planning for removal of the dams. Adam is assisting with hydraulic modeling.

Baldwin Dam Removal

Baldwin, MI (2022-Present)

As a subconsultant, Inter-Fluve was contracted by the Conservation Resource Alliance to investigate removal of Baldwin Dam, located on the Baldwin River at the site of a former fish hatchery. We performed a geomorphic assessment, habitat assessment, and sediment survey, and are currently contracted through final dam removal design. Adam is working on the reference reach survey, hydraulic modeling, and restoration design.

Ike's Creek Restoration

Bloomington, MN (2023-Present)

Inter-Fluve was contracted by the Minnesota Valley National Wildlife Refuge Trust in partnership with the USFWS and other partners to develop designs for Ike's Creek, a marl-dominated trout stream near the Mall of America threatened by ravine and bluff erosion from surrounding development. Construction is planned for 2025. Adam contributed to the restoration design, hydraulic modeling and analysis and report writing.

Jackson Park & 43rd Street Ditch

Milwaukee, WI (2019-Present)

Inter-Fluve is working as a subconsultant for the rehabilitation of the Kinnickinnic River through Jackson Park for the Milwaukee Metropolitan Sewerage District. Inter-Fluve has completed geomorphic investigation, sediment transport modeling, hydrologic and hydraulic analysis, and conceptual alternatives. Inter-Fluve's continued design efforts will provide ecological uplift, sediment transport continuity, and recreational access to a river segment that is currently lined with concrete. Adam contributed to design, hydraulic modeling, and alternatives analysis.

Lower Phalen Creek Daylighting

Saint Paul, MN (2017-Present)

Starting in 2017, Inter-Fluve began working with Wakan Tipi Awanyankapi (WTA) to daylight a portion of Phalen Creek, a historic waterway that connects Lake Phalen to the Mississippi River. The creek was buried in a storm sewer in the 1930s. Following our initial study, we worked with WTA to secure funding. Construction is planned for 2025. Adam contributed to design, hydraulic modeling, cost estimations, and report development.



Taylor Wiegand, PE

Civil/Hydraulic Engineer

Education

MS, Environmental Engineering, Michigan Technological University

BS, Civil Engineering, Michigan Technological University

Years of Experience

7

Certifications/Registrations

PE: MI #6201310285

Areas of Expertise

Project Management
Hydrology/Hydraulics Civil Design
Stormwater Management
BMP Design

Taylor has 7 years of professional experience analyzing hydrologic and hydraulic computer models for storm water assessment and dam removal projects. She has hands-on experience with the latest HEC, AutoCAD Civil 3D and Microstation modeling software. Her responsibilities have ranged from engineering design and analysis, plan preparation, permitting, field inspections, and presenting for both state agencies and private entities.

Relevant Project Experience

Project Manager, Michigan Department of Transportation, MDOT Storm Water Management Program, Statewide, Michigan. Under this five-year contract AECOM provides comprehensive support and program management for Michigan DOT MS4 compliance. This includes development of the annual storm water management report, illicit discharge elimination inspections and studies, inspection of state-wide post-construction Best Management Practices (BMPs), development of training and education materials related to the storm water program and providing technical support for the application of the new (National Pollutant Discharge Elimination System) NPDES permit. Ms. Wiegand's responsibility is to document annual activities completed to meet the requirements of the NPDES permit. Her role includes scheduling and doing field inspections for MDOT BMPs and MDOT garages, writing reports for the field inspections, writing an annual report of MDOT stormwater activities, helping write the draft MDOT Stormwater Manual, and running bi-monthly progress meetings with the client.

Hydrology and Hydraulics Engineer, Michigan DNR, Swan Creek Pond Dam Removal Feasibility Study, Allegan County, Michigan. Michigan DNR contracted AECOM to provide a feasibility study for the rehabilitation or removal of the dam at Swan Creek Pond. The main goals of the dam project are to remove the fish passage barrier, improve fish habitat and provide a sea lamprey barrier. Taylor is leading a team that is building a 2D HEC-RAS hydraulic model for existing and proposed conditions, completing a wetland and threatened and endangered species desktop analysis, conducting a sediment transport analysis, preparing calculations and documents for permits, and writing the report.

Hydrology and Hydraulics Engineer, City of Allegan and MDNR, Allegan Dam Removal, Allegan, Michigan. A multidisciplinary AECOM team worked collaborately with the City of Allegan, Michigan DNR, and EGLE to provide dam removal

plans, cost estimates, and specifications for the removal of Allegan Dam. The hydraulic analysis consisted of the development of a HEC-RAS model to support the proposed river drawdown and dam removal design and to assess the proposed restored channel and floodplain through the impoundment to improve the riverine ecosystem including fish passage and habitat quality. Ms. Wiegand assisted in preparation of the dam removal plans, preparation for public meetings, attending public meetings, and creating a 1D HEC-RAS model for the existing and proposed channel conditions.

Hydrology and Hydraulics Engineer, Great Lakes Fisheries Commission, Baldwin Dam Removal and Sea Lamprey Barrier, Baldwin, Michigan. The Conservation Resource Alliance (CRA) as well as multiple other entities contracted AECOM to provide a feasibility study for the removal of the Baldwin Dam. The feasibility study included dam removal plans, restored channel alternatives, and options for sea lamprey barriers. Ms. Wiegand built a 2D HEC-RAS hydraulic model for the existing conditions of the project area and assisted in writing the preliminary report.

Hydrology and Hydraulics Lead, Natural Resources Conservation Service, Kentucky NRCS Dam Breach Analysis, Statewide, Kentucky. The Natural Resources Conservation Service (NRCS) requested AECOM create dam breach analyses for dams in Kentucky. These dam breach analyses will be used to assess the risks to the public if a dam should fail. Taylor's responsibility was to lead a team to conduct dam breach analyses on 16 dams throughout Kentucky. Each analysis included a 2D HEC-RAS dam breaching model, an investigation on structures and roadways that flooded during the model run, and a report documenting the findings. Taylor also presented the project at the Annual Kentucky Association of Mitigation Managers (KAMM) Conference in Prestonburg, Kentucky.

Aaron Humphrey, PE

Geotechnical Engineering Lead

Education	Years of Experience	Areas of Expertise
MS, Civil Engineering – Geotechnical, Purdue University	22	Dam Removal Dam Design Dam Safety Geotechnical Engineering
BS, Civil Engineering, Purdue University	Certifications/Registrations Professional Engineer: MI, #620155305; CO, ID, IN, IL, ND, PA, WI, WY	

Aaron has served as the project manager on several dam related projects in the State of Michigan. He brings over 22 years of experience working with multi-disciplinary teams to the project and is intimately familiar with the financial and project management tasks required. Aaron is geotechnical engineer proficient in slope stabilization, excavation support, foundation design, and dam and levee inspections, design, repair, and removal. Aaron is a previously approved FERC Independent Consultant. He has demonstrated his qualifications through his role as an Independent Consultant on eight, 5-year Part 12D dam inspections for the FERC along with numerous dam design, dam removal, dam modification, and dam safety inspections for municipal, state, federal, and private dam owners.

Relevant Project Experience

Project Manager and Geotechnical Engineer, Great Lakes Fishery Commission, Baldwin Dam Removal and Sea Lamprey Barrier, Baldwin, Michigan.

Project manager and lead geotechnical engineer for feasibility study and alternatives evaluation for dam removal and construction of variable height sea lamprey barrier to allow for river restoration with a seasonable barrier. Project was based on historic fish rearing station with numerous site structures associated with historic infrastructure. Project included development of alternatives and coordination with team partners consisting of conservation groups, state and federal environmental regulators, and local participants involved in future planning of area of river restoration.

Lead Geotechnical Engineer, Michigan Department of Natural Resources, Allegan City Dam Removal, Allegan, Michigan.

Lead geotechnical engineer for phased removal of dam and river restoration. Project involved installation of multiple cofferdams installed to utilize existing dam components integrated into the cofferdam during removal of portions of the dam. Performed follow-on geotechnical investigation to provide recommendations for upstream streambank stabilization of existing retaining wall next to manufacturing facility for post-drawdown scour condition.

Project Manager, Michigan Department of Natural Resources, Trowbridge Dam Removal Phase 1A, Allegan County Michigan.

Responsible for developing

multi-year phased dam removal concurrently with cleanup activities on PCB contaminated Superfund section of Kalamazoo river. Served as project manager for multi-year phased removal engineering design, permitting, and construction contracting/contract administration, and construction oversight for Phase 1A of the removal.

Project Manager, Project Geotechnical Engineer, and Project Dam Safety Engineer, Michigan Department of Environment, Great Lakes & Energy, Edenville Dam Tobacco River Spillway Emergency Repairs, Geotechnical Engineer, Gladwin County Michigan.

Project geotechnical engineer for emergency embankment stabilization design for failed dam. Following failure in Spring of 2020, emergency repairs were needed to existing spillway and damaged embankment to restore flows prior to 2021 spring runoff. Coordinated geotechnical field and laboratory testing program and geotechnical design for embankment and spillway structure to reroute flows from Tittabawassee River to Tobacco River as part of emergency stabilization.

Geotechnical Engineer, Brown Bridge Dam Removal, Root Cause Analysis, Traverse City, Michigan.

Geotechnical engineer responsible for field evaluation of conditions leading to failure of temporary diversion system during removal of decommissioned dam. Responsible for engineering seepage analysis for root cause analysis.

Jason Plum, PE

Dam Removal Lead

Education BS Mechanical Engineering, Michigan Tech University	Years of Experience 24	Areas of Expertise Dam Removal River Restoration Construction Management Grant Funding Permit Coordination
	Certifications/Registrations Professional Engineer, MI #6201051447 EGLE SESC Comprehensive Certificate #SE/C 02158 EGLE Stormwater Management - Construction Site Certificate #C-18887	

Jason has 24 years of professional experience with significant civil and municipal engineering projects, focusing on civil site design and construction management. He has been a lead project engineer for multiple large dam removals and significant river restoration projects in northern Michigan. He has experience with structure demolition, dewatering and sediment control and overall site grading and restoration, as well as permitting and coordination experience with owners, contractors and other project partners, funding sources and permitting agencies. Jason has worked with the USACE, Great Lakes Fisheries Commission and many local watershed agencies, municipalities, and private entities.

Relevant Project Experience

Stability Monitoring Coordination, Great Lakes Fishery Commission, FishPass – Union Street Dam Modification, Traverse City, Michigan. AECOM is working with the Great Lakes Fishery Commission, in partnership with US Army Corp of Engineers and the City of Traverse City, to develop an experimental fish passage facility at the site of the Union Street Dam in downtown Traverse City. Design of this facility includes a new dam with an arced labyrinth weir for improved hydraulics, a naturalized bypass channel, a 400 feet long experimental fish passage channel with fish sorting chambers and headworks, gantry crane, pedestrian bridge, research building, and park improvements. Professional services include development of construction contract documents, cost estimating, public engagement and environmental permitting. Jason's role has been in civil site design, coordination of specialties and equipment integration, stormwater control and permitting and engineering representation to the public. In the interim period prior to the start of construction, Jason is coordinating the stability monitoring efforts on the existing structure prior to its removal.

Civil Site Designer/Constructability, City of Davisburg, Mill Pond Dam, Davisburg, Michigan. AECOM was contracted to provide a conceptual alternatives analysis and public outreach support for the rehabilitation or removal of the dam. Upon alternative selection by the client, AECOM has been retained to move the selected alternative through final design. Jason is coordinating the civil site design, culvert replacement, dewatering sequencing, and site restoration coordination as well as evaluating overall constructability.

Civil Designer and Reviewer, US Army Corps of Engineers, Soo Locks Offsite Generation Project, Sault Sainte Marie, Michigan. Jason was lead civil designer and civil reviewer for an Offsite Generation and Duct Bank project design at the US Army Corps of Engineers Soo Locks Facility located in Sault Sainte Marie, MI. His duties for this project included coordination of disciplines, coordination with the owner and general civil site design for the project. The project also included selective demolition of existing equipment and sequencing for changeover with a critical part of national shipping infrastructure.

Grand Traverse County, Boardman River Phase II Final Design, Traverse City, Michigan. AECOM was awarded the contract to provide comprehensive engineering and scientific expertise in the development of dam removal and river restoration design for Boardman and Sabin Dams. The project consists of dam breaching design, river restoration design, sediment management, bridge and roadway design, wetland assessment and mitigation design, geotechnical analysis, hydrologic and hydraulic analyses, sediment transport analysis, and environmental permitting. Jason was involved intricately with monitoring dewatering, demolition and restoration activities for both structure removals and impoundment restorations, following projects all the way through to closeout with permitting and funding agencies.

Dan Broekhuizen, PE

Structural Engineering Lead

Education

MS, Structural Engineering, Texas University

BS, Engineering, Calvin College

Years of Experience

36

Certifications/Registrations

Professional Engineer: MI, # 6201048568E9; TX

Areas of Expertise

Dam Removal
Structural Engineering

Dan is experienced in the analysis and design of structures constructed from many different materials, including structural steel, reinforced concrete, prestressed concrete, and timber. His experience also includes the design of variable message sign supports and foundations and bridge load rating. In addition to his work on transportation project over the last 20 years, Dan has also worked on a number of dam removal projects. His work has included evaluation of existing dams, review of existing plans, developing cost estimates, writing specifications, and designing and detailing any structural components for various jobs, including a sheet-piling and wooden stop-log structure as part of the Otsego Township project. He performs quality reviews and is intimately familiar with plan and specification preparation in multiple formats.

Relevant Project Experience

Traverse City, Cass Road over Boardman River, Lead Bridge Engineer, Traverse City, MI. Lead Bridge Engineer full engineering services including: bridge design, road design, traffic engineering, geotechnical engineering, hydraulics, and surveying. This bridge replacement project is part of the Boardman River restoration and dam removal project which AECOM is also performing.

Michigan Department of Environment, Great Lake, and Energy (EGLE), Marion Dam Removal and Stream Restoration Design, Lead Structural Engineer, Marion, MI. Lead Structural Engineer for the conceptual and feasibility level design for the ecological restoration of the Middle Branch River. Dan led the portion of the project that evaluated the current Marion Pond Dam from a structural standpoint, including developing costs for ongoing structural maintenance if the dam was left in place and construction costs if the dam was removed.

City of Novi, Meadowbrook Lake Dam Engineering and Feasibility Study, Lead Structural Engineer, Novi, MI. Lead Structural Engineer for a project related to structural modifications to a City of Novi dam. AECOM completed a structural and geotechnical analysis of the concrete and earthen portions of the dam. Dan performed all structural calculations and detailing for any modifications to the existing dam.

Ostego City, Otsego City Dam Removal, Lead Structural Engineer, Otsego, MI. Lead Structural Engineer for engineering and design for dam removal and stream restoration at the large Otsego City Dam on the Kalamazoo River. The project included structural analysis and design of a steel sheet pile combi-wall system water control structure, maintenance walkway, and stop log structure as well as an evaluation of the existing dam and meeting with contractors to determine the most efficient way to remove the existing dam.

Michigan Department of Environment, Great Lake, and Energy (EGLE), Alcott Dam Removal, Lead Structural Engineer, Kalamazoo, MI. Lead Structural Engineer for dam removal and stream restoration design for the Alcott Dam on Portage Creek in Kalamazoo, MI. Dan developed options for removal of the dam, investigated the ramifications of the removal on the adjacent Alcott Street Bridge, and evaluated the condition of the existing retaining walls. The goal of the project was to remove the dam and provide fish passage for all species and year classes present. The dam was on a former paper mill impoundment.

Michael Shore, CFM

H&H QA/QC

Education

BS, Hydrogeology, Ohio University

Years of Experience

38

Areas of Expertise

Dam Removal
Hydrology & Hydraulics

Certifications/Registrations

CFM/National/# US-04-01181

Michael is located in Cleveland, Ohio and is the Deputy Project Manager for the Michigan-Ohio Dams Practice. He performs and reviews hydrologic calculations and assists engineers with all aspects of hydrologic/hydraulics and civil design. He also uses computer modeling to design civil projects, perform quantity calculations, and create permit drawings. He is highly knowledgeable in all aspects of hydrology, hydraulics, surveying, and civil design. He has worked with multiple hydrologic/hydraulic, geographical information, and digital mapping systems. Proficiency in programs include HEC-RAS, HEC-HMS, HydroCAD, AutoCAD/Map/Civil-3D, and ArcInfo/ArcMap.

Relevant Project Experience

Lead Verifier, Washtenaw County, Peninsular Paper Dam Removal, Washtenaw County, Michigan:

Responsible for reviewing the phased design to dewater the Huron River impoundment to remove the former hydroelectric powerhouse and the Peninsular Paper Dam structure. The phased demolition of the dam was designed with final restoration grades and rock sizes considered. Reviewed design flow conditions using spreadsheets and HEC-RAS v6.2. Reviewed phased dam removal construction drawings and those for the final channel configuration.

Design Lead, Washtenaw County, Tyler Beyer Dam Removal, Ypsilanti, Michigan:

Responsible for the hydrologic/hydraulic analysis for river/floodplain restoration, and removal of a former hydroelectric generating station and dam and a water storage dam. Design included removal of the remnant power station foundation and both dam spillways. River restoration included floodplain storage benches, and restoring wetlands. Improvements included bio-erosion bank protection techniques and live plantings, and reforesting floodplain areas. Determined downstream flooding depths, velocities, and floodplain bench locations using a 1D HEC-RAS model. Used Autodesk Civil 3D to develop construction drawings and calculate design volumes. Developed 30% design drawings. Developed preliminary costs for the dams removal, river restoration, and construction.

Design Lead, City of Allegan, Allegan City Dam Removal, Allegan, Michigan:

Responsible for the phased design to dewater the Kalamazoo River channel to remove the former hydroelectric powerhouse and the Allegan Dam structure. The phased demolition of the dam was designed with final restoration grades and rock sizes considered. The removal of the dam included 8,000 tons of debris material removed and 3,000 cubic yards of rock to protect the excavation areas and to stabilize the former dam reach. Determined design flow conditions using spreadsheets and HEC-RAS v6.2. Developed

phased dam removal construction drawings and those for the final channel configuration using Autodesk Civil 3D.

Senior Hydrologist, Grand Traverse County, Boardman City Dam Removal, Traverse City, Michigan:

Responsible for the hydrologic/hydraulic analysis and design of an auxiliary spillway and siphon system outlet protection to assist in the removal of a small, rural dam. Design included incrementally removing the existing primary spillway and powerhouse. Outlet erosion protection included a riprap stilling basin and tailwater control berm. Determined downstream flooding conditions using HEC-RAS. Used Autodesk Civil 3D to layout spillway design and develop permit and construction drawings. Calculated design volumes and costs for the auxiliary spillway and basin.

Design Lead, City of Lynchburg, College Lake Dam Removal, Lynchburg, Virginia:

Responsible for the design of an energy dissipating basin for a dewatering system to for College Lake. The riprap basin needed to be designed with final restoration grades and rock sizes considered for the restored Blackwater Creek channel. The rock basin design included 3,000 cubic yards of material to form a rock pool and letdown that fit within a new bridge adjacent to the energy dissipater basin. Determined design flow conditions using spreadsheets and HEC-RAS v6.2. Used Autodesk Civil 3D to layout basin and letdown channel design and develop permit and construction drawings. Calculated volumes and costs for the energy dissipater basin.

Seth Gentzler, PE (CA)

Dam Removal QA/QC

Education	Years of Experience	Areas of Expertise
MS, Environmental Engineering, Georgia Institute of Technology	27	Project Management Dam Removal Sediment Management Habitat Restoration Engineering Hydrology and Hydraulics Hydrodynamic Modeling Stormwater and Nonpoint Source Control Water Resources
BS, Civil Engineering, Bucknell University	Certifications/Registrations Professional Engineer, California, C62765)	

Seth is an industry leader in dam removal, sediment management and river and wetland restoration, managing four of the largest dam removal projects in the United States over the past decade. Seth is a Senior Engineer and Vice President, as well as the West Coast Practice Lead for the Hydrology and Hydraulics practice. He has more than 27 years of experience in the field of civil and environmental engineering. Seth is considered a leader in the dam removal industry, managing the technical and environmental compliance work for the four largest dam removal projects in the United States. His specific technical expertise includes dam removal, sediment management, river and wetland restoration design and construction, river and inter-tidal system hydrodynamic modelling, probable maximum flood studies, dam break modelling, levee and bay trail design, and water resource planning.

Relevant Project Experience

Design Manager, Ventura County Watershed Management District, Matilija Dam Removal, Sediment Transport, and Robles Diversion Mitigation Study, Ventura County, California. This project includes removal of the 168-foot-high, 620-foot-long concrete arch Matilija Dam in the Ventura River watershed and restoration of the former reservoir. Key activities include geotechnical investigation, development of diversion mitigation alternatives and evaluation, sediment transport modeling of the alternatives, development of design plans and cost estimates for the selected dam removal concept (through 65%), real estate planning and coordination with DSOD.

Project Manager/Engineer, Sonoma Water, Central Sonoma Watershed Plan, Sonoma County, California. The AECOM team was selected to complete a geotechnical investigation, hydrologic and hydraulic modeling, accumulated sediment evaluation, existing biological/cultural resource data collection, alternatives development and evaluation, long-term economic analysis, and environmental assessment for improving the flood protection for the Santa Rosa Creek Watershed, which includes four flood control dams, two large creek diversion structures, and two large bypass box culverts.

Project Manager, Santa Clara County Parks, Hacienda Deep Gulch Creek Restoration Project, Santa Clara County, California. The AECOM team was selected complete baseline conditions assessments, alternatives analysis, detailed design,

permitting and regulatory compliance, bid support, and construction management for restoration of several calcine sites along Alamitos Creek and Deep Gulch in the Almaden Quicksilver County Park.

Project Manager/Engineer, Klamath River Renewal Corporation, Klamath Dam Removal Project, Siskiyou County, California and Klamath County, Oregon. AECOM was selected to provide management, engineering, dam decommissioning plan development, environmental and permitting services for the US\$450 million dam removal project. The project includes decommissioning and removal of the Iron Gate Dam, Copco No. 1 Dam and Copco No. 2 Dam in Siskiyou County, California, and the J.C. Boyle Dam in Klamath County, Oregon. Subsequent site remediation and restoration, as well as measures to minimize adverse downstream impacts, will help boost species populations by an estimated 80 percent.

Project Manager/Engineer, National Resource Conservation Service (NRCS), USDA, Matanzas Creek Dam Rehabilitation Study, Sonoma County, California. The AECOM team was selected to complete a geotechnical investigation, hydrologic and hydraulic modeling, accumulated sediment evaluation, existing biological/cultural resource data collection, alternatives development and evaluation, long-term economic analysis, and environmental assessment for improving the Matanzas Creek Dam to meet current NRCS and California Department of Dam Safety requirements.

Bill Leopold

Stream/Wetland Delineations, Threatened & Endangered Species

Education

MS, Marine Science, CSU- Stanislaus
BS, Biology, Eastern Kentucky University

Years of Experience

Total: 19

Areas of Expertise

Wetland Delineation
Stream Assessment
Threatened & Endangered Species Habitat Assessment
404/401 Permitting

An ecologist and environmental scientist with more than 15 years of experience in ecological field assessments, responsible for conducting ecological base studies, preparation of environmental documentation and state/federal aquatic resource permitting. Serves as an investigator in the areas of terrestrial and aquatic species studies, wetland determination and delineation, stream and water quality studies and endangered species habitat surveys. Task manager for projects throughout the Midwest.

Relevant Project Experience

Task Lead, Kentucky Utilities, Middlesboro-Harrogate Pole Replacement Project, Bell County, KY/Claiborne County, TN/Lee County, VA. Task lead responsible conducting threatened and endangered species habitat assessments (3 bat species, Eastern Fringeless Orchid) and wetland and stream delineation, while coordinating with Client and National Park Service on archaeological surveys and NEPA requirements through Cumberland Gap National Historical Park.

Environmental Scientist, Ballville Dam Removal Project: Eastern Prairie Fringed Orchid (*Platanthera leucophaea*) Survey, Sandusky County, OH. Assist USFWS biologists performing field surveys for presence of individuals and/or suitable habitat in support of Section 7 (Endangered Species Act) coordination and NEPA documentation. Project involved identification of individuals within a known population and survey of eight project areas.

Senior Ecologist, Multi-Agency Law Enforcement Training Academy Comprehensive Wetland Evaluation, Davidson County, TN. Task lead responsible for sampling plan development, field survey and reporting on 170-acre wetland complex in Cumberland River floodplain, in support of USACE 404 and Tennessee 401 permitting and mitigation at an institutional development site.

Senior Ecologist, Newark Dam Stabilization, Licking County, OH. Field lead responsible for stream and wetland delineation and assessment, habitat assessment, mussel reconnaissance survey on Group 1 stream, GIS data quality assessment and quality control (QA/QC), and ecological report preparation in support of anticipated waterway permitting.

Senior Ecologist, Tyler Dam Removal Project, Washtenaw County, MI. Task lead responsible for

wetland delineation and assessment, rare/threatened/endangered species habitat assessments and ecological report preparation to be utilized for waterway and construction permitting for the removal of two reservoir dams.

Senior Ecologist, Duke Gallagher Generating Station Demolition, Floyd County, IN. Responsible for performing stream, wetland and habitat assessments and USACE Section 10/404 permit preparation in support of coal-fired power plant closure and demolition on the Ohio River.

Environmental Scientist, Portsmouth Gaseous Diffusion Plant (PORTS), Pike County, OH. Task lead responsible for ecological field surveys (stream and wetland delineation and assessment) covering over 2,500 acres. Primary author of Wetland and Stream Assessment Report and assistant on Wetland Technical Memorandum and mitigation concepts.

Ecologist, Crescent Wind Energy Center, Hillsdale County, MI. Field lead responsible for stream and wetland delineation and assessment, habitat assessments, GIS data quality assessment and quality control (QA/QC), MDEQ permit and agency coordination support. Project included access drives and collection line runs for a 70-wind turbine generator farm development.

Ecologist, Polaris Wind Energy Center, Gratiot County, MI. Responsible field lead for stream and wetland delineation and assessment, habitat assessments, GIS data quality assessment and quality control (QA/QC), MDEQ permit and agency coordination support. Project included access drives and collection line runs for 75 wind turbine generator farm development.

Christopher Leary

State Historic Preservation Office

Education	Years of Experience	Training	Areas of Expertise
BA, History, Arizona State University BS Studies, Anthropology, State University of New York	Total: 30	Section 106 Review, Sponsored by the Advisory Council on Historic Preservation Federal Energy Regulatory Commission Environmental Review and Compliance	Project Management Prehistoric Archaeology Historic Archaeology Project Management Section 106 Permitting and Agency Consultation Tribal Coordination NEPA

Chris is Deputy Director for the Cultural Resources Practice in the West Region, and Manager of the of the cultural resources group in AECOM's Cincinnati office. He manages largescale field operations and the preparation of lengthy volumes of results. Chris has overseen Phase I and Phase II field investigations for a wide variety of different projects. He has assisted with many aspects of cultural resource work, including data recovery, archival research, artifact analysis, and construction monitoring, and has authored or co-authored numerous reports over the past 20 years. He has experience in many states across the eastern U.S., with special emphasis on multistate pipeline and energy (solar and electric) projects in Ohio, Indiana, Kentucky, Illinois, Michigan, West Virginia, Tennessee, Alabama, and Pennsylvania.

Relevant Project Experience

Boardman River Dams Disposition Study, Traverse City, MI. The AECOM team (including Inter-Fluve) provided comprehensive engineering and scientific expertise, as well as public outreach support, which was billed as the largest dam removal project in Michigan's history. Mr. Leary served as the senior technical lead for the cultural resources support on the project.

Ridgely Solar Farm Phase I Archaeological Survey and Agency Consultations, Lake County, TN. Managed the Phase I archaeological survey and agency consultations for a new 2000+ acre solar farm facility in northwestern Tennessee. The project involves Phase I archaeological field reconnaissance and architectural history survey, consultation with multiple state and federal agencies, National Register assessment of identified resources and tribal coordination.

Census NEPA/NHPA Compliance, US General Services Administration, Jeffersonville, IN.
Provided NEPA/NHPA compliance services.

Muscle Shoals Solar Farm Project, Desktop Red-Flag Study, First Solar Development, AL Managed the data collection and analysis for the Muscle Shoals Solar Farm. Project involves the assembly and analysis of archival data, development of red-flag analysis of potential cultural resources, mapping of likely consultation paths for the solar farm project.

Phase I Archaeological Survey and Agency Consultations, Prairie State Solar Farm Project, Ranger Power, Perry County, IL. Managed the Phase I archaeological survey and agency consultations for a new 600+ acre solar farm facility in southern Illinois. The project involved Phase I archaeological field reconnaissance and architectural history survey, consultation with multiple state and federal agencies, National Register assessment of identified resources and tribal coordination.

Phase I Archaeological Survey and Agency Consultations Dressor Plains Solar Farm Project, Ranger Power Fayette County, IL. Managed the Phase I archaeological survey and agency consultations for a new 700+ acre solar farm facility in southern Illinois. The project involved Phase I archaeological field reconnaissance and architectural history survey, consultation with multiple state and federal agencies, National Register assessment of identified resources and tribal coordination.

Phase I Archaeological Survey and Agency Consultations Solar Farm Project, Confidential Client, KY. Managed the Phase I archaeological survey and agency consultations for a new 1,500+ acre solar farm facility in Kentucky. The project involves Phase I archaeological field reconnaissance and architectural history survey, consultation with multiple state and federal agencies, National Register assessment of identified resources and tribal coordination.

Jonathan O'Brock, PE (MTC)

Geotechnical Subsurface Exploration

Education

B.S. Engineering, Civil and Environmental Concentration, Calvin College, 2008

Years of Experience

16

Certifications/Registrations

Professional Engineer: MI, #6201059964
29 CFR 1910.120 40-hour Hazardous Waste Training
MDOT Bituminous Paving Operations, QC/QA Technician and Mix Design Certified

Areas of Expertise

Geotechnical Engineering
Soil Test Drilling
In situ sampling and testing
Geotechnical Laboratory Testing

Mr. O'Brock has experience in geotechnical services and laboratory testing. Responsibilities include overseeing the field direction of soil sampling programs and site characterization studies, preparation of geotechnical reports with bearing capacity, settlement, and other calculations. Mr. O'Brock also has experience with for monitoring of geotechnical construction activities such as augercast pile installation and compaction grouting. Mr. O'Brock has managed MDOT Grand and Southwest Region Annual Geotechnical Contracts. His responsibilities included field coordination of traffic control, permits, coring/logging of borings, sample collection, pavement thickness and condition as needed for various MDOT projects such as pavement replacement/rehabilitation, strain pole foundations and bridge projects.

Relevant Project Experience

Geotechnical Project Manager, City of Allegan, Allegan City Dam Removal, Allegan, Michigan. Mr. O'Brock served as the geotechnical project manager for MTC as a subcontractor to AECOM. As part of this project, Mr. O'Brock managed all aspects of the geotechnical field and laboratory investigation including coordination of the drilling subcontractor, management of field geotechnical personnel, assignment and review of laboratory testing and preparation of a geotechnical data report.

Geotechnical Project Manager, AECOM/Michigan Department of Transportation, I-94 from Puetz Rd to Britain Ave, St Joseph, Michigan. Mr. O'Brock served as project manager for this complex geotechnical study including replacement of several bridges, culverts, and other roadway improvements. The work required complex traffic control in coordination with MDOT and various local agencies with responsibility for coordination with traffic control vendors, drilling crews and field geotechnical representatives falling under Mr. O'Brock's management.

Geotechnical Project Manager, East Lansing/Tetra Tech, East Lansing WRRF Various Upgrades, East Lansing, Michigan. Mr. O'Brock served as project manager for this complex geotechnical study including various upgrades to site piping and below grade tanks at an existing wastewater treatment plant. The project included deep foundations consisting of augercast piles as well as dewatering and earth retention to protect nearby critical infrastructure.

Geotechnical Project Manager, Fishbeck, Gun Lake Tribe Water Plant and Infrastructure, Bradley, Michigan. Mr. O'Brock served as project manager for this complex geotechnical study including construction of a new drinking water treatment plant and elevated storage tank. The project included ground improvement consisting of aggregate piers as well as dewatering to install structures below the water table.

Geotechnical Project Manager, Fishbeck/Caledonia, Caledonia WWTP Expansion, Caledonia, Michigan. Mr. O'Brock served as project manager for this complex geotechnical study including various upgrades to the existing water treatment, most notably, a large tank to be constructed into a slope with retained water at the crest. The project included slope stability and settlement analysis in addition to various geotechnical laboratory testing and reporting.

Geotechnical Project Manager, MSU, MSU Service Road Utilities, East Lansing, Michigan. Mr. O'Brock served as project manager for this project which consisted of improvements to various utilities along Service Road on the campus of Michigan State University. Most notably, the project included a trenchless crossing of the Canadian National Railroad. The project included various analyses including earth retention and dewatering. During construction, Mr. O'Brock managed a complex monitoring operation including survey observation of the ground surface and rails and geotechnical inspection of the crossing. Inspection work was completed in a continuous operation during the trenchless installation.

JEFFREY V. BRADFORD, P.S.

REGIONAL MANAGER - BENTON HARBOR SURVEY

Mr. Bradford has more than 35 years of surveying experience. Jeff oversees projects from field to finish including construction layout for road, bridge and associated ramp and earthwork design, ALTA NSPS Land Title Surveys, land development surveys, topographical surveys, boundary surveys and Public Land Survey System (PLSS) land corner remonumentation. Mr. Bradford oversees the day to day operations for both the field and office work performed by the Benton Harbor Survey team. Some of his responsibilities are: client contact, estimating, survey research, calculations, drafting (CAD), legal descriptions and billing.



Expertise

- Road Design Surveys
- Subdivision Plats
- Boundary Surveys
- ALTA Surveys
- P.A. 132 Surveys
- Topographic Surveys
- Construction Staking

Professional Registrations

- Professional Surveyor
Michigan #44290

Professional Registrations

- Michigan Society of
Professional Surveyors

Professional Positions

- Wightman
1986 - Present

Education

- B.S. Surveying Engineering
Ferris State University 1993

Project Experience

- **St. Joseph Technology Center, Whirlpool Corporation, St. Joseph, MI**
Survey Project Manager that performed ATLA/NSPS Land Title Surveys of Whirlpool's St. Joseph Technology Center located at 387 and 303 Upton Drive, St. Joseph, MI.
- **Kindercare Education LLC, Benton Harbor, MI**
Performed topographical survey on property located at Whirlpool's corporate offices, 2000 M-63, Benton Harbor, for a childcare facility.
- **Four Winds Casino, Various Locations in Michigan and Indiana**
Regional survey manager in charge of initial surveying, topographical surveying, construction layout, and additional duties at Four Winds casino locations in Dowagiac, Hartford, and New Buffalo, Michigan as well as South Bend, Indiana.
- **Harbor Shores Development, St. Joseph & Benton Harbor, MI**
Survey Project Manager responsible for ALTA NSPS Land Title Surveys for a golf course and housing development through Evergreen Development with significant input by Whirlpool Corporation.
- **US-12/Old M-205/Five Points Road Intersection, Cass County, MI
MDOT Project 14041-125133**
Survey Manager in charge of 0.38 of a mile of concrete intersection improvements and construction of roundabout, drainage improvements, traffic signal removal, signing, lighting and landscaping. Staking items included drainage structures, slope staking for ditching activities, roadway curb and gutter and asphalt locations, detour route, permanent and temporary signage and quantity calculations.
- **Commercial/Division Street Project, Dowagiac, MI-** Survey Project Manager of award-winning project which included a road diet that reduced the design speed by widening sidewalks, changing street paving materials with asphalt, brick, and concrete, incorporating on-street parking, providing streetscape elements such as landscaping and lighting, and creating new pedestrian resources like benches, parks, and artwork.
- **Main Street (BL-I94) Reconstruction, Benton Harbor, MI,
MDOT Project 11013-86206**
Survey Project Manager in charge of calculations and coordination of layout of hot mix asphalt, roundabouts, concrete curb and gutter, storm, sanitary, watermain, electric, traffic signal polls, hand holes, sidewalk ADA ramps and retention walls for 1.78 miles of roadway on I-94 BL (Main Street) from River Street to M-139 (North Fair Avenue) in Benton
- **Interstate Highway 94 - MDOT Project 11015-202013**
Survey Manager in charge of 6.98 miles of hot mix asphalt cold milling and resurfacing and pavement markings on I-94 from south of Three Oaks Road to Red Arrow Highway, Berrien County. Staking included yield stakes for paving operations, detour routes, temporary and permanent signage and quantity calculations.

MIKE FREEMAN

PROJECT SURVEYOR

One of the things Mike likes most about his job as a land surveyor associate at Wightman is being able to solve clients' survey related challenges. Joining the company in 2016 as a survey crew chief, he now uses his nearly 20 years of related experience to plan and implement the day-to-day activities around setting up crews and managing a variety of project, including calculations, research, and drafting for boundary surveys. Mike also handles the setup of construction staking projects and cost estimating for a wide range of projects. His areas of expertise include boundary, topographical, and ALTA/ACSM surveys, construction staking, Civil 3D, and various survey related technologies.



Expertise

- Boundary surveys
- Topographical surveys
- ALTA/ACSM surveys
- Construction staking

Professional Training

- OSHA 10-Hour Certification
- AEP Safety Certified

Professional Affiliations

- Pokagon Volunteer Fire Department
- Pokagon Township Zoning Board of Appeals

Professional Positions

- Wightman.
2016 - Present

Project Experience

Albion Dams Removal Project, Albion MI

Survey Lead for the feasibility study and now design for the removal of five dams on the Kalamazoo River. The City of Albion is located on the confluence of the South and North branches of the Kalamazoo River with three dams on the North Branch and two on the South Branch. Flow will be maintained in the original channel and the mill race of the North Branch. Wightman has teamed with Inter-Fluve to design the removal of the structures, restore aquatic animal passage, manage sediment removal, and improve floodplain connectivity and conveyance. \$1,250,000.00 in grant funding was secured from EGLE Dam Risk Management and Great Lakes Fishery Trust for design phase.

Pucker Dam Removal and Dowagiac River Restoration Project, Niles Charter Township, MI

Survey Lead for the design and construction of the removal of the 1928 38-foot high concrete dam in Niles Charter Township. Included in this work was creation of 71 easements for construction access along the river, 5 road access easements, right-of-way determination, cross sections of the river, topography, construction staking, high definition laser scan of the original 1828 dam, and collection of as-built information. The total project reach is 6,300 ft upstream of the dam to 800 feet downstream.

Jefferson Street Road Improvement, Dowagiac, MI

Construction staking project manager for 1.3 miles of roadway improvements with the City of Dowagiac and Cass County Road Commission through MDOT's LAP program. This project included 1 mile of mill and fill of the existing roadway and 0.3 miles of HMA Crushing and Shaping between existing curb and gutter, and upgrades to ADA ramps with a new stretch of sidewalk.

Sink Road Bridge, Pokagon Band of Potawatomi Indians and Cass County Road Commission, Cass County, MI

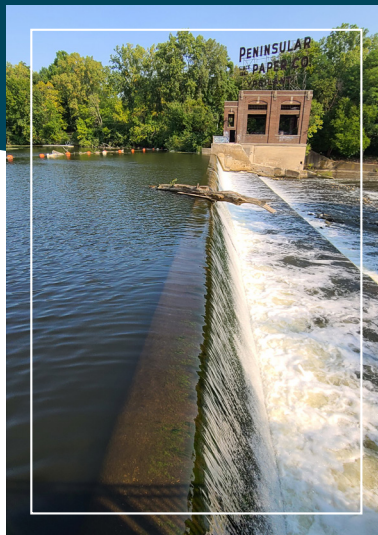
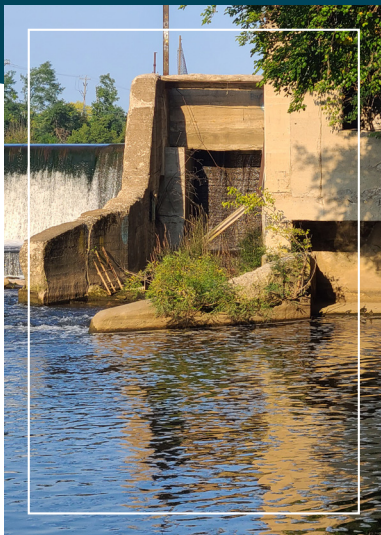
Construction staking project manager to remove existing structurally deficient structure and replace with an 80 ft span side by side concrete box beam bridge. The total road project length with related approaches was 583 ft. Road realignment required relocating MDNR canoe ramp from east bank to a new location that included safety improvements of a parking lot for 10 vehicles, restroom facilities, and ADA access to ramp.

Indiana Michigan River Valley Trail Phases II

Project Manager for construction staking for Phase II of the Niles Charter Township section of the project. Project included shared-use trail constructed from the Brandywine Creek Nature Park (just north of US-12) and continues north to the intersection of Fort and 3rd Streets. This project included up to 1.2 miles of trails from the state line to the existing City of Niles trail with additional spurs and possible alternate routes. The project also included an 80-foot prefabricated COR-10 bridge and 50-feet of elevated boardwalk.

Proposal for Removal Design of Peninsular Paper Dam and the Retention of Technical Assistance Through Construction Activities

Prepared for: City of Ypsilanti | Prepared by: GEI Consultants of Michigan, P.C.
September 16, 2024



September 16, 2024



Katie Jones
City of Ypsilanti City Hall
1 South Huron Street
Ypsilanti, MI 48197
734.483.1100

Submitted via email to: kjones@cityofypsilanti.com

Re: Request for Proposals for the Removal Design of Peninsular Paper Dam and the Retention of Technical Assistance Through Construction Activities, Huron River, Ypsilanti, Michigan

Dear Katie and members of the Evaluation Committee:

The removal of Pen Dam and restoration of the impacted stretch of the Huron River offers a unique restoration opportunity in the Huron River watershed. This will improve mussel, macroinvertebrate, and fish habitat and access in this reach, while also resulting in better fishing, boating and human access. The riverine, wetland, and upland habitat that will be revitalized will enhance the experience of river and park users while also removing a liability associated with ownership of a high hazard dam.

The team included for this project is highly qualified and we look forward to demonstrating this to you throughout our proposal. The selected key staff have outstanding experience across the State of Michigan for the design and permitting of dam removal projects. We have intentionally selected our teaming partners, LimnoTech and OHM Advisors (OHM), for their local knowledge, past project involvement, and expertise in their respective fields.

This team has worked together on other similar projects and has excelled in balancing construction costs with the available funds, and navigating challenging circumstances, such as sediment management, with practical solutions that may minimize construction costs or timely delays during regulatory review.

The GEI team is designed to help you achieve this project's goal and has successfully completed dam removal and ecological restoration projects across the state. Examples of our previous work include the Stony Creek Dam Removal and Corunna Dam Removal projects. We provide the City with an integrated technical team with dam removal, ecological restoration, permitting, and construction experience. We will collaborate with you during all phases of this project to realize your vision for the removal of Pen Dam and restoration of this stretch of the Huron River using our technical capabilities and past project experience. Our team offers the following value:

- » **AN INTEGRATED, COMPREHENSIVE TEAM.** An ecological restoration project involving dam removal requires in-depth understanding of several technical disciplines, meaning that a multifaceted team is of the utmost importance. GEI will lead dam removal, dam safety, sediment management, ecological restoration, and project management; LimnoTech will provide sediment sampling field investigations, permitting, public engagement, and construction monitoring plan support. OHM Advisors will oversee property boundary assessments/agreements and provide easement support. Combined, the GEI team has all the technical capabilities to complete this project and achieve the desired results.

- » **EXPERIENCED PROJECT MANAGEMENT.** Our project manager, **Janeen McDermott, P.E.**, has experience on over 25 local and regional dam removal projects. She has served as the project manager as well as a lead technical engineer and is familiar with the data collection needs, technical requirements, permitting, and pitfalls that can accompany dam removal and stream restoration projects. She is familiar with the background and history of the Pen Dam project as she was involved in portions of the first two phases prior to joining GEI. Janeen and our team are experienced with the technical and project management requirements for this project, allowing us to execute the project with the right level of oversight and involvement.
- » **A KNOWLEDGEABLE AND EXPERIENCED ECOSYSTEM RESTORATION AND DAM REMOVAL TEAM.** Collectively our team members have completed nearly 50 dam removal projects with about 15 going to construction (the rest being feasibility studies or are currently in progress). We are a specialized, highly qualified team with direct, relevant, and recent experience with dam removal, river restoration, permitting, and construction oversight. Janeen will be supported by a well-versed and holistic team, including:
- **Troy Naperala, P.E.**, has 26 years of experience and has worked on nearly 50 dam removal and stream restoration projects. His experience includes some of the most challenging dam removal projects in the Great Lakes region, such as the Gorge Dam, Doan Brook restoration, Boardman River dams, and Kalamazoo River dams, amongst others.
 - **Bradley Parlato, P.E.**, has over 25 years of experience designing and constructing engineering projects in riverine environments. He is uniquely experienced in reviewing design plans for constructability and has experience managing staff (contractors, engineers, inspectors, technicians) during construction projects.
 - **Dan DeVaun, P.E.**, has over 21 years of experience including design and construction of dam removal and stream restoration projects. He brings a unique perspective as a former regulator with the Michigan Environment, Great Lakes, and Energy (EGLE) Dam Safety Unit and can provide valuable insight into permitting considerations for these types of projects.
 - **Brian Majka, CERP**, has over 24 years of experience working on restoration projects, many related to dam removals and stream restoration. His experience includes restoration design on the Stony Creek dam removal and design and implementation on the Corunna and Shiatown dam removal projects. Brian leads ecological restoration projects and actively gives presentations on ecological restoration topics throughout the country.

The GEI team provides the technical skills and experience to support the City throughout the design, permitting, bidding, and construction of the project. We are excited to collaborate with you on this project that will remove Pen Dam and restore the affected stretch of the Huron River. Please contact Janeen or Brad with questions or if you require additional information during your review. We look forward to working with you.

Sincerely,

GEI Consultants of Michigan, P.C



Janeen McDermott, P.E.
Senior Water Resources Engineer/Project Manager
740.243.5403 | jmcdermott@geiconsultants.com



Bradley Parlato, P.E.
Vice President/Central Operations Manager
269.447.0677 | bparlato@geiconsultants.com

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Appendix A. Resumes



GEI's Republic Dam Removal and Fish Passage project is currently under construction. The project began in 2018 with initial planning and grant writing efforts for design alternatives to provide fish passage while still maintaining an impoundment for the community and recreational tourism. The selected design emulates a natural rapids and incorporates resting pools in between grade-controlling boulders to allow aquatic organisms to rest before or after swimming through the gaps in between each boulder. The unique design implementing a "sine-wave" configuration for boulder placement is the first of its kind in Michigan and was created by Dr. Luther Aadland to increase boulder stability and aquatic organisms passage on larger rivers.

1. GEI Team



GEI Consultants

Established in 1970, **GEI Consultants (GEI)**, is an employee-owned consulting

engineering and environmental firm with 56 offices located throughout the United States and Canada. Providing a wide range of engineering, ecological, environmental, water resources, and geotechnical consulting services, we are built on industry-leading expertise and collaborative teamwork of over 1,500 employees. At our core, we are a technical firm driven by sound engineering and ecological principles, thorough analysis, and the latest science; however, we never lose sight of the bigger picture and the impact our work has on natural and built environments and their inhabitants. When it comes to dam removal and ecosystem restoration, GEI draws from our diverse skills and collective experience working in a wide range of landscapes and river systems throughout the country, providing a robust, multidisciplinary approach.

GEI has worked on thousands of projects throughout North America, integrating our core disciplines of ecological design, environmental risk assessment, geotechnical, engineering, and water resources services in project settings such as rivers, streams, shorelines, parks, dams, and reservoirs. We bring a unique, interdisciplinary skillset to the City, including our team's local work in the Great Lakes region on innovative restoration designs for dam removal, stream channel reconstruction, and biotechnical shoreline stabilization. Our teams strive to craft creative solutions that implement the various components of natural channel design to improve recreation and enhance wetlands, aquatic habitat, fish passage, and reduce nutrients for rivers subject to the many demands of

competing users. With a strong presence in the Midwest of over 250 staff and a storied history of providing dam safety, dam removal, and ecosystem restoration services, our team brings forth all the skillsets necessary for successful dam removal projects.

With more than 250 staff working across 15 offices in the Midwest, including eight offices across the state of Michigan, GEI has a strong presence in the Great Lakes region.



Experience with Similar Projects

GEI is experienced in providing preliminary design reports and alternatives analyses, along with appropriate permitting, planning, design, and construction for dam removal and ecological restoration projects. Information about these projects that our selected team have worked on is included in *Section 3*:

- » Stony Creek Dam Removal and Creek Restoration
- » Corunna Dam Removal
- » Shiawassee River Dam (Shiatown) Removal
- » Flat Rock – Huroc Dam Removal Feasibility Study
- » Midland Dam Fish Passage
- » Kalamazoo River Remediation and Dam Removal
- » Republic Dam Removal and Fish Passage
- » Breedsville Dam Removal
- » Sabin Dam Removal
- » River Raisin Dam Assessment and Removal



GEI's River Raisin Dam Assessment and Removal project included complete river and biologic assessment along with design and construction engineering for the removal of two low head dams and mitigation of another seven dams in the lower River Raisin. Assessment work included river survey, hydrology, sediment characterization, and macroinvertebrate, fish, mussel and wetland/vegetation surveys.

Subconsultants

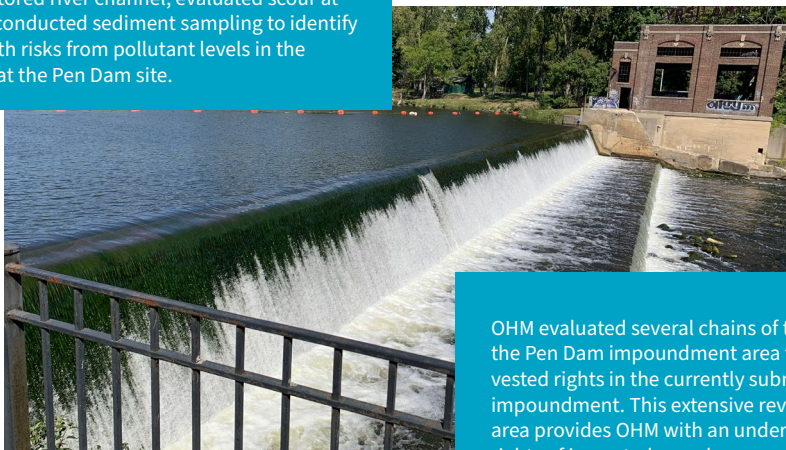
GEI has assembled a full-service team of experienced professionals to provide design services to the City and Steering Committee. We are pleased to partner with LimnoTech and OHM. Our teaming partners were selected based on their local presence, breadth of experience, past proven experience working with GEI, and experience working on previous phases of the Pen Dam Removal project.



LimnoTech has undertaken environmental projects of every size throughout the United States and internationally since its founding in 1975. Their firm of 80 water scientists, engineers, and support staff is headquartered in Ann Arbor, Michigan, with regional offices across the U.S. LimnoTech's field services are based at their office in Ann Arbor, Michigan, and can deploy throughout the Great Lakes region and beyond.

LimnoTech has a significant history of collaborating with engineers, landscape architects, and planners on major, multidisciplinary park and waterfront restoration projects, where they have repeatedly applied their scientific and engineering knowledge of water issues to support design, engage stakeholders, and help move projects from planning to implementation. They provide experience, ingenuity, information, and tools that support collaborative decision-making in design.

LimnoTech collected bathymetric and depth of refusal data to evaluate the quantity of sediment accumulation, developed a hydraulic model of the restored river channel, evaluated scour at existing bridge piers, and conducted sediment sampling to identify ecological and public health risks from pollutant levels in the impoundment sediments at the Pen Dam site.



With extensive experience in the design and implementation of field sampling programs, LimnoTech is equipped to meet the most demanding data collection requirements for safe and effective environmental investigations. Through careful planning, their goal is to eliminate future issues relating to the utility, validity, and defensibility of the data.



OHM is a team of nearly 750 people from different backgrounds working in 20 cities across Michigan, Ohio, Indiana, Pennsylvania, Kentucky, and Tennessee. They strive to use their combined expertise and talents to continually advance the communities we serve. Their work spans client communities across the public and private sectors, including municipalities, state and federal agencies, schools, universities, and more.

As a growing firm with full-service capabilities under one roof, OHM is listed on ENR's list of Top 500 Design Firms and recognized for their contributions to their industry. But it is not awards or personal gain that drives them. It is a passion for making a difference through innovative, people focused problem solving, design and ideas that drive whole communities forward today, and well into the future.

OHM evaluated several chains of title for select parcels surrounding the Pen Dam impoundment area to determine who may have vested rights in the currently submerged lands under the impoundment. This extensive review of the history of parcels in the area provides OHM with an understanding of riparian and property rights of impacted parcels.

2. Key Staff Qualifications

GEI Project Team Overview

GEI has assembled a strong, knowledgeable design team of engineers, scientists, ecologists, and grant funding specialists with the technical expertise required to design and engineer a practical and cost-effective design for the removal of Pen Dam and restoration of the Huron River. GEI is particularly well-suited for this project given our experience providing project management, hydraulics and hydrology, geotechnical, structural, ecological, and permitting expertise on over 50 previous dam removal projects. Members of our design team have substantial experience delivering designs on similar projects for other dam owners and have recent working relationships with the Huron River Watershed Council (HRWC), Washtenaw County Water Resources Commissioner (WCWRC), Michigan Department of Natural Resources (MDNR), and the United States Fish and Wildlife Service (USFWS).

The team we have built for the Pen Dam removal has sufficient capacity to make this project our priority while managing our other clients' deliverables and expectations

and can execute the proposed work within the proposed budget and schedule. Our Plymouth office is 15 miles from the project site and other key members are primarily located in other Michigan offices, we have the presence necessary to respond to the City's needs.

Our team understands the importance of maintaining a project delivery schedule and providing quality deliverables as promised. We are committed to you and to the success of this project and bring the resources and experience needed to produce high-quality deliverables on schedule and within established budgets.

Team Organizational Chart

Figure 1 on the following page depicts the GEI team structure and illustrates how we propose to work with the City and its' partners. Short biographical summaries follow the organizational chart, highlighting principal team members' expertise. Detailed resumes of our team are included in **Appendix A**. Our team's hourly rates and % of project work per staff member are detailed in the *Project Budget* section of this proposal.

MEET YOUR LEADERSHIP TEAM



TROY NAPARALA, P.E.
PRINCIPAL-IN-CHARGE

Troy has 26 years of experience and has worked on nearly 50 dam removal and stream restoration projects. His experience includes some of the most challenging dam removal projects in the Great Lakes region, such as the Gorge dam, Doan Brook restoration, Boardman River dams, and Kalamazoo River dams, amongst others.



JANEEN MCDERMOTT, P.E.
PROJECT MANAGER

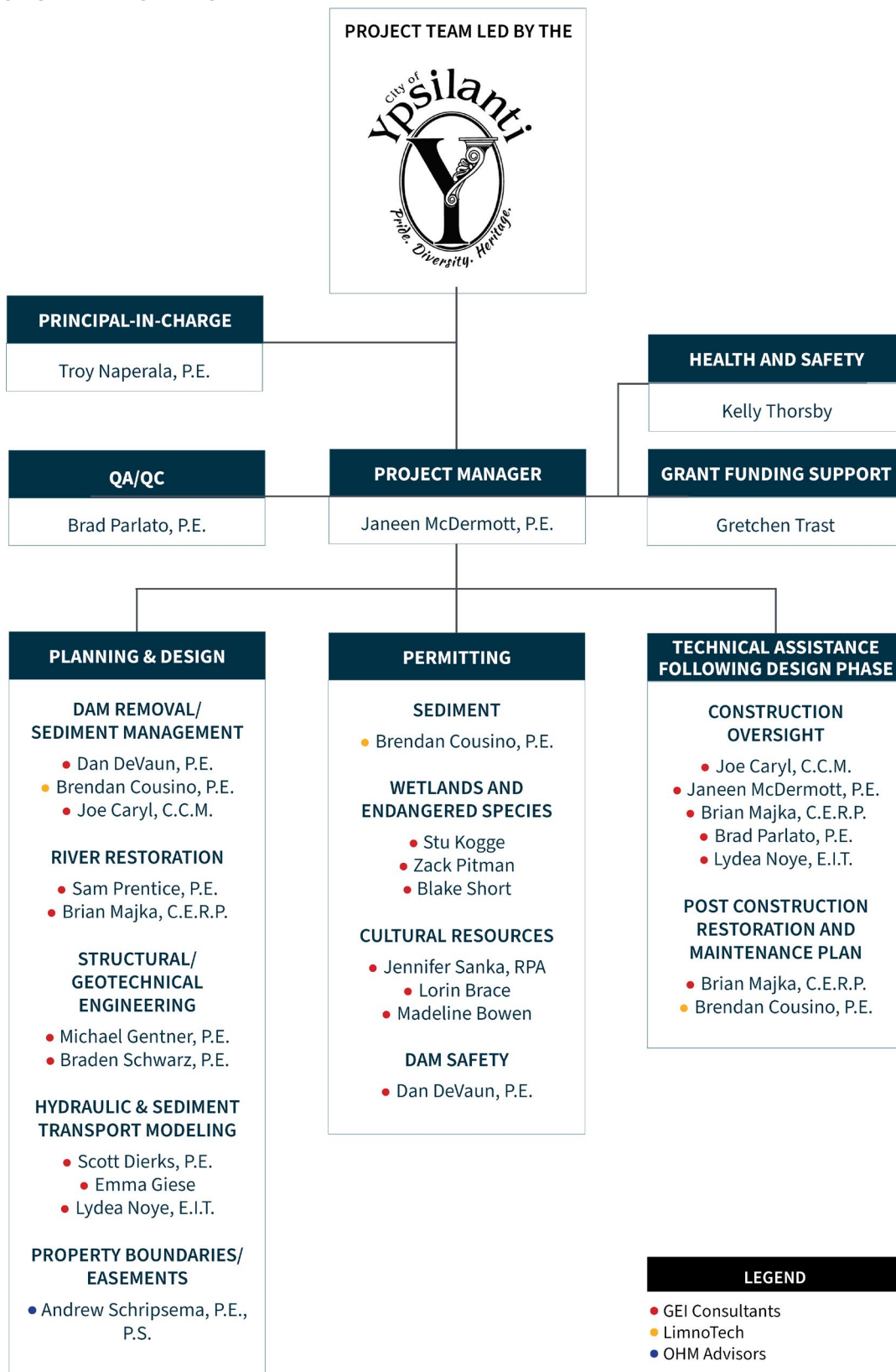
Janeen has experience on over 25 local and regional dam removal projects. She has served as the project manager as well as a lead technical engineer. Additionally, Janeen participated in portions of the first two phases of this project while employed at a different firm, so she brings with her the background and history of the project.



BRAD PARLATO, P.E.
**QUALITY ASSURANCE/
QUALITY CONTROL**

Brad has over 25 years of experience designing and constructing engineering projects in riverine environments. He is uniquely experienced in reviewing design plans for constructability and has experience managing staff (contractors, engineers, inspectors, technicians) during construction.

FIGURE 1. ORGANIZATIONAL CHART



Note: This organizational chart captures the general staffing plan we intend to utilize for this project. These are the staff that the project team will interface with the most. The staff identified here will utilize support staff as shown on the detailed budget spreadsheet to complete the work and meet the desired project schedule.

Key Staff Biographies



**JANEEN MCDERMOTT, P.E. |
PROJECT MANAGER
14 YEARS OF EXPERIENCE**

Janeen is a Water Resources Engineer with 14 years of engineering consulting experience during which she has provided project management and technical design expertise on over 25 dam removal and river restoration projects. For this project Janeen's role will be as project manager and permitting lead. She will lead the coordination of the multidisciplinary design team, assuring quality assurance and quality control documentation of project deliverables, and lead regular communication with the project team. In addition to Janeen's management experience, she has served as a lead technical engineer on numerous dam removal projects. Many of these projects have included interaction with multiple regulatory and resource agencies, and active stakeholder and public engagement. Her technical skills combined with her effectiveness in meeting project goals, deliverables, budgets, and schedules will lead to successful project outcomes for the City. Janeen's experience makes our team well acquainted with the multidisciplinary requirements of a dam removal and ecosystem restoration project, allowing us to execute the project with the right level of oversight and involvement as desired by the City's team.



**TROY NAPERALA, P.E. |
PRINCIPAL-IN-CHARGE
26 YEARS OF EXPERIENCE**

Troy will serve as the Principal-in-Charge (PIC) of the project. As Vice President, Water Resources, he has 26 years of experience and has worked on nearly 50 dam removal and stream restoration projects. His experience includes some of the most challenging dam removal projects in the Great Lakes region, such as, the Gorge Dam, Doan Brook project, Boardman River dams, and Kalamazoo River dams, amongst others.

Troy has managed planning and engineering services overseeing multidisciplinary teams for more than 20 years. He has worked on hundreds of projects throughout his career amounting to over \$1B in construction value. As the

PIC he will work closely with Janeen to execute the project according to the schedule and budget while achieving the goals set forth in the scope of work.



**BRAD PARLATO, P.E. | QA/QC
22 YEARS OF EXPERIENCE**

Brad is a Vice President with over 25 years of consulting engineering experience specializing in remediation/restoration projects that typically involve geotechnical and environmental challenges. Brad has managed projects ranging from large-scale river remediation projects which include sediment dredging and dam removal to municipal public works projects. Brad has been involved in many river restoration projects in Michigan, some of which required extensive planning and collaboration with the public. Brad has extensive experience managing projects during construction and has been successful at adapting to unique challenges that can be expected during river restoration.



**DAN DEVAUN, P.E. | DAM REMOVAL &
SEDIMENT MANAGEMENT DESIGN
21 YEARS OF EXPERIENCE**

Dan is a Civil Engineer with over 20 years of experience in water resources engineering, with expertise in dam safety, dam removal, river restoration, sediment management, and water control management. Dan's role for this project will be design of dam removal/decommissioning, water control during construction operations and site civil designs. He previously worked as a regulator in Michigan's Dam Safety Unit. As a regulator, he also served as the statewide dam removal lead for permit reviews. Prior to that, Dan was an engineering consultant, designing and managing projects for dam rehabilitation, dam removal, river restoration, watershed analysis and planning, stormwater management, and transportation and site design. His project experience in designing and implementing dam removal projects includes serving as project manager and engineer of record for the Sabin Dam removal and river restoration project, Engineer of Record for Midland Dam Fish Passage, and reviewer for Stony Creek Dam Removal and Creek Restoration, Breedsville Dam Removal and Republic Dam Fish Passage project.

2. Key Staff Qualifications *CONTINUED*



SCOTT DIERKS, P.E., C.F.M. |
HYDRAULIC & SEDIMENT TRANSPORT
MODELING
29 YEARS OF EXPERIENCE

Scott is a senior hydrologic and hydraulic (H&H) engineer with extensive water resource engineering and project management experience. For this project, Scott will serve as the H&H engineer responsible for developing models to inform the designs of dam removal, stream restoration and wetland restoration. His technical expertise has focused on H&H modeling and landscape restoration, including meadows, wetlands, streams and rivers and regulatory permitting. Scott has contributed to more than 15 dam removal projects through assessment, planning, modeling, design, and construction oversight. He has led modeling and design of the River Raisin dam removals, Corunna and Shiatown dam removals on the Shiawassee River, Stony Creek Dam Removal, and for other dams on the Tittabawassee and the Huron Rivers.



SAM PRENTICE, P.E. |
RIVER RESTORATION
13 YEARS OF EXPERIENCE

Sam is a licensed civil engineer working as part of a collaborative team specializing in ecological and environmental consulting. The team collaborates with several partners to provide data collection, analysis, report, design, and construction services. His responsibilities include grant writing, planning, data collection, hydraulic modeling, sediment transport analysis, design, and construction oversight for stream restoration and fluvial geomorphology projects. He has led or supported several dam removal projects within the State of Michigan including the Corunna and Shiatown dams on the Shiawassee River, Midland Dam on the Tittabawassee River, multiple dams on the Kalamazoo River, and Republic Dam on the Michigan River. In support of dam removal and river restoration, he completed all four levels of Dr. Dave Rosgen's Natural Channel Design courses, which are a national standard for quantifying and designing stream restoration and floodplain connectivity projects. He has also presented on the importance of dam removal and fish passage nationally at multiple venues, including the National Stream Restoration Conference in 2023.



BRIAN MAJKA, C.E.R.P. |
RIVER RESTORATION
24 YEARS OF EXPERIENCE

Brian is a professional restoration ecologist with extensive experience in project management and development, project oversight, design and implementation of wetland construction, soft shoreline engineering, planting, natural areas management and stream restoration projects throughout the eastern United States. Brian has completed level two of Dr. Dave Rosgen's Natural Channel Design course. For this project, Brian will serve as the ecological restoration design lead, developing designs, plans and specifications for stream, wetland, and upland habitat restoration areas. Brian's recent relevant project experience includes Sabin Dam Removal and River Restoration, Stony Creek Dam Removal and Restoration, Kalamazoo River Restoration, Grand River Bioengineering and Riverbank Stabilization, Brent Run Landfill Stream Relocation, Rio Grande Creek Dam Removal and Restoration, and the Lower Muskegon River Wetland Restoration and Hydrologic Reconnection.



JOE CARYL, C.C.M. |
CONSTRUCTION OVERSIGHT
27 YEARS OF EXPERIENCE

As a Vice President of Construction Services, Joe is a Certified Construction Manager and has led design, procurement, and construction management teams in hundreds of projects for public and private sector clients throughout North America, involving vertical and civil construction, dam removal/river restoration, and environmental remediation/restoration. He has been the Construction Manager on multiple dam removal and restoration projects in the Great Lakes region (e.g., Kalamazoo River, Grand River, Tittabawassee River, Boardman River, and others) his expertise includes constructability reviews, cost estimating, procurement strategy development, risk identification/mitigation, contract negotiations and project implementation. Many of these projects included impacted sediment removal including compliance with the Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Acts.

2. Key Staff Qualifications *CONTINUED*



GRETCHEN TRAST | FUNDING AND GRANT DEVELOPMENT SUPPORT 2 YEARS OF EXPERIENCE

Gretchen leverages her expertise in grant proposals, program development, and funding acquisition to support GEI's mission and strategic vision.

She is proficient in 2 CFR § 200 federal guidelines, CSR benchmarking, National Environmental Policy Act (NEPA) environmental review process, and Davis Bacon Labor Standards compliance and reporting. Her approach to securing funding for communities involves crafting a holistic programmatic vision that integrates ecological restoration with economic development and community resilience. Gretchen has devised innovative funding strategies for projects that are challenging to fund by identifying and leveraging nontraditional funding sources and creating competitive funding packages. She has successfully funded public projects including, but not limited to, recreational parks, historical restoration, cultural and community centers, and affordable housing.



BRENDAN COUSINO, P.E. | SEDIMENT MANAGEMENT 20 YEARS OF EXPERIENCE

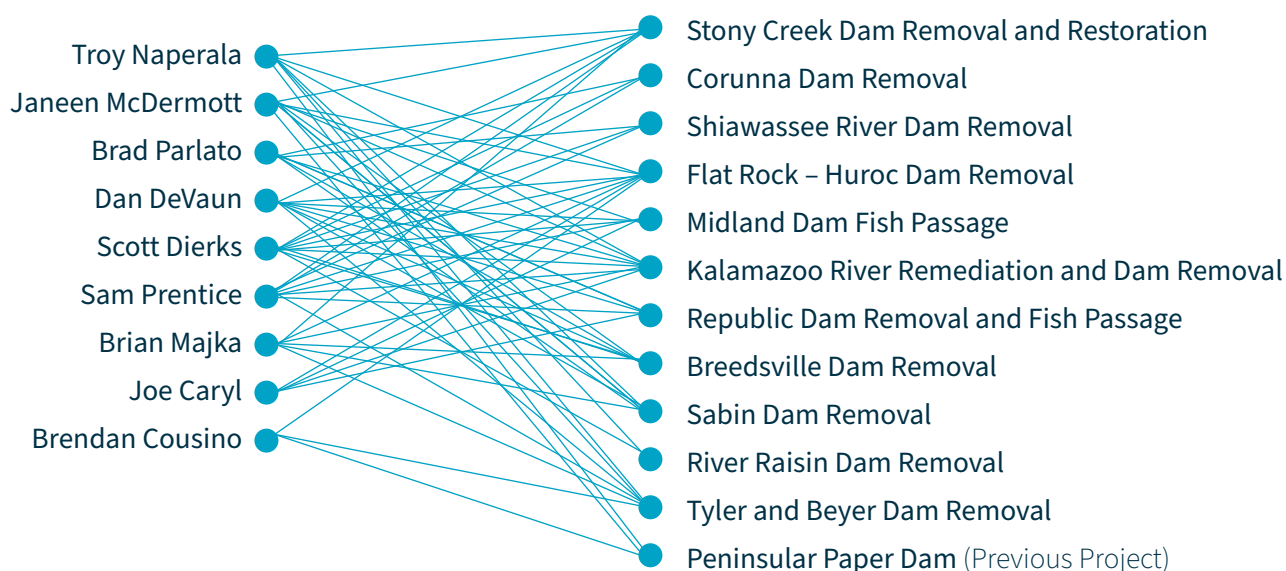
Brendan is a Senior Environmental Engineer at LimnoTech with more than 20 years of professional experience in both the public sector and consulting.

His work is focused on management, restoration, and revitalization of water resources in urban environments, including work to improve water quality, aquatic ecology, and flood protection. Brendan's work involves designing and restoring urban waterways, including creating sustainable public spaces that help to reduce flood risks, provide natural recreation opportunities, and improve aquatic habitat.

Technical Team Resumes

Appendix A contains tailored resumes for our entire Project Team. Specific staff work percentages anticipated for this project are indicated at the bottom of the detailed budget spreadsheet provided in the *Project Budget* section of this proposal.

Your project will benefit from a team that has collaborated on dozens of projects throughout the the state of Michigan, including dam removal, habitat improvement and river restoration:



3. Relevant Project Experience

The GEI team has completed multiple dam removal projects. These projects included many of the technical aspects that will be a part of the Pen Dam project. **Table 1** provides a small sample of relevant projects.

TABLE 1. GEI TEAM DAM REMOVAL PROJECT EXPERIENCE OVERVIEW

Project Name	Quality Assurance Project Plan (QAPP)	Feasibility Study	Field Investigations	Dam Removal Design	Dam Safety	Fish Passage	Sediment Management	Contaminated Sediment	River Restoration Design	H&H/Sediment Transport Modeling	Geotechnical/Structural	Permitting	Wetland Delineation and T&E Assessment	Real Estate Evaluation/ Property Boundaries/ Easements	Constructibility Review	Cost Estimates	Construction Oversight	Post-Construction Restoration and Maintenance Plan	Community Engagement	Grants Support
Stony Creek Dam Removal and Creek Restoration	■		■	■		■	■		■	■		■	■		■	■	■		■	
Corunna Dam Removal		■	■	■		■	■	■	■	■		■	■	■	■	■	■	■	■	■
Shiawassee River Dam (Shiatown) Removal	■	■	■	■		■	■		■	■		■	■		■	■	■	■	■	■
Flat Rock – Huroc Dam Removal Feasibility Study	■	■	■	■	■	■	■		■	■	■		■	■	■	■			■	
Midland Dam Fish Passage		■	■	■	■	■	■	■	■	■	■	■			■	■	■			
Kalamazoo River Remediation and Dam Removal		■	■	■	■		■	■	■	■	■		■		■	■	■			
Republic Dam Removal and Fish Passage		■	■	■	■	■			■	■	■	■	■		■	■	■		■	■
Breedsville Dam Removal		■	■	■	■				■	■		■	■		■	■	■			
Sabin Dam Removal		■	■	■	■	■	■		■	■	■	■	■		■	■	■		■	
River Raisin Dam Assessment and Removal	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■
Tyler/Beyer Dam Removal (GEI & LimnoTech project)		■	■	■	■	■			■	■		■	■	■	■	■			■	■
Peninsular Paper Dam Removal (previous phases)	■	■	■				■			■									■	



Stony Creek Dam Removal and Creek Restoration

Oceana County, Michigan

Client: West Michigan Shoreline Regional Development Commission, 316 Morris Ave #340, Muskegon, MI 49440

Client Project Manager: Fallon Chabala, 231.722.7878 x130, fchabala@wmsrdc.org

General Contractor: Catskill Remedial Contracting Services, Inc., 10315 Grand River Road, Suite 101, Brighton, MI 48116

Service Dates: January 2022–August 2024

GEI worked with the West Michigan Shoreline Regional Development Commission (WMSRDC), Conservation Resource Alliance (CRA), and Oceana County to develop plans to remove the Marshville Dam and restore 2,000 linear feet of Stony Creek.

Stony Creek is a groundwater-fed coldwater stream located in Oceana County, Michigan and is regarded as one of the best trout streams in lower Michigan. The creek has a 57-square-mile watershed that is contained entirely in Oceana County, where the creek drains into Stony Lake and eventually into Lake Michigan.

With funding from the National Oceanic and Atmospheric Administration (NOAA), MDNR, USFWS, and Great Lakes Fishery Trust, GEI was jointly contracted by WMSRDC and CRA to develop plans to remove the historic Marshville Dam and restore Stony Creek at Marshville Dam County Park. Haven fallen into a state of disrepair, the dam provided a blockage to fish passage and was also a safety concern. To develop project designs, GEI worked with project partners to assess existing conditions at the site, which included a depth to refusal study, assessment of woody debris in the channel and nearby reference reach, mapping of existing vegetation, topographic and

bathymetric surveys, sediment sampling, and hydrologic/hydraulic modeling.

Project designs include the removal of the dam and restoration of the stream channel, using natural channel design principles and the Michigan Stream Quantification Tool (SQT) to establish restoration metrics. The design includes active sediment management and bioengineering along the riverbanks, as well as the installation of large woody debris. Plans also include the installation of a new Americans with Disabilities Act accessible path and viewing platform near the creek. The plans were developed jointly with the Oceana County Road Commission, who will be replacing existing stream culverts with a clear span timber bridge as part of the restoration effort.



Site before dam removal and construction



Corunna Dam Removal

Corunna, Michigan

Client: City of Corunna, Michigan, 402 North Shiawassee Street, Corunna, MI 48817

Client Project Manager: Merilee Lawson, 989.413.4123, mlawson@corunna-mi.gov

General Contractor: MJ VanDamme, 301 Avenue A, Gwinn, MI 49841

Service Dates: 2013-2020

Removal of the Corunna Dam decreased potential liabilities and safety concerns to the community of Corunna and was part of a larger restoration effort on the Shiawassee River to remove multiple barriers opening more than 50 miles of the Shiawassee River to aquatic organism passage.

This barrier removal project is one of several that has occurred over the past decade on the Shiawassee River. Several local and statewide organizations have partnered together to achieve barrier removals on the mainstem of the Shiawassee River. Through completion of this project, the Shiawassee River mainstem now allows aquatic organism passage from Lake Huron and upstream of the former barrier at the Shiatown Dam, which was also removed as part of this larger effort.

Throughout this project, GEI provided support to the City of Corunna and partners along the Shiawassee River through planning the dam removal, stabilization of an adjacent roadway, and envisioning park enhancements following the dam removal to increase river access

and recreation opportunities. Additional services were provided for grant writing in support of this project, collection of field data, sediment sampling within the former impoundment, regulatory permitting, design, and presentations to the City Council and the public. Construction funded was approved by both the MDNR and the USFWS's Fish Passage Program for a total project cost of \$450,000.



Site before dam removal and construction

3. Relevant Project Experience *CONTINUED*



River Raisin Dam Assessment and Removal

Monroe County, Michigan

GEI staff assisted the City of Monroe with every aspect of this project, including preparation and management of two Great Lakes Restoration Initiative grants totaling \$2.3M.

GEI work included complete river and biologic assessment along with design and construction engineering for the removal of two low head dams and mitigation of another seven dams in the lower River Raisin. Assessment work included river survey, hydrology, sediment characterization, and macroinvertebrates, fish, mussel, and wetland/vegetation surveys.

The dam removals were located in downtown Monroe, wedged between two high, concrete retaining walls and adjacent to large stormwater outfalls. Dam mitigation measures included two rock ramps, two rock arch rapids, one fish passage channel around the Waterloo Dam, and millrace improvements on the ninth dam. These measures were necessary to maintain the dams carrying sanitary sewer. Additional work included refashioning the park pathway around both sides of the fish passage channel via a new pedestrian bridge.

Pre- and post-construction fish sampling shows a significant increase in the total number and diversity of fish coming back up the Raisin River from Lake Erie. This is the first time passage has been reestablished over the existing dams in over 80 years.



Shiawassee River Dam Removal

Shiawassee County, Michigan

The Shiatown Dam is located on the Shiawassee River near the town of Bancroft, Michigan. The dam was removed the summer of 2019, and this reach of the river restored by creating a riffle, installing toe wood and live stakes, and excavating out more than 15,000 cubic yards of legacy sediments to create a floodplain bench. Removing the dam eliminated it as a safety hazard and this reach has now become the most popular paddling area on the upper Shiawassee River. Project funding was provided by EGLE (formerly MDEQ), and the funding program is MDNR aquatic habitat grant.

Multiple design alternatives were reviewed and the final design was a compromise among fish passage, bank stability, and projected channel evolution following dam removal. GEI developed an implementation plan that allowed for flexibility during construction to achieve project goals within budget.

This project is part of a larger effort throughout the Shiawassee River Watershed to restore aquatic organism passage to Saginaw Bay and increase sustainable recreation on the river. This project, along with the removal of another dam in the nearby City of Corunna, has opened up more than 70 miles of aquatic organism passage along the mainstream of the river and its tributaries.

3. Relevant Project Experience *CONTINUED*



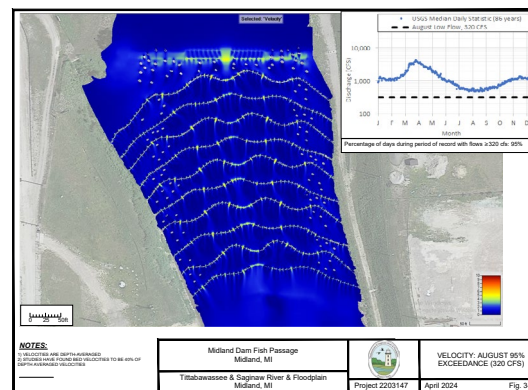
Flat Rock – Huroc Dam Removal Feasibility Study

Flat Rock, Michigan

The Flat Rock Dam constructed in 1929 was built by Henry Ford to provide hydropower to an adjacent Ford Motor Company plant. The project seeks to develop a feasibility study on the development of selective fish passage to minimize sea lamprey infestation risk in the potential alternatives to include dam removal options for the Flat Rock Dam and Huroc Dam located in the Huron River in Flat Rock, Michigan.

GEI Consultants was selected to provide comprehensive engineering and scientific expertise working collaboratively with HCMA, MDNR, EGLE, GLFC, HRWC, the City of Flat Rock, and the NOAA to develop and analyze a ‘no-action’, full dam removal with full restoration, full dam removal with passive restoration, and partial dam removal alternatives while also assessing sea lamprey infestation risks for each alternative. Our team is providing the following services:

- » Data collection including topographic and bathymetric surveys, depth of refusal measurements of impounded sediment, chemical characterization of impounded sediments, and wetland delineation.
- » Phase I archaeological survey to support a future Section 106 permit.
- » Development of four dam disposition alternatives and evaluation of challenges and opportunities of each.
- » Conceptual river restoration design.
- » Extensive stakeholder and public engagement.



Midland Dam Fish Passage

Midland, Michigan

The Midland Dam on the Tittabawassee River currently impedes fish passage during most flow conditions. GEI was hired to design a fish passage structure that emulates natural rapids to improve fish passage at the dam while maintaining upstream water surface elevations required for site wide operations.

GEI reviewed existing field data to develop seven fish passage design alternatives and selected a preferred design option through a collaborative decision-making process with project Trustees including representatives from the State of Michigan (MDNR and EGLE), United States Department of Interior (USFWS), and the Saginaw Chippewa Indian Tribe of Michigan. GEI also conducted a significant mussel survey and relocation effort of multiple state-listed freshwater mussel species prior to fish passage construction.

The fish passage structure being implemented includes ten rock arch weirs that extend downstream from the dam. In addition, the design includes the notching and roughening of the dam crest to allow for increased water depth and velocity profiles aiding fish passage across the dam. Shallow and deep pools will be constructed between weirs to provide resting areas and habitat for fish.

In collaboration with project partners, GEI developed measurable design and construction criteria that were approved by the Trustees. These criteria will be used to evaluate the effectiveness of the fish passage project after construction. In addition to design, GEI will be providing construction oversight services.

3. Relevant Project Experience *CONTINUED*



Kalamazoo River Remediation and Dam Removal

Plainwell and Otsego, Michigan

GEI leads a multifaceted project to identify and remove Polychlorinated biphenyls (PCB)-containing sediment and soils, develop natural river channel design, remove two dams, protect wildlife, and restore the shorelines along 10 miles of the Kalamazoo River in southwestern Michigan. The work sites are identified as Areas 2, 3, and 4 of Operable Unit 5 (OU5) of the Allied Paper/Portage Creek/Kalamazoo River Superfund Site. GEI collaborates with its client, the EPA, and EGLE to fulfill the requirements of the legal documents defining the work performed in the Superfund Site. The project is expected to take 10 to 15 years and will cost several hundred million dollars to complete.



Republic Dam Removal and Fish Passage

Marquette County, Michigan

Republic Dam is located on the Michigamme River within Republic Township in Marquette County. Michigamme River Basin Authority purchased the dam from the former owner with the intent to preserve the impoundment and improve the dam. Maintaining a reservoir with a sustainable water level is critical to the long-term success of Republic's tourism industry, more stable water levels for aquatic resources, preservation of property values, and continued recreational use of the reservoir.

The selected fish passage design of the grade control structure will be a rock-arch rapids to address aquatic connectivity with the goal of passing as many species and age classes of fish as possible while maintaining the normal pool elevation upstream of the rapids at or near elevation 1492. The plan includes connecting the existing downstream rapids with the desired normal pool elevation along approximately 600 feet of the channel for an average slope of 2%. This will be accomplished by the design and installation of 17 weirs constructed from natural boulders with a target water surface drop of 0.6 feet in between each weir. The boulders will be placed in the river in such a manner that there is a low-flow, or thalweg, channel in the middle of the rapids with boulders stepping up 6 inches to a lower terrace and an additional 6 inches to a higher terrace before tying back into the existing surrounding grade. This element of the design will aid in concentrating water during low flows and dissipating energy and velocities during higher flows to optimize fish passage and water depths for paddlers.

3. Relevant Project Experience *CONTINUED*



Breedsville Dam Removal

Breedsville, Michigan

The Breedsville Dam located in Van Buren County, Michigan breached in 2008, largely draining its impoundment, and creating a new river channel through the dam's left earthen embankment. In 2020, the Village of Breedsville subsequently filled the new river channel and stabilized the dam without applying for or receiving a permit for such work. The current dam structure does not meet the State of Michigan dam safety standards and an emergency order has been issued for the removal of the dam. Working collaboratively with the Department of Technology, Management, and Budget (DTMB), EGLE Water Resources Division (WRD), and Dam Safety Unit, GEI is designing the removal of the Breedsville Dam concrete structures and restore the South Branch Black River through the dam in accordance with the emergency order.

GEI provided comprehensive engineering and scientific expertise to develop and design alternatives for dam removal and channel restoration, working collaboratively alongside DTMB and EGLE. Our team is providing the following services:

- Data collection including wetland delineations, topographic surveys, depth of refusal measurements, and sediment characterization.
- Development of dam disposition and stream restoration alternatives.
- Final design services for dam removal and restoration of approximately 700 linear feet of the South Branch Black River.
- Construction administration and oversight.



Sabin Dam Removal

Grand Traverse County, Michigan

In 2018, GEI staff performed all native seeding, planting, and erosion control installation efforts associated with the ecological restoration of the Sabin Dam removal project on The Boardman River in Traverse City, Michigan.

In 2018, the Sabin Dam was removed from the Boardman River, exposing approximately 4,000 feet of historic stream channel and 36 acres of floodplain, requiring large-scale restoration, revegetation, and stabilization efforts. Prior to GEI's involvement, contractors removed the Sabin Dam and associated powerhouse. The floodplain was regraded, and large woody habitat structures were installed on the streambanks.

Once final grading was completed within the floodplain and along the banks of the river, GEI staff began the active restoration of all exposed areas. GEI was responsible for the installation of 31 acres of native floodplain and upland seed and straw mulch, 21,000 square yards of erosion control blanket, and nearly 2,500 tree, shrub, and live stake plantings. GEI staff also assisted with the construction of the encapsulated soil lifts along 500 feet of the new streambank.

3. Relevant Project Experience *CONTINUED*



Tyler and Beyer Dam Removal Alternatives Analysis *Washtenaw County, Michigan*

LimnoTech was involved in the first phase of this project, which focused on data collection and an alternatives analysis. GEI was recently awarded the second phase of the removal of both dams with scope of work focused on completing final design, permitting, and bidding of the projects.

The Beyer Dam and Tyler Dam, both located on Willow Run adjacent to the historic Willow Run Airport, are two small dams owned and operated by the WCWRC. They were originally constructed in 1940–1942 by Henry Ford to provide hydropower to the adjacent factories. The dam structures are deteriorating, and no longer serve any useful purpose and the WCWRC is considering removing them.

LimnoTech's role was to perform a depth of refusal survey to evaluate the volume of sediment accumulated in these impoundments. The depth of refusal survey allowed for an accurate projection of the volume of sediment that has accumulated in the impoundments.

The dam removal alternatives included full removal of both dams, as well as partial removal of the Beyer Dam, which would allow for deregulation of the dam, and still retain some benefits of sediment and phosphorus capture through temporary storage in the impoundment.

GEI and LimnoTech have partnered for the second phase of this project to complete final design services for both dams. GEI is leading dam removal, sediment management, river restoration, permitting, grant funding support, and bidding support services. LimnoTech is providing additional sediment sampling and characterization.



Peninsular Paper Dam Removal Design and Supporting Analysis

Ypsilanti, Michigan

LimnoTech led Phase 1 of this project, which focused on critical data collection and analyses to support future design and construction activities to remove the Peninsular Paper Dam, located on the Huron River in Ypsilanti, Michigan. The data collection included bathymetric and depth of refusal surveys, sediment sample collection and evaluation of contaminant levels, and hydraulic model development and scour evaluation for the existing bridges that cross the impoundment.

The data collected was used during Phase 2 of the project (30% Design), where LimnoTech was also involved, to prepare a sediment management plan and restoration plan for the floodplains that will be exposed, and to design the dam drawdown and removal.

LimnoTech's work on the previous two phases of this project has provided the HRWC and the City of Ypsilanti with the critical data that is needed to proceed with the final design phase of the project, and to engage with their funding partners and regulatory agencies. In addition, this data has been used to inform the public stakeholders and other governmental partners of the critical issues to be considered in the dam removal process.

4. Previous Team Performance

The GEI team's past performance on dam removal and ecological restoration projects is evidenced by the high praise we received from our clients. Our team has experience providing preliminary design reports and alternative analysis, along with appropriate permitting, planning, design and construction support to dam removal and ecological restoration on complex, large-scale projects.



"I've been fortunate to collaborate with Janeen McDermott, Troy Naperala, and Dan DeVaun for over a decade and have partnered with them on multiple dam removal and restoration projects in the Kalamazoo River Watershed from start to finish. This team is the most capable, most professional, most adaptable, and (BY FAR) the most enjoyable! They listen, they put ego aside to truly seek a process and design that satisfies the client within the given criteria and sideboards. Working with the public and presenting to various stakeholders – there's none better. Quality of work and attention to details – again, none better. I intentionally selected the descriptors "collaborate" and "partnered" in the first sentence because they truly represent the approach and relationship that they use with their clients." *Mark Mills, Southwest Region Manager, Wildlife Division, Michigan Department of Natural Resources*



"I have worked with Troy Naperala, Dan DeVaun, and Janeen McDermott (currently with GEI Consultants) over the past 12 years on the Boardman (Ottaway) River Restoration Project. Troy, Dan, and Janeen served as project managers and design leads for the Boardman and Sabin Dam Removal project phases, which restored nearly 3 miles of river. Their expertise and experience now engaged in the final phase, the FishPass Project, a dam reconstruction and bi-directional fish passage research facility, has been invaluable to the project. Throughout these projects, this team exhibited exceptional client focus, striving to maintain project budgets and schedules, while being attentive to diverse goals and needs of the various stakeholders. Their technical expertise helped to deliver effective and efficient solutions and navigate complex regulatory requirements. It was a pleasure working with them and I look forward to continuing our professional relationship on future projects." *Frank V. Dituri, Director of Public Services, City of Traverse City, Michigan*



"Brian Majka's expertise in ecological restoration is surpassed only by his positive attitude and a superior ability to communicate, organize and educate a vast array of project stakeholders and design team members. As a client, the West Michigan Shoreline Regional Development Commission values Mr. Majka's ability to guide diverse project teams through complex, decision-making processes." *West Michigan Shoreline Regional Development Commission*



"The purpose of this letter is to recognize and thank your staff working on the Trowbridge Dam time critical removal action on the Kalamazoo River in Allegan, Michigan. This project is my first interaction with GEI, and I consider it both a privilege and an honor to be working with the experienced professionals assigned to this project. Your staff have been extremely thorough, diligent, responsive, respectful, and patient in the developmental phase of the project, which is now entering its third year. They rose to the challenge and successfully navigated the difficult circumstances that the pandemic posed to fieldwork in advancing the pre-design investigation over the past two field seasons. Please pass along my thanks to all your staff whom I am proud to call part of 'Team Trowbridge.' I look forward to continuing our positive working relationship in the years to come as we implement this important project." *Paul Ruesch, Federal On-Scene Coordinator Emergency Response Branch 2, U.S. Environmental Protection Agency*



"Brian (Majka) and his team have been instrumental in moving the Marshville Dam Removal Project forward. Brian has corralled large group of stakeholders, parlaying each of their unique expertise into a unified restoration plan that will maximize the ecological benefits for Stony Creek, Marshville Dam County Park, and the surrounding wetlands." *D.J. Shook, Biologist, Conservation Resource Alliance*

5. Project Summary

Based on our team's knowledge of previous phases of this project and our experience on similar projects, we have developed the following scope of work to address the Request for Proposals (RFP) request for dam removal design and post-design support. Our end goal is to provide to you a final design for dam removal and necessary restoration activities that is permissible and aligns with your available funding for construction.

Project Approach

Project Administration

TASK 1. PROJECT MANAGEMENT

The project will be led by Janeen McDermott, PE as the Project Manager and Troy Naperala, PE as the Project Principal whom both will oversee the planning, execution, quality, and budget management for GEI's services. Our management approach is simple: Be open, transparent, proactive, communicative, responsive, and responsible. We believe in a collaborative approach where all project partners are invited to contribute their expertise and experience at all phases of the project. As project manager, Janeen will manage day-to-day operations of the project and will be your primary point of contact throughout the life of the project. She will coordinate and lead regular (e.g., weekly as needed, biweekly otherwise) project coordination meetings throughout the life of the project. These meetings will consist of the GEI team and project partners including the City of Ypsilanti, HRWC, WCWRC, MDNR, USFWS, and any others the Steering Committee designates.

Task 1 Deliverables: Meeting minutes from the regular project team calls; Monthly invoices with detailed progress reports and budget tracking.

The City's single point of communication will be Project Manager Janeen McDermott, P.E.



TASK 2. GRANT APPLICATION SUPPORT

GEI brings to the team a grant manager who has extensive experience tracking, planning, and applying for grants of all types and sizes. Gretchen Trast will be an as needed resource for the project. We acknowledge the significant grant funding work that has occurred to date. Gretchen will meet with the project team to help strategize the grant application effort moving forward. The GEI team can further support by assisting the project team in preparation of technical narratives and supplementary information for inclusion in grant applications.

Task 2 Deliverables: Four (4) grant application support/strategizing meetings.

TASK 3. PUBLIC COMMUNICATION

As noted in Task 1, our project management approach is proactive and will diligently track deliverables with the desired schedule deadlines for public communications. Presenting what sometimes can be heavily technical information to the public is not a foreign concept to our team. Janeen McDermott and Troy Naperala have extensive experience presenting at public meetings for dam removals and effectively communicating the process, technical considerations, construction expectations, and future conditions. Janeen previously guest authored a blog post in support of the Pen Dam removal detailing "How To Remove a Dam" <https://www.hrwc.org/how-to-remove-a-dam/>. Team member Brendan Cousino will also participate in public communications as part of the GEI team, bringing his local knowledge and familiarity with past public communications surrounding the project.

Our goal will be to help the City of Ypsilanti, and the larger project team develop a well thought out public communication plan utilizing the GEI team's technical expertise, project experience, and local knowledge to deliver project details clearly and concisely to the public. For the purposes of this proposal, we assume our team will be present in person for up to two (2) public communications meetings.

Task 3 Deliverable: Materials for public communications support.

Planning, Design and Permitting

TASK 4. FIELD INVESTIGATIONS

Task 4.1 Wetland Delineation and Threatened & Endangered (T&E) Assessment

GEI will perform an on-site investigation with concurrent global positioning system (GPS) mapping to identify and delineate any waters of the United States including wetlands according to criteria defined by the *U.S. Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual (Version 2.0): Northcentral and Northeast Regions (January 2012)*. This wetland delineation protocol is the method accepted by EGLE. GEI will mark the ordinary high-watermark line with labeled lath stakes and will mark the wetland boundaries with flagging tape and/or wire flags. The wetland delineation report with USACE Wetland Data Forms will meet the EGLE requirements for a Joint Permit Application submittal.

GEI will also conduct a T&E species review of the habitat and communities throughout the project area. GEI will request and receive protected species data from the USFWS, Information for Planning and Consultation (IPaC) resource and the Michigan Natural Features Inventory (MNFI). GEI will evaluate the results from IPaC and MNFI and determine the species most likely to be encountered within the project area. Other sources of data such as the results of 2024 mussels survey by ASTI Environmental/PEA Group will also be consulted.

Task 4.2 Structural Investigations

GEI understands it is the City's desire to keep the existing powerhouse building located immediately north of the concrete dam crest. GEI will perform a stability analysis of the powerhouse building under applied soil loading in the north-south direction without the added restraint of the dam structure. It is assumed that a stability analysis in the east-west direction will not be needed since hydrostatic loading on the building will decrease because of dam removal. Stability analyses will be performed using hand calculations and approximate building dimensions taken from a site visit with access to the exterior of the building only. Conservative assumptions will be used for soil properties. It is assumed that no computer modeling of the building will be required. No strength calculations of the building structural components will be performed at this time.

Based on our review of existing data and experience on past projects, additional structural investigations at the dam and existing bridge crossings are not recommended.

Task. 4.3 Supplementary Sediment Data Collection

In earlier phases of the project, sediment sampling showed that there were exceedances of the ecological and public health screening criteria. Supplemental sediment sampling will be performed in the areas where previous sampling showed exceedances of the ecological and public health criteria to define the areal extent and anticipated sediment volumes of material that would need to be managed. The GEI team will collect 10 supplemental sediment cores from a two-person Jon boat using a vibracore. Each sampling location will be recorded using an on-board GPS with sub-meter accuracy. The cores will be advanced to refusal (hardpan) and the estimated depth of core penetration into the sediments will be measured and recorded. Sediment cores will be extracted for visual characterization and core lengths and sediment recoveries will be recorded. Boring logs for each core will be prepared.

Sediment samples will be composited from each core by collecting selected intervals from each core to collect a depth-average representative sample. Duplicate cores will be collected upstream and downstream of the dam as specified in the QAPP. The samples collected upstream of the dam will be analyzed for Michigan 10 Metals, and Polycyclic aromatic hydrocarbons as identified in *EGLE WRD-48 Guidance for Sediment Testing for Dredging Projects*. Sediment samples will also be characterized based on particle sizes down to the #200 sieve (clay/silt particles).

Sediment data analysis and documentation will be summarized in a technical memorandum.

Task 4.4 Design Team Site Visit

In addition to the various data collection efforts described above, the technical design team will complete a site visit early in the project to observe the dam and surrounding area and meet with the client team to discuss key areas of concern.

Task 4 Deliverables: Wetland Delineation and T&E Assessment Report; Structural Stability Technical Memorandum; Sediment Investigation Technical Memorandum.

A note regarding additional geotechnical investigations:

Based on our review of existing available data and the 30% design approach, no further geotechnical investigations are recommended at the dam, bluff areas, or at the existing bridge crossings. However, if the City determines additional documentation is requested to limit risk, our team has the expertise to provide any additional geotechnical or structural engineering needs that might arise. If that is desired, we can prepare a detailed scope and added fee for those services.

TASK 5. 60%, 90%, 100% DESIGN PHASES

Our team will review the previous 30% design effort and analyses conducted and progress the dam removal and river restoration design (as needed to arrive at a stable channel and permissible project) to 60%, 90%, and 100% deliverables. We assume the project team will provide the existing and proposed modeling completed to date as well as the raw 30% Design CAD files as background data for inclusion in the final designs. We envision each phased deliverable will include design plans, basis of design report documenting design assumptions and analyses, technical specifications, and an updated engineer's opinion of probable construction cost. Specific technical areas of importance during design are further discussed below.

Task 5.1 Dam Removal, Sediment Management, Spoils Management

Our multidisciplinary team of water resource, geotechnical and structural engineers will work collaboratively to advance the previous 30% dam removal and sediment management plan to final design. We anticipate moving forward with the initially proposed dewatering approach which seeks to utilize the existing stoplog structure for initial dewatering followed by incremental demolition of the concrete weir. This approach minimizes risk during dewatering and provides the ability to complete dam removal in a controlled, incremental manner.

Our approach to sediment management will be to address sediment in place utilizing both passive and active management strategies during incremental dewatering. Establishing critical grade control structures at the existing bridge crossings will be an important consideration in the construction sequencing to prevent impact to the existing critical infrastructure and establish necessary scour countermeasures under the bridges. Sediment management will also be critical in areas where sediment

exceeding allowable Part 201 criteria and aquatic and human health threshold exists. Our team will determine the specific locations of sediment where isolation of contaminated sediments is required and develop an approach to either remove those sediments prior to lowering the impoundment water surface elevation or isolate those areas to ensure movement of that sediment does not occur. The specific approach applied will depend on conversations with EGLE and other regulators. To facilitate those discussions, we anticipate hosting a meeting with those individuals within the first couple of months of the project.

To reduce construction costs, our team will seek to spoil excavated sediment on site, as the 30% design indicated spoils locations adjacent to the restored river channel and floodplain along valley walls. The sediment that has shown regulatory exceedances may require off-site disposal. Our team will also explore the possibility of disposal on site with capping and/or deed restrictions. As mentioned previously, we will further define the extent of the impacted sediments based on input from EGLE. Increases in impacted sediment volumes (if encountered) could have significant cost implications and would require additional time to determine the most cost-effective solution for the disposition of impacted sediment. This is envisioned to be a collaborative discussion with the project partners and regulators to arrive at a permissible solution.

Task 5.2 Hydrologic, Hydraulic, and Sediment Transport Modeling to Support Final Design

We assume the existing and conceptual hydrologic, hydraulic, and sediment transport modeling will be provided to our team upon award. HEC-RAS modeling will be used throughout the final design phases to further evaluate the dam removal/dewatering approach. Our team will evaluate potential storm events during a theoretical dam removal scenario to further determine control of water plans and requirements for potential contractors.

Hydraulic modeling will also be used to facilitate design of a permissible post-dam removal river channel and floodplain. We will utilize the modeling to assess erosive forces (shear stresses) to identify areas of critical importance to establish engineered controls to arrive at a stable channel design, protect existing infrastructure, and prevent impacts to adjacent steep bluffs. While we understand river restoration design is not a focus of this scope, to achieve a permissible project, we know that

5. Project Summary *CONTINUED*

regulators reviewing any permit application we submit will want to see information related to the channel forming after dam removal.

After reviewing the sediment transport modeling and results, we do not anticipate further sediment transport modeling is necessary and have not included any additional scope for this item. Given the presence of dams upstream our team will need to consider replacement of sediment, particularly coarse sediment, within the restored reach. Riffle stone will be sized to be immobile for larger flows, even up to the 100-year event, while the dam-out bed can also be designed to reduce slope, erosive energy and raise the flow threshold for bed movement.

It is expected a Federal Emergency Management Agency (FEMA) Conditional Letter of Map Revision or Letter of Map Revision (LOMR) may be necessary as part of this project. Our engineers have specific and current experience working through that process with FEMA and can provide additional services to support the City in this process upon request.

Task 5.3 Restoration

While we understand river restoration design is outside the scope, as discussed earlier, design of a stable channel with critical areas of existing infrastructure and steep banks will be a necessary design component to arrive at a permittable project. Our approach would be to focus restoration efforts on those critical areas and provide an a la carte menu of other restoration options that could be exercised in case construction costs come down or additional funding awards come to fruition.

The end goal of our restoration approach, given the outlined scope and understanding the main goals are for dam removal, are to 1) design stable grade control riffles that act as adequate scour countermeasures at the two existing bridge crossings and 2) design engineered bank protections along critical areas of the proposed river channel bends as determined by hydraulic model outputs (e.g. shear stress and velocity).

Additional restoration considerations that could be considered include planting plans. Our team has the capability to tailor a planting plan at this site to the specific needs of the project ranging from a mostly 'do nothing' approach relying on the native seedbank to self-establish to a more robust planting and seeding plan, to anywhere

in between. We will work with the Project Steering Committee to identify the level of restoration desired based on available funding.



Toewood and bioengineered lifts, designed and constructed by GEI staff on the Muskegon River.

Task 5.4 Geotechnical and Structural Engineering Support

To support the design progression, we have included nominal cost for technical consultations with our geotechnical and structural engineering staff to review dam removal and restoration plans throughout the final design phases. If additional needs arise, our team is equipped with the experts to meet the project needs.

Task 5.5 Property Boundary Assessments/Easement Support

The GEI team will work with the project team to identify parcels that will require easement agreements to facilitate construction. Once this is determined, the following tasks will be completed:

- Existing government corners and property controlling corners will be researched and located.
- Existing parcel boundaries will be assembled using existing plats, condominium documents, recorded boundary surveys and tax descriptions.
- Revised parcel boundaries will be determined reflecting the proposed river channel and exposed bottomlands.
- Easement exhibits and descriptions will be prepared reflecting the revised property boundaries and limits of work.

5. Project Summary *CONTINUED*

It is anticipated that a maximum of 39 parcel exhibits will be required. All work will be performed under the direct supervision of a Michigan Licensed Professional Surveyor. Certified Boundary Surveys and obtaining additional title work are not included in the scope of work.

Task 5.6 Bidding Support

GEI will develop bid documents for a RFP for construction services. GEI will work with the City to tailor bid documents that minimize risk to the City and project through required contractor submittals. We assume the RFP will be posted on the City of Ypsilanti's procurement website. However, GEI can leverage our relationships with seasoned contractors to also provide notification to those contractors of the bid posting.

We will issue addenda to all bidders as required. We assume up to three addenda.

Once bids are received, our team will review the submitted bid packages, analyze unit prices, and bid items for potential risk and cost overruns, complete contractor interviews, and provide a written recommendation to the City for contract award.

Task 5 Deliverables: 60%, 90%, 100% Design Plans, Technical Specifications, Basis of Design Report, and Engineer's Opinion of Probably Construction Cost Estimate; Sediment Management Plan for dam removal; H&H modeling to support dam removal and river restoration design; Property Boundary Assessment Documents; Easement Documents; Bid Documents; Bidder Recommendation.

TASK 6 PERMITTING

We understand permitting can be a challenging and time-consuming process for dam removal and restoration projects. We will utilize our experience and strong relationships with regulatory staff to engage regulators early and proactively throughout the project. We anticipate submittal of a Joint Permit Application that will cover the state regulatory agencies and USACE review of the project. Soil Erosion and Sediment Control measures will be incorporated into our design plans which we anticipate the awarded contractor will use to facilitate a Soil Erosion and Sedimentation Control permit with the WCWRC. Finally, we will provide support for Section 106 of the National Historic Preservation Act (NHPA) permitting.

Task 6.1 Phase I Historic Preservation and Archaeological Assessment

GEI assumes that the project will require compliance with Section 106 of the NHPA. At this time, the lead federal agency has not been identified, but GEI proposes to complete research and field survey efforts to identify cultural resources, including historic properties pursuant to Section 106, that may be affected by the project. GEI will provide background research, a site visit to assess current condition of the historic era (more than 45 years old) built environment, and an Architectural Resources Survey Report that will all be included in a Phase 1 Record Review to support Section 106 permitting.

GEI will prepare a Section 106 application package that meets the current standards for the lead federal agency or their delegate to submit to State Historic Preservation Office (SHPO). It is our understanding that there is likely a federal partner on the project partner team that will take the lead on the Section 106 permit application.

Task 6.2 Joint Permit Application

We understand there have been few formal discussions with regulatory agencies regarding this project. As such, it is our priority to apply for a Joint Permit pre-application meeting within 6 weeks of the notice to proceed. It will be critical to meeting the desired project schedule to understand the regulatory agencies requirements or concerns related to the dam removal/dewatering plan, sediment management, spoils placement, and wetland impacts. After that meeting is held, we anticipate submittal of a Joint Permit Application within 1 month of submitting the 60% design deliverable. GEI has excellent collaborative relationships with many of the regulators surrounding this project. We will utilize our technical expertise, knowledge of regulatory requirements and protocols, and proactive communication to facilitate the permitting process for this project. NEPA support is not included in this scope of work.

Task 6 Deliverables: Phase 1 SHPO Records Review Report; Joint Permit pre-application meeting; Joint Permit Application submitted via MiEnviro portal; Soil Erosion and Sediment Control Plans (incorporated into design plans).

Technical Assistance Following Design Phase

TASK 7. POST CONSTRUCTION MONITORING AND MAINTENANCE PLAN

The GEI team will develop a post-construction monitoring and maintenance plan. We envision this will be a collaborative effort with the Project Steering Committee. It is expected that this will include attending up to six meetings with the Steering Committee to review the draft plan and recommendations, and coordinate on long-term monitoring and maintenance responsibilities between the City, the HRWC, and other project partners. Long-term monitoring recommendations are expected to include monitoring floodplain and bank stability through the former impoundment, vegetation establishment and invasive species presence. It is expected that this plan may be a permit requirement for the project. This scope includes development of the plan. If additional assistance is required to execute the plan, we can provide a detailed scope and budget for those additional services.

Task 7 Deliverables: Post-construction monitoring and maintenance plan.

TASK 8. TECHNICAL ASSISTANCE DURING CONSTRUCTION

The removal of Pen Dam and restoration of approximately 1.25 miles of the Huron River is a complex, multifaceted construction project where having full-time construction administration and oversight can be critical for achieving the desired results and mitigate risk of construction cost overruns. For projects of this size this construction engineering effort usually averages around 10% of the construction cost. We understand the budgetary constraints the project team is faced with and have developed a scope of services based on the listed funding available and goals communicated during the pre-bid meeting (i.e., technical advisory role). We mention the importance of having full-time oversight in our proposal as something the project team should consider as the project moves forward. Note that our team can help guide the City through what the critical areas for coverage are as the design is finalized to minimize risk.

Following selection of the construction contractor and a schedule, the construction administration budget can be modified to match any changes in desired administration

or oversight services the project team desires. For the purposes of this proposal and the communicated desire for a technical advisory role during construction, we have included the following activities in this task:

- Administer the pre-construction meeting.
- Review critical contractor submittals including shop drawings, work plan, sediment management plan, dam removal plan, and material specifications (rock, wood, seed mix).
- Address contractor questions and respond to Requests for Information (RFI) specific to the dam removal, control of water, sediment management, and river restoration aspects of the project. Assumed 15 RFIs.
- Attend weekly construction progress meetings (30-minute teleconferences for 6 months).
- Conduct construction inspection/observation visits at critical project milestones related to dewatering/dam removal/sediment management/riffle scour countermeasures, bank stabilization measures to document, via a daily report, the contractor's adherence to the project requirements including health and safety, quality assurance and quality control. (Assumed a GEI team member on site 2 days a week for 6 months plus senior staff on site during critical milestones, and 4 hours of office support per week for 6 months.)

Task 8 Deliverables: Construction submittal reviews; Meeting minutes from weekly construction progress meetings; Daily reports from on-site construction observation activities.



Repubilic Dam rock rapids construction. The "sine-wave" configuration for boulder placement is the first of its kind constructed in Michigan and increases aquatic organism passage and rapids stability on larger rivers.

6. Project Schedule

We understand the objectives of the project are to complete final design for dam removal, restoration design as necessary to permit the project, perform bidding support, and serve in a technical advisory role during construction. Based on our experience with these types of projects, we agree with the schedule as outlined in the project description and have shown our proposed approach broken out by tasks laid out on the schedule provided on the next page. The phasing of the design work will provide times for important check points between the City, project partners, and the design team to assure agreement on key design decisions and communication throughout the design of the project. Additionally, bidding on the project in the early fall should allow for competitive bidding both in pricing as well as the number of contractors available to bid on the project. The construction schedule is anticipated to occur in 2026 with follow up activities in Spring 2027, if needed. For the purposes of the schedule provided below, we have not defined the specific construction timeframe on the table below.

Upon project award, we will develop a more refined schedule with anticipated delivery dates for key project milestones/deliverables and at that time will also work with the City and the Steering Committee to define anticipated public communications schedules.

A few key assumptions that have been included in the project schedule:

- Notice to proceed (NTP) is made by October 1.
- Field Investigations will be prioritized to be completed ASAP upon NTP to meet regulatory windows for wetland delineation and safe work conditions for on-water work (i.e., not when below freezing).
- Permitting effort will start with a pre-application meeting, followed by Joint Permit application submittal with the 60% design documents.
- Construction is assumed to occur in 2026.

Task	2024			2025								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Task 1. Project Management												
Task 2. Grant Application Support												
Task 3. Public Communications												
Task 4. Field Investigations												
Task 5. Design												
60% Design												
90% Design												
100% Design												
Bidding Support												
Task 6. Permitting												
Task 7. Post Construction Monitoring & Maintenance Plan												
Task 8. Technical Assistance during Construction*												

* Duration to be determined based on contractor's schedule

7. Project Budget

Budget Overview

We have provided the following costs for project administration, design, permitting, bidding support, and post-design services for the removal design of the Peninsular Paper Dam and critical restoration items based on our experience with similar projects. **Table 2** provides an overview of our project budget. Our detailed budget spreadsheet is included at the end of this section and includes our team's hourly rates and % of project work per staff member.

TABLE 2. PROJECT BUDGET OVERVIEW

Task	Billable Hours			Subtotal Fee	Allowable Reimbursables Fees	Total Fee
	GEI	LimnoTech	OHM			
Task 1. Project Management & Internal Coordination	455	--	--	\$81,652.22	--	\$81,652.22
Task 2. Grant Application Support	56	--	--	\$8,289.44	--	\$8,289.44
Task 3. Public Communication	140	76	--	\$22,973.12	\$1,500.00	\$24,473.12
Task 4. Field Investigation	187	125	--	\$58,023.96	\$3,650.00	\$61,673.96
Task 5. 60%, 90%, 100% Design Phases	2235	--	430	\$371,386.76	\$500.00	\$371,886.76
Task 6. Permitting	418	52	--	\$67,716.44	\$2,200.00	\$69,916.44
Task 7. Post Construction Monitoring and Maintenance Plan	21	84	--	\$20,511.06	--	\$20,511.06
Task 8. Technical Assistance During Construction	1610	--	--	\$253,038.04	\$7,136.40	\$260,174.44
PROJECT TOTALS	5122	337	430	\$883,591.00	\$14,986.00	\$898,577.00

Staff Rates

Our team's billable hourly rates are shown in **Tables 3, 4, and 5** below. These are generic rates developed by calculating an average across all staff. These rates include all non-reimbursable expenses including fringe benefits, insurance, office expenses, etc.

TABLE 3. GEI STAFF RATES

Personnel Category	Employee(s)	Billable Hourly Rate
Senior Consultant - Grade 8	Troy Naperala, Michael Gentner, Scott Dierks, Stu Kogge, Brad Parlato, Joe Caryl, Denise Jurich	\$210
Senior Professional - Grade 7	Dan DeVaun, Brian Majka	\$206
Senior Professional - Grade 6	Janeen McDermott, Jennifer Sanka, Madeline Bowen, Braden Schwarz	\$191
Senior Professional - Grade 5	Emma Giese, Sam Prentice	\$148
Project Professional - Grade 4	Lydea Noye, Zack Pitman	\$131
Project Professional - Grade 3	Lorin Brace, Gretchen Trast	\$121
Staff Professional - Grade 2	Madison Green, Lena Philliber, Blake Short	\$112
Staff Professional - Grade 1	Abby Righter	\$103
Senior Drafter and Designer/ GIS	TBD	\$119
Administrative Staff	TBD	\$80

TABLE 4. LIMNOTECH STAFF RATES

Personnel Category	Employee(s)	Billable Hourly Rate
Senior Engineer II	Brendan Cousino	\$224
Project Engineer III	TBD	\$184
Project Engineer II	TBD	\$164
Project Engineer I	TBD	\$154

TABLE 5. OHM ADVISORS STAFF RATES

Personnel Category	Employee(s)	Billable Hourly Rate
Professional Surveyor III	Andrew Schripsema	\$175
Surveyor III	TBD	\$135
Surveyor II	TBD	\$120

Rates will increase up to 5% annually for all contracts that extend beyond twelve (12) months after the date of the contract.

Detailed Project Budget Sheet

GEI has developed the following summarized fee for the project incorporating GEI staff and subconsultant fees with a 5% markup. Reimbursable fees, including lab services, equipment rentals, printing fees for public communications, and travel fees do not include markup. This table truncates a significantly more complex spreadsheet, which can be provided if needed.

			Billing Rates----->																									Markup = 5%							
TaskID	Task	Description	Naperala	McDermott	DeVaun	Gentner	Schwarz	Dierks	Giese	Noye	Green	Righter	Short	Pitman	Kogge	Callahan	Sanka/Bowen	Jurich	Brace	Philliber/Young	G1	Majka	Prentice	CAD	Parlato	Caryl	Trast	Admin	Total Hours	Total Labor Cost	GEI Travel	Subconsultants	Other	Total Cost	
Project Totals Hours			163	862	163	19	44	37	121	886	1098	546	20	25	1	30	36	4	44	86	26	134	234	287	14	148	40	54							
Percent of Project Work by Hours			3%	17%	3%	0%	1%	1%	2%	17%	21%	11%	0%	0%	0%	1%	1%	0%	1%	2%	1%	3%	5%	6%	0%	3%	1%	1%							
	Project Administration		76	280	13	0	0	13	13	26	86	26	0	0	0	0	0	0	0	0	0	26	26	26	0	0	40	0	651	\$ 112,914.78	\$1,000	\$0	\$ 500.00	\$ 114,414.78	
1	Project Management & Internal Coordination		52	208	13	0	0	13	13	26	26	26	0	0	0	0	0	0	0	0	0	26	26	26	0	0	0	0	455	\$81,652.22				\$81,652.22	
2	Grant Application Support		8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	56	\$8,289.44				\$8,289.44	
3	Public Communication		16	64	0	0	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	\$22,973.12	\$1,000		\$ 500.00	\$24,473.12	
	Planning, Design, and Permitting		28	294	46	19	44	24	108	372	540	520	20	25	1	30	36	4	44	86	26	58	166	261	14	20	0	54	2840	\$ 392,885.26	\$5,590	\$104,242	\$ 760.00	\$ 503,477.16	
4	Field Investigations		0	18	12	0	24	8	8	8	8	8	20	25	1	30	0	0	0	0	0	0	12	5	0	0	0	0	187	\$27,636.96	\$2,890	\$30,387	\$ 760.00	\$61,673.96	
	Wetland Delineation/T&E		0	2	0	0	0	0	0	0	0	0	20	25	1	30	0	0	0	0	0	0	0	5	0	0	0	0	83	\$9,591.36	\$1,390		\$ 760.00	\$11,741.36	
	Geotechnical and Structural Investigation/Assessment		0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	\$4,721.52				\$4,721.52		
	Additional Sediment Sampling		0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	\$786.92		\$30,387		\$31,173.92		
	Site Visit		0	12	12	0	0	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	76	\$12,537.16	\$1,500			\$14,037.16		
5	Design		26	234	30	19	20	16	84	304	452	512	0	0	0	0	0	0	0	0	0	58	154	240	14	20	0	52	2235	\$307,704.26	\$500	\$63,683	\$ -	\$371,886.76	
	60% Design		8	70	14	10	18	8	40	120	172	196	0	0	0	0	0	0	0	0	0	26	74	120	4	4	0	20	904	\$124,016.12				\$124,016.12	
	90% Design		7	62	8	6	1	4	24	92	136	156	0	0	0	0	0	0	0	0	0	21	50	80	4	4	0	20	675	\$91,642.19				\$91,642.19	
	100% Design		7	46	8	3	1	4	20	68	96	136	0	0	0	0	0	0	0	0	0	11	30	40	2	4	0	12	488	\$65,945.75				\$65,945.75	
	Property Boundary/Easement Support		2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	\$2,006.44		\$63,683		\$65,688.94		
	Bidding Support and Pre-bid meeting		2	48	0	0	0	0	0	24	48	24	0	0	0	0	0	0	0	0	0	0	0	0	4	8	0	0	158	\$24,093.76	\$500			\$24,593.76	
6	Permitting		2	42	4	0	0	0	16	60	80	0	0	0	0	0	36	4	44	86	26	0	0	16	0	0	0	2	418	\$57,544.04	\$2,200	\$10,172	\$ -	\$69,916.44	
	SHPO		0	2	0	0	0	0	0	0	0	0	0	0	0	0	36	4	44	86	26	0	0	0	0	0	0	2	200	\$26,668.76	\$2,200			\$28,868.76	
	JPA		2	40	4	0	0	0	16	60	80	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	218	\$30,875.28		\$10,172		\$41,047.68		
	Technical Assistance Following Design Phase		59	288	104	0	0	0	0	488	472	0	0	0	0	0	0	0	0	0	0	50	42	0	0	128	0	0	1631	\$ 256,480.30	\$ 7,136.40	\$ 17,068.80	\$ -	\$ 280,685.50	
7	Post Construction Monitoring & Maintenance Plan		1	8	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	21	\$3,442.26		\$ 17,068.80		\$20,511.06	
8	Technical Assistance During Construction		58	280	104	0	0	0	0	488	464	0	0	0	0	0	0	0	0	0	0	48	40	0	0	128	0	0	1610	\$253,038.04	\$ 7,136.40			\$260,174.44	
Project Totals:			5,122	\$762,280	\$13,726	\$121,311	\$1,260	\$ 898,577																											



Janeen McDermott, P.E.

Senior Water Resources Engineer/Project Manager

Janeen McDermott is a senior water resources engineer in GEI's Traverse City, MI office. Having been engaged on over 25 dam removal projects, Ms. McDermott has a proven history of leading design and construction projects related to dam removal and stream restoration. She has 14 years of professional experience on diverse subject matters ranging from project management, environmental compliance, stormwater management and design, dam removal, stream restoration, sediment management, bank stabilization, and ecological restoration. She is also experienced in all aspects of design for water resources projects including data collection, H&H modeling and analysis, civil site design, permitting, and construction inspection.

PROJECT EXPERIENCE

White Cloud Dam Feasibility Study, Village of White Cloud, MI.

Project Manager and Technical Lead for the dam removal and stream restoration alternative. The project involves data collection, sediment sampling and characterization, hydraulic modeling, geotechnical and structural engineering evaluations, and development of a feasibility study to evaluate dam-in and dam-out alternatives.

Breedsville Dam Removal, EGLE Dam Safety, Village of

Breedsville, MI. Project Manager and Technical Lead for the dam removal and stream restoration design. The project includes data collection, sediment sampling and characterization, hydraulic modeling, dam removal design, design of approximately 800 linear feet of stream restoration design, wetland restoration, permitting, bidding support, and construction oversight.

Flat Rock - Huron Dam Removal Feasibility Study, Huron

Clinton Metroparks, Flat Rock, MI. Project Manager for this project that includes data collection, dam removal feasibility study including analysis of no action, partial dam removal, full dam removal with passive restoration, and full dam removal with full restoration. The project also includes development of a seasonal hydraulic barrier to reduce the potential for sea lamprey infestation of the Huron River, while allowing passage of native and desirable fish species during the rest of the year. The project includes an extensive public engagement task including stakeholder engagement and public meetings.

Stony Creek Dam Removal and Stream Restoration, The

Conservation Resource Alliance, Oceana County, MI, Technical Reviewer for the dam removal and stream restoration design. This project includes the removal of the Stony Creek Dam and restoration of approximately 3,000 linear feet of stream channel.

Kalamazoo River Cleanup Program, Kalamazoo River Areas 2,3,4

Remediation LLC, NCR Corporation, MI. Staff Team. Leads the hydrologic and hydraulic and channel design teams. This project includes dam removal and restoration of over 1 mile of the Kalamazoo River. There is an extensive remediation component to the project in



EDUCATION

M.S., Civil Engineering, Wayne State University

B.S., Environmental Biology/Zoology, Michigan State University

EXPERIENCE IN THE INDUSTRY

14 years

EXPERIENCE WITH GEI

1 year

REGISTRATIONS AND LICENSES

Professional Engineer, MI No.
6201066931

TRAINING AND CERTIFICATIONS

Michigan Industrial Storm Water Operator
Rosgen Level I – Applied Fluvial
Geomorphology
Rosgen Level II – River Morphology &
Applications

PROFESSIONAL AFFILIATIONS

Association of State Dam Safety Officials
(ASDSO)

conjunction with stream restoration including engineering design of rock grade control structures and ecological considerations for stream restoration practices.

PREVIOUS PROJECT EXPERIENCE

Peninsular Paper Dam Removal, Huron River Watershed Council, Ypsilanti, MI. Project Manager and Principal Engineer for the development of dam removal plans for the Peninsular Paper Dam. The project included a data collection phase including bathymetry, depth of refusal, sediment sampling and characterization, and site survey. Dam removal/dewatering alternatives were developed in conjunction with sediment management alternatives and a sediment fate and transport study to assess sediment movement and locations of sediment deposition during the dewatering process.

Tyler & Beyer Dam Removals, Washtenaw County Water Resources Commissioner, Ypsilanti, MI. Project Manager and Principal Engineer oversaw the data collection and 30% engineering analysis and design for the removal of Tyler and Beyer dams on the Willow Run Creek. The project included a data collection phase, feasibility study, and advancement of the preferred alternatives to 30% design.

Allegan City Dam Removal and River Restoration, City of Allegan, Allegan, MI. Project Manager and Principal Engineer for this project on the Kalamazoo River. The project includes conceptual river restoration and park design, and final design for dam removal including plans, specifications, and cost estimates. The project also included public engagement via hosting public meetings.

Plainwell Spillway Removal and Channel Restoration, MDNR, Plainwell, MI. Project Manager for this ecosystem restoration project on the Kalamazoo River. The project includes removal of an existing concrete spillway, selective channel widening to reduce channel velocities to increase fish passage, and bank stabilization. Tasks completed included data collection, alternatives analysis, preliminary and final design, permitting and construction management.

Trowbridge Dam Removal Feasibility Study and Stabilization, MDNR Plainwell, MI. Lead Water Resources Engineer for the feasibility study, dam stabilization, removal, and natural channel design. This project included a hydraulic modeling assessment, development of dam removal alternatives, design plan preparation, and preparation of permit applications.

Boardman River Phase II Final Design, USACE and Grand Traverse County, Grand Traverse County, MI. Lead Design Engineer for the hydrologic and hydraulic studies, sediment transport analysis, dam breaching design and permitting preparation. This project included comprehensive engineering and scientific expertise in the development of dam removal and river restoration design for Boardman and Sabin Dams. The project consists of dam breaching design, river restoration design, sediment management, bridge and roadway design, wetland assessment and mitigation design, geotechnical analysis, hydrologic and hydraulic analyses, sediment transport analysis, and environmental permitting, including use of GIS.

Otsego Township Dam Removal, MDNR, Allegan County, MI. Project Engineer for dam removal and stream restoration at the Otsego Township Dam on the Kalamazoo River. Responsibilities included analyzing hydrologic and hydraulic components of the natural channel design including rock sizing for energy dissipation and development of dam removal plans. The project included structural evaluation; engineering and design for dam removal; engineering and analysis for natural channel-based designs; floodplain restoration plans; permitting and engineering for a water control structure.

Troy R. Naperala, PE

Vice President

Troy Naperala is an expert in dam removal, river restoration and ecosystem restoration projects; having worked on nearly 50 dam removal and stream restoration projects.

Mr. Naperala has been involved with some of the most complex dam removal and river restoration projects in Michigan that have included public engagement, funding development strategies, recreation planning, flood risk mitigation, integration with municipal utilities, bridges, ecosystem restoration and fisheries enhancement. He is an expert in the technical, regulatory, and societal impacts of dams and dam removals and has spoken at several national conferences.

Many of the projects Mr. Naperala has worked on are in Michigan. Through these projects he has become familiar with the requirements of EGLE, U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA) and the ecological goals of the MDNR, USFWS, and National Oceanic and Atmospheric Administration (NOAA). Mr. Naperala has developed projects that fit within program constraints in order to create “win-win” projects for the owner.

PROJECT EXPERIENCE

Secord, Smallwood, Edenville and Sanford Dam Restoration, Four Lakes Task Force, Gladwin and Midland Counties, Michigan. Program Manager for GEI's construction phase services for Secord, Smallwood, Edenville and Sanford dams. Following the May 2020 flood event that resulted in damage to Secord and Smallwood Dams, and catastrophic failures of Edenville and Sanford Dams GEI produced risk-based designs for all four of the dams. The projects are essentially new dams and include upgrades to primary spillways, addition of auxiliary spillways, and reconstruction of earthen embankments. Construction phase services include quality assurance oversight of materials testing, field observation for structural and geotechnical components, and dam safety risk.

Flat Rock – Huron Dam Removal Feasibility Study, Huron Clinton Metroparks, Flat Rock, MI. Principal in Charge and In House Reviewer (QAQC). The project includes data collection, dam removal feasibility study including analysis of no action, partial dam removal, full dam removal with passive restoration, and full dam removal with full restoration. The project also includes development of a seasonal hydraulic barrier to reduce the potential for sea lamprey infestation of the Huron River, while allowing passage of native and desirable fish species during the rest of the year. The project includes an extensive public engagement task including stakeholder engagement and public meetings.



EDUCATION

M.S., Civil Engineering, University of Virginia
B.S., Environmental Engineering, Michigan Technological University

EXPERIENCE IN THE INDUSTRY
25 years

EXPERIENCE WITH GEI
2 year

REGISTRATIONS AND LICENSES
Professional Engineer, MI No.
6201049208

PROFESSIONAL AFFILIATIONS
MWEA
WEF
Michigan Board of Professional Engineers
(2012-2019)

AWARDS
ASDSO Midwest Region Award of Merit
2015
MWEA Watershed Professional of the
Year 2020

FishPass, Great Lakes Fishery Commission and City of Traverse City, Traverse City, MI. Project Manager for this project that includes a new dam, management of contaminated sediments, and an updated park for the City of Traverse City. It included partial and full renovation of a dam, fish passage, park enhancements, pedestrian bridge, recreational enhancements, and natural channel. Tasks included preliminary designs; site investigation/assessment of existing conditions; HTRW; value engineering; construction cost estimates; technical studies on H&H (HEC-RAS and CFD), geomorphology, local, state, and federal permits; geotechnical investigations; preparation of construction documents; bidding support; and engineering during construction. The project involved the removal and replacement of an aging dam with a new structure. The new structure has very stringent requirements for matching existing water surface elevations in order to maintain critical outlets functionality.

Boardman River Ecosystem Restoration, USACE and Grand Traverse County, MI. Project Manager for the USACE and local government study. The project includes habitat modeling and evaluation, dam routing and flood risk assessment, natural channel design, dam breaching, sediment management, and environmental permitting. This is the largest dam removal/ ecosystem restoration project in Michigan's history. Mr. Naperalala managed the interdisciplinary team that developed the structural and geotechnical analysis of the dam breaching and dewatering operations; conducted the hydrologic and hydraulic modeling (HEC-RAS) to assess flood risk; identified the relic river channel for restoration; and developed engineering plans and specifications for construction. Plans for a new county bridge were conducted in conjunction with the dam removal project. The path of the restored river required removal of an earthen dam and construction of a new bridge over the Boardman River. The completed project is a recreational draw (tubing, kayaking, canoeing, and fishing).

Grand Rapids Whitewater Environmental Impact Statement Development of Alternatives, Great Lakes fishery Commission, Grand Rapids, MI. Project Director of a multidisciplinary team worked collaboratively with the City of Grand Rapids, the Great Lakes Fisheries Commission, the USACE, The U.S. Fish and Wildlife Service, the Michigan Department of Natural Resources (DNR), and the Michigan Department of Environment, Great Lakes, and Energy to provide comprehensive engineering and scientific expertise to support an environmental impact statement for restoration and recreation alternatives to revitalize a 1.5-mile long reach of the Grand River.

North Branch Ecorse Creek Flood Control Study, Wayne County, MI. Project Manager for hydrologic and hydraulic modeling work related to the evaluation of flooding in North Branch Ecorse Creek. Mr. Naperalala led the team responsible for evaluating, reviewing, and updating the HEC-HMS and HEC-RAS models. These models were used to evaluate the causes of historic flood events and develop options to mitigate future floods.

Alcott Dam Removal, Kalamazoo County, MI. Project Manager and Design Lead. The Alcott Dam removal project consists of removing the dam and restoring Portage Creek, a former paper mill site. Sediments on site have low levels of contaminants present. The goal of the project is to remove the dam and provide fish passage for all species and year classes present. Work included field investigation, development of hydraulic models, natural channel design, dam removal, sediment management, and construction sequencing.

Township Dam Removal, Plainwell, MI. Project Manager for the dam stabilization, removal, and natural channel design. Mr. Naperalala provided guidance and oversight to all aspects of the project including project management, client engagement, public engagement, H&H analysis (HEC-RAS), removal design, dewatering plan, alternatives analysis, and construction oversight for design efforts and permitting documents. Nominated for the 2015 ASDSO Dam Safety Award by EGLE DSU based on this project.

Plainwell Spillway Removal and Channel Restoration, MI. Working with the Michigan Department of Natural Resources to develop final design bid documents including permitting for the demolition of a former dam concrete spillway and selective channel widening and bank stabilization. The project consists of wetland delineation, channel gradation data collection, 2D hydraulic analysis (HEC-RAS), demolition and site civil plans, habitat design, and cost estimating.

Brad Parlato, P.E.

Vice President – Central Region Manager

Brad Parlato is a Vice President with over 25 years of consulting engineering experience specializing in remediation/restoration projects that typically involve geotechnical and environmental challenges. Mr. Parlato has managed both the design and construction on projects ranging from large-scale river remediation projects to municipal public works projects. Additionally, Mr. Parlato has overseen remediation and restoration activities on emergency response crude oil release projects. He is experienced in preparing geotechnical/environmental engineering evaluation reports, stormwater designs, restoration plans and design, environmental dredging/water treatment systems, work plans and environmental permit applications. Mr. Parlato has significant construction management experience as well as managing staff (contractors, engineers, inspectors, technicians), and has managed numerous industrial and municipal projects.

PREVIOUS PROJECT EXPERIENCE

Shiatown Dam Removal, Durand, MI. Served As Contractor's Engineer for the project. Tasks included document review and strategic workplan preparation, submittal preparation and management and quality control oversight of work including the installation of a j-hook structure and reinforced slopes.

Corunna Dam Removal, Corunna, MI. Served As Contractor's Engineer for the project. Tasks included document review and strategic workplan preparation, submittal preparation and management and quality control oversight of work.

Sabin Dam Removal and Boardman River Restoration, Traverse City, MI. Provided engineering services for the restoration contractor which included work plan preparation, demolition and hazardous material assessment services, planning and sequencing of work, large woody debris installation support, sediment control and monitoring, beneficial reuse of demolished materials, pile load test assistance and general overall project management support. Project included the removal of Sabin Dam and restoring approximately 1 mile of river and associated floodplain.

Kalamazoo River OU5 Areas 2, 3 & 4, Allegan County, MI.

Member of the overall Project Leadership team through design and construction and restoration of significant sediment removal, removal of two dams (Trowbridge and Otsego City) and restoring a new channel through the area. Area 4 is a Time Critical Removal Action which is currently scheduled for implementation this year.

Ceresco Dam Removal and Kalamazoo River Restoration,

Ceresco, MI. Construction Manager for the project which included hydraulic dredging of impacted sediments and a 2.5-mile-long pilot channel, complete removal of the Ceresco Dam, and the restoration of the drawn-down impoundment and associated river channel. The restoration included balancing over 200,000 cubic yards of sediment,



EDUCATION

B.S., Environmental Engineering,
Michigan Technological University

EXPERIENCE IN THE INDUSTRY

25 Years

EXPERIENCE WITH GEI

2 years

REGISTRATIONS AND LICENSES

Professional Engineer, MI No. 50517,
Professional Engineer, TX No. 137408

TRAINING AND CERTIFICATIONS

OSHA HAZWOPER 40 Hr and 8 Hr
Refreshers

Michigan Department of Environment,
Great Lakes, and Energy (EGLE)
Certified Stormwater Operator (CSWO)
Rosgen Level I and II

installation of over 1,500 feet of wood-toe structures, excavation and construction of pools and riffles, and stabilizing the floodplain with native cover. Worked closely with the design engineer and contractors to achieve on-time and under budget results.

Morrow Lake and Delta Remediation Project, Kalamazoo, MI. Dredge Operations Chief and Lead Design Engineer throughout the planning, design, procurement, and construction phases of the project. Project included designing a sediment dewatering pad which supported six hydraulic dredges removing approximately 100,000 cubic yards of sediment. During construction was responsible for overseeing all facets of construction including land and marine operations and verifying that the work was performed in accordance with the Local, State (Michigan Department of Environment, Great Lakes, and Energy) and Federal (Environmental Protection Agency) requirements.

Alcott Street Dam Removal and Portage Creek Restoration, Kalamazoo, MI. Provided engineering services for the restoration contractor which included design and implementation of a siphon system for temporary drawdown, work plan preparation, safety oversight, vibration monitoring of critical structures, planning and sequencing of work, subcontractor selection and attendance of public meetings. Project included the complete removal of the Alcott Street Dam and restoration of approximately one-half mile of stream.

Kalamazoo River Large Woody Debris Design and Installation, Calhoun and Kalamazoo Counties, MI. Lead Engineer and Construction Manager for the project which consisted of installing over 250 habitat structures within about 30 miles of the Kalamazoo River. Worked closely with the restoration contractor to develop a safe and efficient method of delivering and installing the structures within inaccessible locations and within sensitive mussel habitats.

Perrin Dam Impoundment Sediment Investigation, Marshall, MI. Project Manager for the sediment investigation to determine the quantity and quality of the existing sediments within the impoundment in advance of potential dam removal. The investigation consisted of performing multiple cores using vibracore technology from a pontoon barge throughout the impoundment and obtaining “grab” samples of sediment from along the existing banks. Additionally, sediment poling was performed to help determine the quantities of soft sediment present. The sediment samples were classified and logged, and additional geotechnical and analytical analyses were performed.

Pigeon River Restoration, Vanderbilt, MI. Served as contractor’s engineer for the project which consisted of restoring over 1 mile of river following the failure of a local dam. Provided recommendations for reuse of fill materials, and general design revisions related to riffle and bank construction.

Lawrence Station Drainageway Restoration, Lawrence, MO. Design Engineer, and Construction Manager for the reconstruction of a relatively steep drainageway which was affected by a crude oil release. Services included performing hydraulic analyses and channel design to restore the channel to its original function. Project received considerable praise from the local agencies and community due to its overall stability and aesthetically pleasing restoration.

Lilly Station Channel Reconstruction, Lilly, PA. Provided design recommendations and construction management to restore a significantly eroded mountain stream to stable condition following a petroleum release. Significant design challenges included: overly steep terrain, crossing of multiple pipelines and effects on emergent wetlands. Assisted the design team with channel, culvert and backfill design and served as the Construction Manager for the construction portion to verify project compliance.

Multiple Stream Restoration and Small Dam Removals – Trout Unlimited, Southwest, MI. Served as the Kalamazoo Valley Chapter of Trout Unlimited Resource Chairman from 2005 to 2010. Lead multiple stream restoration projects within the Kalamazoo River Watershed, mostly focused on erosion stabilization and stream habitat installation. Coordinated annual water quality monitoring events, which included performing temperature and macroinvertebrate sampling at five tributaries of the Kalamazoo River. Flagship project included the removal of the Rice Creek Dam in Marshall, MI by providing consulting and design recommendations related to the floodplain reconstruction and channel habitat installation.

Dan DeVaun, P.E.
Senior Project Manager

Dan DeVaun is a Senior Project Manager and Professional Civil Engineer at GEI working with clients to solve water resource challenges in an ever-changing environment. His career over the past two decades has included service as an engineering consultant and a regulator in Michigan's Dam Safety Unit. His experience includes supporting development of policy and law, implementing regulations, and designing and managing projects for; dam rehabilitation, dam removal, river restoration, watershed analysis and planning, and stormwater management.

While in his role with the State of Michigan, Mr. DeVaun served as the statewide expert for regulatory review of dam removal projects. In this role he reviewed permit applications and supported implementation and monitoring of dam removal projects as well as assisted in development of guidance for dam removal projects in Michigan.

As an engineering consultant Mr. DeVaun has been engaged in over 25 dam removal, river restoration and fish passage projects. These projects have been completed for federal, state, and local agencies as well as private entities and non-profit organizations, in a wide range of urban and rural settings. Through these projects, Mr. DeVaun has gained extensive experience in navigating the social, environmental, and technical challenges of dam removals and river restoration.

PREVIOUS PROJECT EXPERIENCE

Dam Safety Program Improvements, Michigan Department of Environment Great Lakes and Energy, Dam Safety Unit, MI. As Senior Dam Safety Engineer facilitated migration of Michigan dam inventory data from Access database to ESRI cloud-based platform. Developed dam safety inspection tool utilizing Survey123. Developed Dam Risk Portfolio for Michigan inventory of dams based on FEMA P-713. Assisted in developing dam removal guidance document. Assisted with Dam Safety Program peer review and Dam Safety Task Force, which produced 86 recommendations for improving dam safety laws, rules, funding, and staffing. Also served as EGLE regulatory lead on dam removal projects statewide and assisted in review of the Michigan SQT.

Midland Fish Passage Project, Dow Chemical USA, Midland, MI. Served as Engineer of Record for design of fish passage structure at Midland Dow Dam. Fish passage structure was designed in collaboration with Dr. Luther Aadland as a sinusoidal rock arch rapids capable of passing a broad fish community. Target species for the project included Walleye, White Sucker, White Bass, and considerations for Lake Sturgeon. Design approach utilized 2D hydraulic modeling with HEC-RAS to evaluate fish passage performance. Services include engineer design, permitting, mussel survey and relocation, and construction observation.



EDUCATION

B.S., Civil Engineering, Michigan
Technological University

EXPERIENCE IN THE INDUSTRY

21 years

EXPERIENCE WITH GEI

2 years

REGISTRATIONS AND LICENSES

Professional Engineer, MI No.
6201054585

PROFESSIONAL AFFILIATIONS

Association of State Dam Safety Officials
American Society of Civil Engineers
Michigan Water Environment Association
Association of State Floodplain Managers
Michigan Storm Water Floodplain
Association

Sanback Dam Removal, City of Rose City, Rose City, MI. Project Manager for removal of Sanback Dam and restoration of Beach Creek in Rose City, Michigan. The significant hazard dam has fallen into severe disrepair and is no longer providing benefit to the community. GEI partnered with the City and Huron Pines to acquire grant funds from the Michigan Department of Environment, Great Lakes, and Energy Dam Risk Reduction Grant Program for removal of the dam. The project includes design of dam removal measures, sediment management, environmental permitting, and design of 800 feet of channel restoration using natural channel design principles.

Breedsville Dam Removal, Village of Breedsville, MI. In-House Reviewer for removal of Breedsville Dam and restoration of the South Branch Black River in Breedsville, Michigan. The project was being implemented under an Emergency Order by the Dam Safety Unit of the Michigan Department of Environment, Great Lakes, and Energy. The dam failed in 2008 and was unlawfully reconstructed in 2020. The removal of the dam will alleviate the risk of failure of the severely degraded structure and restore approximately 600 feet of stream in the vicinity of the dam.

Suttons Bay Stream Restoration, Village of Suttons Bay, MI. Project Manager and Engineer of Record for design and construction of small stream restoration project within the Village of Suttons Bay. In fall of 2022, a water wheel structure failed in the park, resulting in head-cutting and degradation of the stream. GEI designed restoration of 160 feet of stream, including floodplain restoration and rock cascades. In addition to design and permitting, GEI will be performing construction in 2024.

Marshville Dam Removal and Stony Creek Restoration, West Michigan Shoreline Regional Development Commission/Conservation Resource Alliance, Oceana County, MI. Independent Reviewer for design of the removal of the Marshville Dam and restoration of Stony Creek, a coldwater trout stream, in areas impacted by the dam. GEI was jointly contracted by WMSRDC and CRA to develop plans to remove the historic Marshville Dam and restore Stony Creek at Marshville Dam County Park. Having fallen into a state of disrepair, the dam provided a blockage to fish passage and was also a safety concern. To develop project designs, GEI worked with project partners to assess existing conditions at the site—this included a depth to refusal study, assessment of woody debris in the channel and nearby reference reach, mapping of existing vegetation, topographic and bathymetric surveys, sediment sampling, and hydrologic/hydraulic modeling.

Boardman River Phase II Final Design, Grand Traverse County, Traverse City, MI. Served as Project Manager and Design Lead for removal of two high hazard dams and restoration of 2.5 miles of blue-ribbon trout stream. Responsibilities included communicating and managing the expectations of the various project partners while leading a multidisciplinary team of engineers and scientists to deliver a successful restoration project that met local, state, and federal regulatory requirements and the needs of the grant sources. Provided comprehensive engineering and scientific expertise in the development of dam removal and river restoration design for Boardman and Sabin Dams. The project consisted of dam breaching design, river restoration design, sediment management, bridge and roadway design, wetland assessment and mitigation design, geotechnical analysis, hydrologic and hydraulic analyses, environmental permitting, and construction oversight.

FishPass, Union Street Dam Replacement, Great Lakes Fishery Commission, Traverse City, MI. Served as Project Manager and Design Lead, working with Great Lakes Fishery Commission, in partnership with the US Army Corps of Engineers and the City of Traverse City, to develop an experimental fish passage facility at the site of the Union Street Dam in downtown Traverse City. Design of this facility includes a new dam with an arced labyrinth weir for improved hydraulics, a naturalized bypass channel, a 400 feet long experimental fish passage channel with fish sorting chambers and headworks, gantry crane, pedestrian bridge, research building, and park improvements. Professional services included development of construction contract documents, cost estimating, public engagement, and environmental permitting.

Scott Dierks, P.E.

Senior Water Resources Engineer

Scott Dierks is a civil engineer, hydrologist and ecological engineer. He has spent the last twenty plus years trying to apply the lessons of natural systems to urban and landscape design. This work includes hydrologic, water quality and sediment transport monitoring and modeling. The monitoring and modeling has been used to inform, test and refine stormwater, wastewater and stream planning and restoration projects. His design work has included treatment wetlands for sanitary and leachate wastewaters; urban and rural BMPs, and large-scale stream, wetland and shoreline restoration. His work has required close interaction with such agencies as the MDEQ (now EGLE), MDNR, USFWS, USEPA, USGS, FEMA and USACE.

PROJECT EXPERIENCE

Corunna Dam Removal, Shiawassee River; City of Corunna, MI.

Project Manager responsible for all aspects of dam removal design, permitting and construction oversight. Following project initiation, GEI was able to help the City of Corunna also secure MI DNR Trust Funds to add a boardwalk, overlook, kayak and canoe launch and trail connection to final design. Because sediment sampling found pollutant exceedances for human exposure around fringe areas to be exposed following drawdown, GEI worked closely with MDEQ to develop a plan to manage that sediment in-place with a conservation easement. Final design includes 200-LF of toewood, engineered bank, J-hook, and constructed riffle, along with the boardwalk, overlook and new parking lot. Observations to date demonstrate that the habitat improvements are permitting sustained fish passage.

Shiatown Dam Removal, Shiawassee River, Shiawassee County, Michigan. Project Manager for fluvial geomorphology, hydraulic and sediment transport analyses, design, permitting and construction observation. Dam completely removed Fall, 2019. The project entailed demolition and removal of a 3-ft high concrete spillway, abutments and walls, along with the foundation of the power house. Excavated and donated 16,000-CY of floodplain cut for farm soil replenishment. Installed 250-LF of toewood and riffle/grade control. Five-year monitoring period has begun.

River Raisin Dam Removal and Remediation, Michigan Department of Environmental Quality and the City of Monroe, Western Lake Erie Basin, MI. Project Manager for engineering and construction oversight of a two-phase project to restore fish and canoe/kayak passage from Lake Erie up the lower 23 miles of the River Raisin for the first time in over 80 years. Responsibilities also included leading the grant application preparation process to secure \$3.3 million in Great Lakes Restoration Initiative (GLRI) grant funding for both phases. Project work included hydrologic/hydraulic modeling, fish, macroinvertebrate and mussel sampling, rock ramp/rock arch ramp, dam removal and auxiliary fish passage and bridge design, permitting and construction oversight. Phase 1 was completed Fall 2012. Phase 2 was



EDUCATION

MSE, Environmental Engineering, University of Florida

B.S., Civil Engineering, University of Rhode Island

B.A., Psychology, Colgate University

EXPERIENCE IN THE INDUSTRY

29 Years

EXPERIENCE WITH GEI

6 years

REGISTRATIONS AND LICENSES

Professional Engineer, Michigan

CERTIFICATIONS

Certified Technical Service Provider (TSP)
Wetlands (Interdisciplinary) Engineering
Components, TSP-06-5399

PROFESSIONAL ASSOCIATIONS

Lake Norcentra Planning Committee –

Assisting Rochester College with planning work to develop conceptual master plan around Lake Norcentra

Technical Oversight and Advisory Committee on Stormwater, Ann Arbor, Michigan – Member

U.S. Green Building Council – Member

River Raisin Institute, Monroe, Michigan – Board Member

Huron River Impoundment Management Plan Committee, Ann Arbor, Michigan – Member
Stormwater, Michigan State University, Center for Water Sciences, East Lansing, Michigan – Water Fellow

Washtenaw County Drain Commission, Ann Arbor, Michigan – Allens Creek Advisory Committee

Huron River Watershed Council, Ann Arbor – Volunteer



completed in September 2014. Scott was the project manager for all aspects of these projects, including design, permitting and the grant application process.

Dam Removal, Restoration and Remediation Of Bed, Bank and Floodplain Sediments, Kalamazoo River, Confidential Client, Kalamazoo County, Michigan. Lead on hydrologic/hydraulic and sediment transport modeling along with fluvial geomorphology analysis to support dredging/excavation of contaminated bed, riverbank, and floodplain soils in nine continuous miles of the Kalamazoo River. In the process, also removing two dams and balancing cut from the impoundment with target bankfull and floodplain dimensions as verified using natural channel design principles. Includes bridge scour analysis post-dam removal bank, bed restoration and fish passage design. Project duration is at least 10 years with an overall budget exceeding \$150M.

Three Mile Creek and Five Mile Creek, Hiawatha Sportsmans Club and Miller Canfield, Engadine and Harbor Springs, MI. Led the engineering analyses for both projects, after low head dams on both creeks failed. In both instances, the hydraulic and sediment transport analyses demonstrated that any legacy sediment eroded from the former impoundments would relatively quickly (less than 1-year) be transported to Lake Michigan. Both projects included design and installation of riffles to moderately control head-cutting, but otherwise some movement of sediment was allowed to continue, and the restoration plans remained modest. For Three Mile Creek, GEI designed and installed several downstream large woody debris structures along with seeding and erosion control blanket to control erosion below the former impoundment.

Brent Run Landfill Stream, Wetland and Floodplain Mitigation Waste Connections, Inc., Montrose, MI. Project Manager responsible for development of a stream, wetland, and floodplain mitigation design for a major landfill expansion in Montrose, Michigan. The project included detailed assessment of approximately 300 acres of land and over two miles of stream channel on property owned by the Brent Run Landfill, a Type II sanitary landfill. The site assessments included hydrologic and sediment transport monitoring and modeling, pebble counts, Rosgen/RiverMorph fluvial geomorphologic analysis and longitudinal and cross-section surveys, wetland delineation, threatened and endangered species assessments, woodland surveys, and fish and macroinvertebrate surveys. The project secured the first-of-its kind Michigan permit for a mile of stream relocation, bridge, 23 acres of forested wetland mitigation and the creation of 19 ac-ft of additional floodplain storage. Approximately 2 MCY of material was excavated from the project area and re-used in landfill cell construction. Construction was completed in Fall 2015. Post-construction monitoring will continue through 2025. As project manager, responsible for all aspects of the stream restoration design and permitting.

North Branch Clinton River, DTE Energy Company, Ray, MI. Led development of a stream relocation plan on the North Branch of the Clinton River. One of DTE's live 30-inch natural gas pipelines had become completely exposed and was left hanging for over 100-LF in the river. After an extensive alternatives analysis and conferring with the agencies, the project team opted to "put back" the river to its former meander plan form. This necessitated moving approximately 650-LF of the river, mitigating for 0.25 acres of wetland and recreating the meander bend so the pipe crossed at a hardened riffle. Work also included removal of a low head dam, filling a cut-off channel and creation of an oxbow wetland. Natural channel design included reference reach selection, consultation of regional curves, and hydrologic and hydraulic and sediment transport modeling.

Highland Park Dam Mitigation Project, Swan Creek, Toledo, OH. Project Manager for a design-build project on Swan Creek that runs through the City of Toledo's Highland Park. This project was commissioned to mitigate the low-head dam on Swan Creek that carries sanitary sewer near the South Avenue Bridge. The project was funded through a Joyce Foundation Grant to the Partners for Clean Streams (PCS). The project included channel and floodplain survey and assessment; hydrologic and hydraulic modeling to confirm that the design did not affect upstream water surface elevations; a demonstration of fish-passable conditions; permitting and contracting with and overseeing construction of two rock ramps in Swan Creek. Post-construction monitoring has demonstrated higher macroinvertebrate and fish species diversity upstream of the dam.

Sam Prentice, P.E.

Senior Water Resources Engineer

Sam Prentice is a licensed civil engineer working as part of a collaborative team specializing in ecological and environmental consulting. The team works together with several clients to provide data collection, analysis, report, and design services. His responsibilities include data collection, hydraulic modeling, sediment transport analysis, design, and construction oversight for stream restoration and fluvial geomorphology projects. He is currently an active designing team member on multiple dam removal and river restoration projects. Mr. Prentice completed all four levels of Dr. Dave Rosgen's Natural Channel Design courses, which are a national standard for quantifying and designing stream restoration and floodplain connectivity projects. He has also completed culvert sizing projects for aquatic organism passage using the U.S. Forest Service's Stream Simulation design criteria.

PROJECT EXPERIENCE

Corunna Dam Removal, City of Corunna, Shiawassee County, MI.

Modeler-Hydraulics and Hydrology, Design Team Member, and Field Data Collection. Located downstream of the Shiatown Dam on Michigan's Shiawassee River is Corunna Dam. After the Michigan Department of Environmental Quality (DEQ) issued a regulatory order to repair or remove this dam, the design team presented multiple design scenarios along with cost estimates to the project review team. After selecting the design that best meets the needs of the community and natural resources, the design team worked with the City of Corunna to author several proposals to state and federal grant sources. Key responsibilities on this current project include modeling existing and proposed conditions for multiple flood events, presenting modeling results and conceptual designs to the review team, and incorporating restoration elements from regional curve calculations and grade control structures. Dam removal was completed in 2019.

Shiatown Dam Removal, Friends of Shiawasee River, Shiawassee County, MI.

Modeler-Hydrology and Hydraulics, Design Team Member. Shiatown Dam is located on the Shiawassee River, which is a tributary to Michigan's Saginaw Bay. Through a collaborative partnership involving public and private entities, GEI removed Shiatown Dam to increase aquatic organism passage, reestablish natural sediment transport and reduce flood risk. Key roles on this project included hydraulic modeling of multiple removal scenarios and restoration alternatives. The design team incorporated modeling results with regional curve studies to create a removal and restoration plan with natural channel design principles. A permit was obtained for removal and restoration in 2017. Dam deconstruction was completed in 2019.

Republic Dam Removal, Michigamme River Basin Authority, Marquette County, MI.

Lead Designer and Project Manager. The Michigamme River Basin Authority is removing the existing dam and replacing it with an engineered rock rapids to maintain a minimum water elevation and allow for fish passage upstream of the dam for the first



EDUCATION

B.A., Physics, Albion College
B.S., Biosystems of Engineering, Michigan State University

EXPERIENCE IN THE INDUSTRY

12 years

EXPERIENCE WITH GEI

9 years

REGISTRATIONS AND LICENSES

Professional Engineer, MI No. 62971
NAUI Certified Open Water Advanced Diver
HAZWOPER Trained

CERTIFICATIONS

Wildland Hydrology Levels I-IV Natural Channel Design Courses

PROFESSIONAL ASSOCIATIONS

2023 National Stream Restoration Conference
– Presenter and Sponsor
2018 Minnesota Stream Restoration Conference – Project Poster Presentation
2014 International Conference on Engineering & Ecohydrology for Fish Passage-Advisory Board
Lake to Lake Cooperative Invasive Species Management Area – Steering Committee
Partnership for Watershed Restoration – Steering Committee Member



time in over 100 years. GEI assisted in initial feasibility and project planning, grant writing, field data collection, design, permitting, cost estimating, and construction oversight as part of this project. The unique sine-wave weir design is the first design of its kind to be constructed in Michigan and design support for fish passage is being provided by Dr. Luther Aadland, a subject matter expert in warmwater fish passage. Presented at the 2023 National Stream Restoration Conference.

Midland Dam Removal and Fish Passage, Confidential Client, Midland County, MI. Supporting Designer and fish passage evaluation. This project is part of a 2020 Consent Decree to address natural resource damages within the Tittabawassee River and greater Saginaw Bay (Lake Huron) watershed. GEI developed seven different design alternatives for this project to increase fish passage past the dam while maintaining a minimum water surface elevation for the client's operational needs. The selected design is an engineered rock rapids that maintains a minimum pool elevation while stepping down the water surface elevation to allow fish to swim through gaps in the rapids and rest in pools in between the grade-controlling boulders within each weir. Presented at the 2023 National Stream Restoration Conference.

Flat Rock - Huroc Dam Removal Feasibility Study, Huron Clinton Metroparks, Flat Rock, MI. Dam removal design. This project includes data collection, dam removal feasibility study including analysis of no action, partial dam removal, full dam removal with passive restoration, and full dam removal with full restoration. The project also includes development of a seasonal hydraulic barrier to reduce the potential for sea lamprey infestation of the Huron River, while allowing passage of native and desirable fish species during the rest of the year. The project includes an extensive public engagement task including stakeholder engagement and public meetings.

Multiple Dam Removals, Confidential Client, Kalamazoo River, MI. Current projects involving the design of a water control structure for removal of the Trowbridge and Menasha Paper dams while managing contaminated sediments. Project also includes river restoration and floodplain design to create stable riverbanks and beneficial wetland habitat. Project responsibilities include water control, dam removal, and channel restoration design, hydraulic modeling, construction cost estimating, and review of existing geomorphic reports.

Superior Dam Removal Analysis, City of Ann Arbor, Superior Township, MI. Assistant Field Engineer for Part 12 FERC Inspection including potential failure mode analysis (PFMA) discussion with the City of Ann Arbor, dam and gallery inspection, and report of findings for the dam. Study also included scope and pricing for sediment sampling, sediment volume estimates, channel restoration design, and construction pricing for removal of Superior Dam and restoration of the Huron River and its associated floodplain.

Three Mile Creek Dam Release Field Survey and Assessment, Hiawatha Sportman's Club, Mackinac County, MI. Presented at the 2018 Minnesota River Restoration Conference. Field Data Collection, Modeler-Hydraulics, Report Preparation. Performed on-site and desktop evaluation of conditions approximately 19 months after the failure of an earthen dam on Hiawatha Sportsman's Club Property. GEI Consultants provided assistance in documenting and determining the location, extent, and impacts to habitat this sediment release had on downstream resources. Key roles on this project include preparing field survey maps using GIS software, collecting field data on the Lower Millecoquins River and Three Mile Creek, analyzing field data using HEC-RAS, and performing an incipient motion analysis to determine when fine impoundment sediments became mobile in the stream column.

Brent Run Landfill Stream, Wetland, and Floodplain Mitigation Design and Permitting, Waste Connections, Montrose, MI. Design Team Member, Construction Observation and Monitoring. Detailed assessment of approximately 300 acres of land and over two miles of stream channel. The site assessments included hydrologic and sediment transport monitoring and modeling, pebble counts, Rosgen/RiverMorph fluvial geomorphologic analysis and longitudinal and cross-section surveys. Project achieved the securing of the first-of-its kind permit for almost a mile of stream relocation, 23 acres of forested wetland mitigation and the creation of 19 acre-feet of additional floodplain storage. The first phase of construction – new valley creation – occurred in 2014, while final channel construction and relocation of flow occurred in 2015. Maintenance and monitoring will continue post-construction from 2017 to 2027 to assess future changes to sediment transport and biological diversity of the relocated stream. Presented at the 2018 Minnesota River Restoration Conference.



Brian Majka is a professional restoration ecologist with extensive experience in business management and development, project oversight, design and implementation of wetland construction, stream restoration, soft shoreline engineering, prairie planting, natural areas management and best management practice (BMP) design projects throughout the eastern United States. Brian is responsible for project management of ecological restoration design and implementation projects for GEI. He actively gives presentations on various ecological restoration-oriented topics throughout the country.

PROJECT EXPERIENCE

Marshville Dam Removal and Stony Creek Restoration, West Michigan Shoreline Regional Development Commission (WMSRDC)/Conservation Resource Alliance (CRA), Oceana County, MI. Project Manager for design and construction oversight of the removal of the Marshville Dam and restoration of Stony Creek, a coldwater trout stream, in areas impacted by the dam. GEI was jointly contracted by WMSRDC and CRA to develop plans to remove the historic Marshville Dam and restore Stony Creek at Marshville Dam County Park. Haven fallen into a state of disrepair, the dam provided a blockage to fish passage and was also a safety concern. To develop project designs, GEI worked with project partners to assess existing conditions at the site—this included a depth to refusal study, assessment of woody debris in the channel and nearby reference reach, mapping of existing vegetation, topographic and bathymetric surveys, sediment sampling, and hydrologic/hydraulic modeling.

Rio Grande Creek Dam Removal and Stream Restoration, Muskegon Conservation District, Muskegon County, MI. Project Manager for design of the removal of the Rio Grande Creek Dam and associated restoration at Patterson County Park. GEI worked with project partners to develop plans to remove a historic dam within the county park and restore locations of the creek impacted by the dam. Plan development included site surveys for sediments, vegetation, and creek morphology, hydraulic and hydrologic modeling, and plans for the removal and restoration of the creek channel using natural channel design methodology.

Muddy Creek Bay Restoration, The Nature Conservancy, Sandusky, OH. Lead Restoration Ecologist for assessment and conceptual designs for restoration of Muddy Creek Bay, a ~4-square-mile lacustrine estuary on Lake Erie. The assessment and design included soils surveys, bathymetric surveys, ADCP velocity measurements, two-dimensional modeling of the bay hydrology, wave runup modeling. Additionally, the Ohio Qualitative Habitat Evaluation Index was used to evaluate habitat, and existing wetland communities in the bay were mapped and evaluated for water depth and turbidity. The study was used to determine restoration potential for wetlands throughout the entire bay.

EDUCATION

B.S., Natural Resources and Environmental Science, Purdue University

EXPERIENCE IN THE INDUSTRY

24 years

EXPERIENCE WITH GEI

9 years

TRAINING AND CERTIFICATIONS

OSHA 40-Hour HAZWOPER
OSHA 10-Hour Construction Safety
Michigan Commercial Pesticide Applicator's License (Category 5/6)
National Wildfire Coordinating Council S-130/S-190/I-100
Commercial Pilot's License, Small Unmanned Aircraft Systems (SUAS)
SER Certified Ecological Restoration Practitioner (CERP) #0086
State of Michigan Certified Stormwater Operator
Wilderness First Aid
American Heart Association CPR/First Aid

PROFESSIONAL ASSOCIATIONS

Michigan Invasive Plant Council, Vice Chair 2009-2017
Michigan Natural Shoreline Partnership, Vice Chair 2014-2017
Purdue University NRES Alumni Advisory Committee, Member
Grand Valley State University Natural Resources Management Program Advisory Council
West Michigan Conservation Network Steering Committee Member 2016-2022
Applied Fluvial Geomorphology/Rosgen Wildland Hydrology, Level 2
Board of Directors, Midwest-Great Lakes Chapter of Society for Ecological Restoration. 2020-present

Lower Muskegon River Coastal Wetland Restoration, WMSRDC, Muskegon County, MI. Project Manager for design and construction of approximately 60 acres of Great Lakes Coastal Wetland Restoration. The Lower Muskegon River site was formerly a celery farm that was disconnected from the Muskegon River and Lake Michigan through the construction of earthen dikes. The development of project designs included an evaluation of phosphorus, contamination, hydrology, soils, and native vegetation at the site. Construction of the site included dewatering of 60 acres of high nutrient wetlands, installation of well points to increase berm stability, excavation of approximately 120,000 cubic yards of high-phosphorus soil, installation of over 200 wildlife habitat structures, and installation of native seed and vegetation.

Shoreline and Wetland Restoration, Edsel and Eleanor Ford House, Macomb County, MI. Lead restoration ecologist, responsible for design of natural and nature-based shoreline stabilization techniques and wetland restoration at this historic property on the shores of Lake St. Clair. The project is being designed in the vision of the original landscape architect, Jens Jensen, to meet the historic vision of the property while also creating visitor improvements in a way that restores Great Lakes coastal habitat along the shoreline.

Mona Lake Celery Flats Coastal Wetland Restoration, Muskegon County Water Resource Commissioner, Muskegon County, MI. Project Manager for restoration of approximately 130 acres of Great Lakes Coastal Wetlands. The Mona Lake Celery Flats are historic emergent wetlands that have been disconnected from the Black River and Lake Michigan through earthen dikes. Designs, currently under development, include an analysis of site soils, hydrology, and native vegetation and will include 2-dimensional HEC-RAS modeling, removal of high nutrient and/or contaminated soils, treatment of high-phosphorus water and soils, and the installation of habitat structures and native vegetation.

Ottawa Sands County Park Shoreline and Interdunal Wetland Restoration, Ottawa County Parks and Recreation Commission, Ottawa County, MI. Project Manager for design and construction of shoreline and wetland restoration. GEI partnered with Ottawa County Parks to work in a design-build capacity to develop and construct the planned habitat improvements at the site. Design plans included the creation of approximately 6 acres of interdunal wetland habitat, the creation of a new sand dune, and restoration of approximately 7,000 linear feet of shoreline around the lake by creating a wider littoral shelf and nearshore wetlands. The restoration efforts are intended to provide habitat for a wide range of plants and animals, including fish, reptiles and amphibians, and secretive marsh birds. To complete the design efforts, GEI installed piezometers and staff gauges to assess the surface and groundwater at the park. GEI also completed topographic and nearshore bathymetric surveys and wetland delineations to inform the project design. Using the site data and analysis, GEI worked with park planners to design the habitat improvements in a manner that fit with the park Master Plan. The site has been designed to accommodate short and long-term fluctuations in Lake Michigan water levels, which strongly influence the site hydrology.

Kalamazoo River and Talmadge Creek Restoration, Confidential Client, Marshall, MI. Restoration ecologist responsible for design and implementation of stream and wetland restoration along Talmadge Creek and the Kalamazoo River following an oil release incident. Services provided included assessment, design, and implementation of ecological restoration along the waterways, as well as regulatory compliance support. Tasks completed during the course of the project included development of interim and final restoration plans, integration of bioengineering measures along the creek and stream corridor, riverbank erosion assessments, quantitative assessment and qualitative survey of vegetation communities, design and installation of fish and wildlife habitat structures, assessment of aquatic habitats, completion of river and stream geomorphological studies, development and implementation of invasive species control plans and measures, completion of various environmental permitting tasks, design and implementation of natural stream channel and streambed reconstruction and stabilization, and surveys with unmanned aircraft systems (UAS or drones).

Millbrook Dams and Wetlands Construction, Jack's Holding on the Hill LLC, Steere Engineering, Inc., Millbrook, NY. Project Manager for restoration of approximately 11 acres of wetland restoration associated with dam construction. As Project Manager for the wetland restoration portion of this effort, Brian oversaw installation of approximately 11 acres of nature seed, 6,000 trees and shrubs, and 33,500 native plant plugs. Following installation, GEI monitoring the vegetation at the site to comply with permit requirements.

Joe Caryl, C.C.M.

Vice President – Construction Services

As a Vice President of Construction Services, Joe is a Certified Construction Manager and has led design and construction management teams in hundreds of projects for public and private sector clients throughout North America involving vertical and civil construction, dam removal/restoration decommissioning/ demolition, and environmental remediation/restoration. He has been the Project Manager/Construction Manager on multiple construction and remediation projects including soil/groundwater remediation, demolition, sediment (dredging/capping) and involving Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Act components. These projects have ranged in value from \$50,000 to over \$100 million. He currently provides consulting on construction projects for GEI's key accounts.

PROJECT EXPERIENCE

Midland Dam Fish Passage, Confidential Client, Midland, MI.

Provided cost estimating support, constructability reviews, specification development, bid forms and preliminary schedule development during design and Quality Assurance/Quality control during construction. GEI was hired to design a fish passage structure that will improve fish passage at the dam while maintaining upstream water surface elevations required for site wide operations. GEI reviewed existing field data to develop seven fish passage design alternatives and selected a preferred design option through a collaborative decision-making process with project Trustees. In addition to design, GEI will be providing construction oversight services.

Secord, Smallwood, Edenville and Sandford Dam Rehabilitation, Four Lakes Task Force, Midland, MI. Provided cost estimating support, constructability reviews, specification development, bid forms and preliminary schedule development during design and Quality Assurance/Quality control during construction. The project involves dam restoration design and Engineer of Record field services during construction (resident engineering/field inspection) of four dams in Midland and Gladwin counties that were damaged during a flood event in 2020. The total projected cost of design and restoration is more than \$270 million.

Kalamazoo River Superfund Site Trowbridge Dam Area (Area 4) Time Critical Removal Action (TCRA), Confidential Client, Kalamazoo, MI. Design, and construction support for a TCRA for Area 4 of the Kalamazoo River Superfund Site OU-5. The project involves removal of Toxic Substances Control Act (TSCA) and non-TSCA PCB contaminated riverbank and sediments in a 4-mile stretch of the Kalamazoo River. Project elements include dam removal, pilot channel installation, hydraulic dredging, mechanical dredging, and bank/floodplain restoration. Supporting the team in design reviews,



EDUCATION

M.S., Construction Management,
Eastern Michigan University
B.S., Biology/Biochemistry,
Eastern Michigan University

EXPERIENCE IN THE INDUSTRY

25

EXPERIENCE WITH GEI

2 Years

TRAINING AND CERTIFICATIONS

Certified Construction Manager
HAZWOPER
Site Supervisor
10-hour OSHA Construction
Safety

substantive requirements for permit compliance, review of bidding documents, risk register development, contractor procurement and Construction Management (CM) services during implementation of the remedy.

Kalamazoo River Superfund Site Otsego Township Dam Area (Area 3) TCRA, Confidential Client, Kalamazoo, MI. Performed a TCRA for Area 3 of the Kalamazoo River Superfund Site OU-5. The project involved removal of TSCA and non-TSCA polychlorinated biphenyl contaminated riverbank and sediment in a 1.5-mile stretch of the Kalamazoo River. Project elements included dam removal, pilot channel installation (hydraulic dredging), mechanical dredging, installation of j-hook veins and bank/floodplain restoration. Construction manager responsible for design review, substantive requirements for permit compliance, preparation of bidding documents, contractor selection, work plan/submittal review, design change bulletins, responses to subcontractor Request for Information, site management of subcontractors, site access planning and material management planning for a very restricted site (access remote river bank/sediment material), sediment solidification plan review, waste management plan review, safety compliance (Occupational Safety and Health Administration/HAZWOPER), scheduling, change management and Construction Quality Assurance.

Brown Bridge Dam Removal and River Restoration Project, Boardman River Dams Settlement Agreement Implementation Team, Boardman River, Grand Traverse County, MI. Construction Manager. Construction was completed within the project's aggressive 5-month timeframe and was constructed below the overall project budget. Total contract value exceeded \$3M and resulted in restoring 2.5 miles of natural river channel and 12.2 acres of floodplain through handling, trucking, and grading of 260,000 cubic yards of sediment that had accumulated in the former impoundment. Restoration included the placement of about 985 lineal feet of woody debris for bank protection and habitat. Assisted in procurement of the contractor through a qualification-based selection process which included preparation of request for qualification (RFQ), shortlisting prequalified bidders based on responses to the RFQ, evaluation of the bids in conjunction with the client and the selection of the contractor. During construction, responsible for managing subcontractor activities, submittals, requests for information, construction quality assurance, health and safety audits, conducting weekly progress meetings, reviewing subcontractor invoices, scheduling/critical project activity sequencing and preplanning, implementation of the drawdown plan, permit compliance, communication with the owner/regulators/volunteer organizations, negotiating change orders/change management, development of field orders, and budget tracking.

Elkhart Hydroelectric Dam Seepage Repair, American Electric Power, Mishawaka, IN. Provided cost estimating support, constructability reviews, specification development and preliminary schedule development during design. Procurement support included development of the bid package, prebid meeting, bid evaluation and contractor negotiations/recommendation of award. GEI provided construction management services including managing the project with Procore, a construction management information software system, and field engineering services.

Twin Branch Dam Rollway Stabilization, American Electric Power, Elkhart, IN. Provided cost estimating support, constructability reviews, specification development, and preliminary schedule development during design. Procurement support included development of the bid package including a risk balanced measurement and payment section given several unknown conditions related to the restoration activities.

Marmet Hydro Dam Steel Sheet Pile Bulkhead Repair, American Electric Power, Marmet, WV. Provided cost estimating support, constructability reviews, and preliminary schedule development during design. GEI will provide construction management services including managing the project with Procore, a construction management information software system, and field engineering services during construction.

Gretchen Trast

Grant Program Manager

Gretchen Trast leverages her expertise in grant proposals, program development, and funding acquisition to support GEI's mission and strategic vision. She is proficient in 2 CFR § 200 federal guidelines, CSR benchmarking, NEPA environmental review process, Davis Bacon Labor Standards compliance and reporting, and standard operating procedure creation.

In her current role as Grant Program Manager at GEI, Gretchen leads comprehensive grant application preparation for projects in water management, ecological restoration, brownfield redevelopment, and additional project types. She identifies and secures federal, state, and local grant opportunities for diverse clients, including public, private, and nonprofit sectors. She also develops and implements strategic funding plans for large-scale, multifaceted projects, leveraging multidimensional community development strategies to ensure long-term grant acquisition and management.

PREVIOUS EXPERIENCE

Greater Nashville Regional Council, Economic & Community Development. Program Administrator. Administered 11 projects, totaling \$8M for utility expansion, renovation, and new construction; community programs; and other engineering projects. Secured \$13M in grant funding for local governments from state and federal funding agencies by crafting compelling proposal documents, budgets, and necessary supplemental documentation. Collaborated with rural and urban communities to define project scopes, establish budgets, and facilitate procurement processes, aligning with project objectives and maintaining compliance. Assisted local counties in formulating disaster resilience and mitigation project scopes and facilitated the application process for funding, including Federal Emergency Management Agency grants and Community Development Block Grant Disaster Resilience funds

Urban Housing Solutions. Real Estate Development Coordinator. Administered over \$1M in local, state, federal, and foundation grants to support development costs and assure long-term housing affordability. Co-led the rehabilitation of 187 residential units across three properties, orchestrating comprehensive project management. Directed the relocation planning of 70 households receiving public rental assistance, assuring compliance with federal regulations. Conducted comprehensive financial feasibility analyses, leveraging pro forma models to optimize affordability, funding structures, space utilization, and project viability.



EDUCATION

M.Ed., Community Development & Action,
Vanderbilt University

B.S., Community & Nonprofit Leadership,
Comm Arts, University of Wisconsin-
Madison

EXPERIENCE IN THE INDUSTRY

2 years

EXPERIENCE WITH GEI

Less than 1 year

Tennessee Valley Authority (TVA). Remote External Relations Intern. Collaboratively developed a robust community engagement framework covering TVA's seven-state service area utilizing an evidence-based indicator index and social impact evaluation to inform the framework. Created a scalable evaluation process that incorporates relevant performance metrics and equity indicators to assure TVA's community engagement process is data-driven and adaptable.

Civic Design Center. Research Fellow. Spearheaded community feedback initiatives to reimagine the revitalization of historic 2nd Avenue and enhance the built environment for residents, business owners, government officials, and tourists.

Southeast Center for Cooperative Development. Business Development Specialist. Implemented tailored business solutions for six start-ups across diverse sectors, driving financial forecasting, and financing strategies to optimize operational efficiency, sustainability, and growth.

RELEVANT PROJECTS

Water & Wastewater Authority of Wilson County, Wilson County, TN. Drinking Water Regionalization Project. Total Budget: \$7,400,000 (funded by the TN Department of Environment and Conservation). Grant writer and administrator. Project included emergency drinking water connections among six neighboring utilities and five water sources to ensure sufficient system redundancy.

Water & Wastewater Authority of Wilson County, Wilson County, TN. Water Reuse Research Project. Total Budget: \$180,000 (funded by the TN Department of Environment and Conservation). Grant writer and administrator. Project included a research and planning study to reuse grey water in decentralized septic systems.

City of Gallatin, Gallatin, TN. Gallatin Daycare Construction at Shalom Zone. Total Budget: \$1,100,000 (funded through U.S. Housing and Urban Development Community Development Block Grant). Grant administrator. Project included the renovation of a historic Black school to create daycare space and monitoring of Davis Bacon labor compliance throughout construction.

Metropolitan Government of Hartsville/Trousdale County, Hartsville, TN. Ward School Renovation Project. Total Budget: \$2,400,000 (funded by the TN Department of Economic and Community Development). Grant writer and administrator. Project included the renovation of the historic Black high school that largely remained vacant since desegregation of public schools to turn into a community center that included a community kitchen, event space, business incubation offices, telehealth room, and classroom for community classes dedicated to digital skills education.

Houston County, Erin, TN. Houston County Courthouse Renovation Project. Total Budget: \$2,290,000 (funded by the TN Department of Economic and Community Development). Grant writer and administrator. Project included the renovation of the county courthouse to provide community space for digital skills education, workforce development training, and telehealth access.

Urban Housing Solutions, Nashville, TN. Community Resilience Planning Initiative. Total Budget: \$150,000 (funded by Enterprise Community Partners). Grant writer and application preparer. Project included property risk assessments and climate resilience strategy planning, as well as the development of disaster response plans for an affordable housing nonprofit with 26 properties and 1,300 units.

Nashville Business Incubation Center, Nashville, TN. Digital Skills Education Project. Total Budget: \$1,000,000 (funded by the TN Department of Economic and Community Development). Grant writer and application preparer. Project included digital skills education classes for small business owners and entrepreneurs, with a focus on women-owned, veteran-owned, and minority-owned businesses.

Michael C. Gentner, P.E.

Senior Consultant

Michael Gentner is a Senior Geotechnical Engineer with 32 years of leadership and experience managing and mentoring technical staff and applying practical, cost-effective engineering solutions. His core technical strengths are in Geotechnical Engineering, Geo-Structural Design, and Geotechnical Instrumentation. Mr. Gentner has project experience in 15 States, Puerto Rico, and Canada.

PROJECT EXPERIENCE

Bluff Stabilization, ExxonMobil, Memphis, TN. Lead Geotechnical Engineer. A slope stability analysis to stabilize a slope, replace pipe supports, and connect petroleum process lines along a 200-foot bluff at a petrochemical terminal. The slope was located between the storage tanks at the top of the bluff and the loading facility at the toe of the bluff about 50 feet below and on the Mississippi River. The steep natural slope (1.2H:1V) experienced slope failures beneath pipe support racks. However, based on the geometry of the site and the facility layout, and flatter slope could not be considered. The final solution was a re-constructed stabilized slope using geosynthetics anchored in the slope face and erosion control measures to prevent instability and erosion and yet maintain the slope geometry. The pipe supports were replaced, but instead of being supported within the slope on the ground as footings, the supports were placed on helical piers to avoid any soil undermining.

Brine Pond Construction, Enterprise Products, Mont Belvieu, TX. Lead Geotechnical Engineer. Completed the design services and slope stability analysis for brine pond construction at two sites in Mont Belvieu, Texas. The bottom pond area of the two sites ranged from about 8 to 20 acres. The civil design called for 10 to 12 feet of excavation in natural soils, and placement and compaction of about 20 feet of soils for a total pond berm height on the order of 30 feet. Responsible for the development of field exploration and laboratory testing programs to analyze the available shear strength parameters of the site soils for use in slope stability calculations. Provided recommendations for allowable slope geometry and construction methods and considerations that were incorporated into the final design, as well as recommendations for near surface protection of the slopes for the shrink and swell behavior of site soils. Similar projects for the same client were completed in Hobbs, New Mexico and Adamana, Arizona.

Parcel F Parking Deck, Hines Interests, Ltd., Detroit, MI. Project Manager. Foundation design of a 9-level parking deck on the downtown Detroit waterfront. Coordinated field exploration and laboratory testing and completed caisson design using pressuremeter test results. Caisson shaft diameters ranged from three to 5 feet with bell diameters 5 to 8 feet. Provided oversight during caisson construction and conducted pre-



EDUCATION

B.S., Civil Engineering, Michigan State University, East Lansing

EXPERIENCE IN THE INDUSTRY

32 years

EXPERIENCE WITH GEI

10 year(s)

REGISTRATIONS AND LICENSES

Professional Engineer, MI No. 6201044370

Professional Engineer, OH No. 69089

Professional Engineer, IL No. 062061831



construction meeting to set guidelines for acceptance of shaft and bell drilling. Completed an as-built report on caisson construction.

GM Global Headquarters Renovation, Hines Interests, Ltd., Detroit, MI. Project Manager. Provided foundation design for the renovation of General Motors Global Headquarters at the Renaissance Center in downtown Detroit. The five-story glass atrium addition, with spans up to 145 feet, are supported on 7-inch diameter concrete filled minipiles socketed 2 feet into the bedrock and designed for allowable load of 100 tons. Coordinated the static load tests on the minipiles using calibrated loads cells in lieu of jacks and pressure gauges. The minipiles were proof loaded to 200 tons and met anticipated design criteria. In addition, acted as project manager for owner representative's quality control/assurance testing during construction of all phases of the \$500 million renovation.

Soo Locks Upstream Approach Channel Deepening, Trade West Construction, Sault Ste. Marie, MI. Project Manager/Instrumentation Engineer. The US Army Corps of Engineers will be constructing a new lock to replace the defunct Davis and Sabin Locks. The first contract is to lower the upstream approach channel by 6 feet. The majority of the lowering includes removing the Jacobsville sandstone by ripping and dredging. The existing channel walls are concrete monoliths supported on the rock. An instrumentation program along the 1-mile approach channel includes 6 automated inclinometers using shape array accelerometers, 2 manually read inclinometers, 8 tiltmeters, 13 vibration monitors, and 9 automated total stations measuring over 350 prism points. All data is being processed and displayed with remote ADAS systems and customized website.

WWTP Facilities Renovations, Walsh Construction, Ann Arbor, MI. Project Manager and Lead Instrumentation Engineer. A major wastewater treatment plant renovation. Construction included several deep excavations for new treatment tanks. Geologic conditions included confining aquifer with artesian heads of upward of 17 feet. A dewatering system was required, as well as instrumentation program to monitor the dewatering effectiveness and inclinometers for slope movement. Vibrating wire piezometers were required to be installed prior to dewatering. Drilling and installation of the piezometers had to deal with the high artesian pressures using heavy drilling mud. The piezometers were read 24/7 and connected to a web-based system that sent out warning alarms when groundwater levels reached certain criteria as an early warning to possible bottom heave issues in the excavations. Up to 15 inclinometers were installed during different stages of the project.

I-75/Dix Toledo Bridge, Dan's Excavating, Inc., Monroe County, MI. Project Manager. An automated geotechnical instrumentation program for a bridge replacement project for the Michigan Department of Transportation (MDOT). The project design required a surcharge pre-load at the bridge approach embankments over soft clay soil. The embankment heights were approximately 30 feet. The contract documents required vibrating wire piezometers, vibrating wire settlement cells, and standard survey points to monitor the settlement. Readings had to be collected every 4 hours, 24 hours per day until settlement subsided. The vibrating wire instruments were connected to data collectors and programmed for obtaining the readings. As the instrumentation/geotechnical consultant to the Contractor, was required to analyze the instrumentation data and determine if 90% consolidation had occurred, and if installation of foundation piles and MSE abutment walls could commence.

Braden Schwarz, S.E., P.E.

Structural Engineer

Braden Schwarz is a structural engineer in GEI's Chicago, IL office. He is experienced in analysis and design of structures and piping systems, and in the inspection of existing structures for degradation. He has worked directly with clients while on site at power plants and other facilities. He is also experienced in developing finite element models in STAAD, SAP2000, GT-STRUDL, ANSYS, and PIPESTRESS.

PROJECT EXPERIENCE

Kalamazoo River Water Control Structure, Kalamazoo River Remediation LLC, Trowbridge Township, MI. Structural Engineer. Prepared and reviewed calculations for a temporary water control structure to be used as part of the Trowbridge Dam removal process.

Santa Felicia Dam Spillway Improvement Project, United Water Conservation District, Piru, CA. Structural Engineer. Updated SAP2000 finite element models of hoist frames and maintenance platforms for fish screens at Santa Felicia Dam. Developed and reviewed calculations for framing connections and anchorage.

Mission Dam Tainter Gate Modifications, Northbrook Carolina Hydro II, Clay Country, NC. Structural Engineer. Designed modifications for overstressed steel framing members of radial Tainter gates and prepared modification drawings.

Juncal Dam Valve Support and Platforms, Montecito Water District, Santa Barbara County, CA. Structural Engineer. Designed personnel access platforms, valve supports, and intake pipe supports for multiple load cases in a high seismic region.

French Landing Dam Inspections, Eagle Creek Renewable Energy, Belleville, MI. Structural Engineer. Inspected spillway gates and concrete structure for degradation and to obtain details for creating a finite element model. Created a SAP2000 model of the spillway gates and analyzed under multiple load cases.

1133 Griswold, RKP Group, Detroit, MI. Structural Engineer. Designed concrete floor infills, new steel framing, and diaphragm connections. Calculated change of loads on existing building columns due to new work.

Precast Wall Panel Cracking and Spalling Investigation, Grainger Industrial Supply, Louisville, KY. Structural Engineer. Investigated cracking and spalling of precast concrete wall panels. Developed recommendations for further investigation and possible repairs.

Warehouse Floor Slab Investigation, Grainger Industrial Supply, Minooka, IL. Structural Engineer. Investigated differential displacement of floor slab at joint locations. Assisted with ground penetrating radar scanning to develop recommendations for repairs.

Displaced Precast Wall Panel Investigation, Grainger Industrial Supply, Fieldsboro, NJ. Structural Engineer. Investigated



EDUCATION

M.S., Civil Engineering, University of Illinois at Urbana-Champaign
B.S., Civil Engineering, University of Wisconsin at Madison

EXPERIENCE IN THE INDUSTRY

11 years

EXPERIENCE WITH GEI

3 years

REGISTRATIONS AND LICENSES

Professional Engineer, CO, No. 0057649
Professional Engineer, CT, No. PEN.0033710
Professional Engineer, FL, No. PE89457
Professional Engineer, GA, No. PE046370
Professional Engineer, HI, No. PE-19209
Professional Engineer, IL, No. 062.068470
Professional Engineer, MI, No. 6201068544
Professional Engineer, MO, No. 2022033991
Professional Engineer, NY, No. 104285-01
Professional Engineer, WA, No. 20109518
Structural Engineer, IL, No. 081.008175

PROFESSIONAL AFFILIATIONS

Member, Structural Engineers Association of Illinois (SEAOI)
Member, American Institute of Steel Construction (AISC)

displacement of a precast concrete wall panel and developed repair details to limit further displacement. Provided bidding and construction assistance during repairs.

Roof Joist Evaluations, Grainger Industrial Supply, Various Locations. Structural Engineer. Analyzed roof joists for new equipment loading to be hung off the roof. Reviewed recommendations for strengthening modifications.

Ramp Foundation Field Changes, Grainger Industrial Supply, Buffalo, NY. Structural Engineer. Reviewed field changes to foundation design for an ADA entrance ramp to a Grainger store.

Sturgeon Falls Guard Lock Gate Replacement, City of Norway, Norway, MI. Structural Engineer. Reviewed calculations and drawings for new vertical gates, new hoist frames, and new gate dogging devices.

Fort Industry Square Structural Consulting, RKP Group, Toledo, OH. Structural Engineer. Developed calculations for reinforcing the first floor of a bank tenant space for heavy equipment loads.

Tower Lofts Concrete Rehabilitation, Tower Lofts Condo Association, Chicago, IL. Structural Engineer. Designed concrete repair details for deteriorated column bases and deteriorated concrete beams.

Chippewa Falls Hydroelectric Tainter Gates, Xcel Energy, Chippewa Falls, WI. Structural Engineer. Created a finite element model in SAP2000 to analyze new trunnion hub plates for gate loading.

Grainger 40-Year Structural Recertification, Grainger Industrial Supply, Doral, FL. Structural Engineer. Inspected the structure of a one-story + mezzanine steel frame building following Miami-Dade County guidelines. Prepared recommendations for repairs.

Bridge Assessments, Riverside Golf Club, Riverside, IL. Structural Engineer. Visually assessed two truss bridges and one suspension bridge crossing the Des Plaines River and documented the observed condition per the Illinois Transportation Bridge Element Inspection Manual. Created a SAP2000 model of the suspension bridge analyzed under multiple load cases.

Vernon Powerhouse Stability Analysis, Great River Hydro, Vernon, VT. Structural Engineer. Created a SAP2000 model of a powerhouse unit and analyzed for stability under multiple load cases, including seismic.

Hilldale Condo Balcony Inspections, Hilldale Condo Association, Hoffman Estates, IL. Structural Engineer. Inspected wood frame balconies of multiple condo buildings for degradation and water intrusion. Designed repair details and inspected construction progress.

Grainger Façade Inspections, Grainger Industrial Supply, Various Locations. Structural Engineer. Investigated water intrusion issues, cracking issues, and tornado damage in masonry and siding façades of multiple Grainger facilities. Prepared recommendations for repairs and developed repair details and specifications when necessary. Provided bidding and construction assistance during repairs.

PREVIOUS PROJECT EXPERIENCE

Waste Isolation Pilot Plant Sprinkler Replacement, Nuclear Waste Partnership, Carlsbad, NM. Staff Engineer. Evaluated the roof systems of existing buildings under the added weight of a new sprinkler system, concurrent with the existing sprinkler system.

Callaway Energy Center Structures Monitoring, Ameren, Steedman, MO. Staff Engineer. Performed baseline structures monitoring walkdowns, focusing on degradation of electrical components and their steel and concrete supports. Prepared reports documenting these walkdowns and categorizing the findings per ACI 349.3R-02. Organized the walkdown findings into a Microsoft Access database.

Point Beach Nuclear Plant Containment Dome Truss, NextEra Energy, Two Rivers, WI. Staff Engineer. Performed inspection walkdowns of the as-built structure, performed seismic and thermal analyses using finite element models in GT-STRUDL, and designed modifications to the steel structure. Developed drawings for the modifications.

Emma Giese

Water Resources Engineer

Emma Giese is a water resources engineer working as part of a collaborative team specializing in ecological and environmental consulting. This team works together with clients to provide data collection, analysis, report, and design services. Her responsibilities include hydrologic and hydraulic modeling for dam removal, stream and wetland restoration, coastal protection, and stormwater green infrastructure projects. She also conducts field work and data collection to inform project design. She is skilled in HEC-RAS (1D and 2D), SRH 2D, Stormwater Management Model (SWMM, PC-SWMM), HEC-HMS, HydroCAD, and DRAINMOD hydrology models.

PROJECT EXPERIENCE

Dam Removal, Restoration and Remediation of Bed, Bank, and Floodplain Sediments, Kalamazoo River, Confidential Client, Allegan County, MI. Modeling Team Lead. Developed 1-D and 2-D hydraulic and sediment transport models of the Kalamazoo River using HEC-RAS and U.S. Bureau of Reclamation SRH-2D modeling software. Calibrated hydraulic models to river gage data and sediment transport models to repeated bathymetric data. Using the calibrated models, evaluated multiple dam removal and river restoration design alternatives for two dams.

Stony Creek Dam Removal and River Restoration, West Michigan Shoreline Regional Development Commission, Oceana County, MI. Modeling Team Lead. Calibrated 1D HEC-RAS model to observed streamflow and water surface elevation. Using calibrated model, simulated proposed design including removal of Marshville Dam, replacement of culverts under Marshville Dam Road with a clear span bridge, bankfull benching, and placement of large woody debris for instream habitat.

Midland Dam Fish Passage Project, Dow Chemical, Midland, MI. Modeling Team Lead. Modeled proposed conditions design alternatives in 2D using HEC-RAS. Proposed design is for a nature-like, in-channel fish passage structure at the Dow Chemical dam on the Tittabawassee River. 2D modeling was used to evaluate velocities, shear stresses and water surface elevations for a range of flows to select a design alternative and to evaluate performance for passage of target fish species.

Flat Rock-Huroc Dam Removal Feasibility Study, Huron-Clinton Metropolitan Authority, Flat Rock, MI. Modeling Team Lead. Lead hydraulic analysis of multiple alternatives for the Flat Rock and Huroc Dams including no action, full dam removal, and partial dam removal. 1D steady and unsteady HEC-RAS models were used to evaluate water surface elevations, floodplain attenuation, and potential future channel dimensions to inform the alternatives analysis.

Letter of Map Revision (LOMR) Federal Emergency Management Agency (FEMA) Application, City of Corunna, Corunna, MI. Project Manager. Following a dam removal project GEI completed in 2019, the city of Corunna, MI solicited GEI's services to provide updated



EDUCATION

M.S., Environmental Science and Technology,
University of Maryland
B.S., Environmental Geosciences, Michigan
State University

EXPERIENCE IN THE INDUSTRY

10 Years

EXPERIENCE AT GEI

6 Years

TRAINING AND CERTIFICATIONS

Rosgen Natural Channel Design, Levels I & II
Stream Mechanics Stream Quantification Tool
- Michigan
Chainsaw training
Michigan Natural Shoreline Professional
Training



hydraulic modeling and mapping to FEMA to redelineate the official floodplain boundaries post-dam removal. Coordinated survey, hydraulic modeling updates, FEMA map creation, and development of other required documentation for FEMA's LOMR application process.

Republic Dam Fish Passage Project, Michigamme River Basin Authority, Republic Township, MI.

Modeling Team Member. Coordinate model updates based on State of Michigan Department of Environment, Great Lakes, and Energy floodplain review comments to obtain permit for dam removal. The project will replace a 10-foot dam structure with a fish-passable rock rapids while maintaining upstream water levels at their current elevation.

Baiting Hollow Scout Camp Fish Passage Design, Suffolk County Council Boy Scouts of America and Seatuck Environmental Association, Calverton, NY. Hydraulic modeling and fish passage design team member. Conducted alternatives analysis and conceptual design for fish passage between Lake Arrowhead (a groundwater fed freshwater lake) and a tidal marsh connected to Long Island Sound. The lake is currently controlled by a deteriorating water control structure, and the goals of the project are to replace the structure while providing fish passage for multiple species between the marsh and the lake. Worked with project stakeholders to select a preferred alternative.

Riverside Park Restoration, Ottawa County Parks and Recreation, Grand Haven, MI. Modeling Team Member. Modeled the Grand River and adjacent Kirby Bayou within Riverside County Park using HEC-RAS. Simulated design alternatives for stabilizing an eroded bank and improving hydrologic connection between the river and Kirby Bayou. The final design, which was permitted and constructed, included installation of three new culverts for fish passage and stabilization of over 700 feet of riverbank using toewood and bioengineered measures.

Finger Lakes Community College Water Quality, Flood Resiliency, and Habitat Improvement, Ontario County Purchasing Department, Ontario County, NY. Modeling Team Member. Existing conditions in the Fall Brook watershed were modeled with the U.S. Environmental Protection Agency's Stormwater Management Model, based on surveyed stream cross sections, and data from previous studies. The model was calibrated to multiple field measurements of discharge and gage height. The calibrated model was then used to evaluate design options for directing higher flows from Fall Brook into an adjacent wetland to improve water quality downstream in Canandaigua Lake. Design options were evaluated for their performance in extreme events (i.e., 100-year return interval) to verify that the project would not cause adverse impacts downstream.

Walnut Creek Corridor Study, Town of Cary, Cary, NC. Stream Monitoring Team Member. Project involved stream survey and bank stability assessments to identify and prioritize areas at high risk of bank erosion near structures and infrastructure, existing and proposed conditions 1D and 2D stormwater modeling (PCSWMM), for a greenway corridor in Cary, NC. Responsibilities included stream bank stability field assessments, and identification of potential climate change impacts on existing stormwater infrastructure.

Briggs Pond Sediment Evaluation, Gates Drain, Paw Paw, MI. Data Collection and Modeling Team Member. Evaluated sediment transport in Briggs Pond, an approximately 24-acre impoundment formed by an earthen dam fed by the 59-square mile Gates Drain. The pond partially functions as a sedimentation basin for Maple Lake. GEI completed a sediment transport study to evaluate sedimentation in Briggs Pond and the feasibility of managing the pond as a sedimentation basin for Gates Drain before the drain discharges to Maple Lake. The sedimentation evaluation was performed by simulating the sediment transport in and out of the pond using the HEC-RAS model.

Crystal River Hydrogeomorphology & River Engineering, Grand Traverse Band of Ottawa and Chippewa Indians, Glen Arbor, MI. Hydraulic and Sediment Transport Modeling Team Lead. Evaluated river hydraulics and sediment transport following a proposed stream crossing replacement that is expected to mobilize a wedge of sediment currently held in place by the existing stream crossing structure. The Crystal River is highly utilized as a recreational river, so the analysis focused on short- and long-term impacts to flows depths in the river.

Lydea Noye, E.I.T.
Water Resources Engineer

Lydea Noye is an Environmental Engineer in GEI's Ann Arbor, Michigan, office. She has experience in hydraulic and hydrologic modeling, water monitoring, invasive species control, stream and streambank survey and restoration, erosion control, species surveys, mussel surveys, and vegetative monitoring. She works as a part of a collaborative team specializing in ecological engineering. Her responsibilities include hydrologic, hydraulic, and sediment transport modeling for stream restoration, dam removals, and wetland restoration; performing field work to accompany stream and bank restoration; and assisting in installation and maintenance of surface water and groundwater monitoring equipment. She is skilled in HEC-RAS (1D and 2D) and the U.S. Environmental Protection Agency's Storm Water Management Model (EPA SWMM).

PROJECT EXPERIENCE

Kalamazoo River Cleanup Program, Confidential Client, Allegan County, MI. Water Resources Engineer performing hydraulic, hydrologic, and sediment transport modeling and analysis for cleanup of PCB contaminants and removal of two dams in the Kalamazoo River. Responsibilities include developing and calibrating 1D and 2D hydraulic and sediment transport models to evaluate river conditions through construction and dam removal and river restoration scenarios; coordinating and leading field efforts for depth of refusal, flow monitoring, and substrate classification. Also responsible for water level monitoring equipment and associated data collected. Contributed to both engineered and natural channel design of in-stream grade control features, bank stabilization, and tributary confluences.

Breedsville Dam Removal, State of Michigan Department of Technology, Management & Budget, Breedsville, MI. Water Resources Engineer leading stream survey and design for the removal of the Breedsville Dam and associated stream restoration. Responsibilities include depth of refusal and reference reach data collection; hydraulic and hydrologic modeling of existing and proposed conditions; and design of dam removal and stream restoration including in-stream log cross-vanes and stream bank protection. Developed construction specifications and sequencing while working with Michigan State regulatory officials on associated permits.

Midland/Dow Dam Fish Passage Project, Dow Chemical, Midland, MI. Member of modeling and field teams performing stream survey, existing and proposed conditions hydraulic modeling, and proposed conditions design for a rock arch rapids fish passage structure at the Dow Chemical dam. Installed stream gauges and developed 2D model to evaluate velocities, shear stresses and water surface elevations to evaluate performance for passage of target fish species.



EDUCATION

B.S., Environmental Engineering,
Michigan State University

EXPERIENCE IN THE INDUSTRY

5 Years

EXPERIENCE WITH GEI

4 Years

TRAINING AND CERTIFICATIONS

Rosgen Level I (Applied Fluvial
Geomorphology)
Rosgen Level II (River Morphology &
Applications)
Stream Mechanics Stream Quantification
Tool - Michigan
Australian Water School HEC-RAS
Sediment Transport Training (1D and
2D)
40 Hour OSHA HAZWOPER
Wilderness First Aid
First Aid - CPR
Chainsaw Training

Marshville Dam Removal and Stony Creek Restoration, West Michigan Shoreline Regional Development Commission, Oceana County, MI. Field and Modeling Team Member. Coordinated and led Michigan Stream Quantification Tool assessments for existing and proposed design. Developed and reviewed 1D HEC-RAS models which included removal of Marshville Dam, replacement of culverts under Marshville Dam Road with a clear span bridge, bankfull benching, and placement of large woody debris for in-stream habitat.

Letter of Map Revision (LOMR) Federal Emergency Management Agency (FEMA) Application, City of Corunna, Corunna, MI. Modeling Team Member and Reviewer. Following a dam removal project GEI completed in 2019, the city of Corunna, MI solicited GEI's services to provide updated hydraulic modeling and mapping to FEMA to redelineate the official floodplain boundaries post-dam removal. Assisted with survey, hydraulic modeling updates, FEMA map creation, and development of other required documentation for FEMA's LOMR application process.

Walnut Creek Corridor Study, Town of Cary, Cary, NC. Water Resources Engineer performing stream survey, bank stability assessments, existing and proposed conditions 1D and 2D stormwater modeling (PCSWMM), for a greenway corridor. Responsibilities include stream bank stability field assessments, GIS-based assessments of watershed characteristics and modeling existing conditions, future build-out scenarios, and potential climate change impacts on existing stormwater infrastructure and floodplains.

Dam Breach Modeling and Inundation Mapping, Detroit Metropolitan Airport, Romulus, MI Water Resources Engineer performing drain survey, construction observation, and dam breach and inundation mapping for a stormwater pond expansion. Responsibilities daily construction observation and 2D hydraulic modeling of the proposed design to update an existing emergency action plan in the event of a dam breach.

Surface and Groundwater Monitoring, Gold Bond Building Supplies, Tawas City, MI. Performed installation and maintenance of over 20 ground and surface water monitoring wells and data loggers in support of wetland and groundwater investigations for a potential gypsum mine. Also installed a weather station and performed flow measurements in small ephemeral streams on site. Performed Stream Quantification Tool (SQT) assessments using the Michigan SQT. Assisted in groundwater modeling (Modflow) to assess mining schedules and impacts on wetlands and streams.

Ox Creek Restoration Planning and Pilot Project, Southwest Michigan Planning Commission, Benton Harbor, MI Acting as water resources engineer for conceptual restoration designs and stream monitoring on Ox Creek in Benton Harbor. Responsibilities include SQT assessments in three reaches of Ox Creek and development of conceptual stream and floodplain restoration plans as part of a larger stream corridor development project.

Pine Creek Riverbank Stabilization, DTE Energy, Newark Township, MI. Water Resources Engineer performing stream survey, existing and proposed conditions hydraulic modeling, proposed conditions design, permitting, and construction oversight for riverbank restoration over an exposed natural gas pipeline.

Stormwater Conveyance Network Evaluations, FMC Corporation, Middleport, NY. Modeled (PCSWMM) existing and proposed stormwater conveyance networks in open channels and traditional pipe networks to assess flooding risk and potential project impacts in support of OU5 environmental remedial activities.

Brent Run Stream Relocation Monitoring, Waste Connections, Inc., Montrose, MI. Performed annual monitoring of stream relocation site at Brent Run Landfill using Rosgen and U.S. Army Corps of Engineers methods for channel evolution and characterization. Also analyzed monitoring data and compiled findings into an annual monitoring report.

Shiawassee River Mussel Survey/Relocation, Michigan Department of Transportation Office of the Rails, Byron, MI. Acted as field staff locating, documenting, and relocating over 4,200 mussels in the Shiawassee River for a rail bridge replacement.

Stu Kogge, PWS

Senior Wetland/Aquatic Biologist

Stu Kogge is a Senior Wetland/Aquatic Biologist and a Professional Wetland Scientist with over 35 years of natural resource and wetland experience. After graduating, Mr. Kogge worked for the Michigan Department of Natural Resources (MDNR) and Michigan Department of Environmental Quality (MDEQ) for 10 years at the Cadillac District office in northern Michigan and was then recommended and took the MDEQ's State-wide coastal wetland biologist position in 1995 and the State-wide inland wetlands biologist in 1997. He assessed and managed the State of Michigan's exemplary coastal wetlands pursuant to Part 323, Shorelands Management Act of Natural Resources and Environmental Protection Act (NREPA) and administered, hired, and trained wetland contractors for the Wetland Assessment Program (pursuant to Part 303 of NREPA), and provided annual technical, permitting, and enforcement training for district staff for Upper and Lower Peninsula MDEQ offices.

PROJECT EXPERIENCE

Shiawassee, South Branch Shiawassee, and East Huron Rivers, MDOT Office of Rail, Various Counties, Southeast MI. Senior Aquatic Biologist/Federal Permit Holder. GEI's dive team conducted full relocation of mussels on three riverways in preparation for abutment repair work at these sites. The surveys focused on creating population estimates of all species, including the federally listed snuffbox at the East Huron River, and other state-listed species at the other sites. Project has required work plans and continued coordination/consultation with MDOT, MDNR, and U.S. Fish & Wildlife Service mussel biologists. Relocation of mussels is anticipated in 2023 at the South Branch Shiawassee and East Huron River in 2023.

Grand River, Ann Street, Leonard Street, and Railroad Crossings, Fishbeck, Kent County, MI. Senior Aquatic Biologist/Federal Permit Holder. GEI's dive team conducted quantitative mussel surveys of the river bottom, over the course of one week at three locations along the left descending bank of the Grand River in preparation for a public walkway along the river. The survey focused on creating population estimates of all species, including the federally listed snuffbox, within a yet to be determined footprint of impact for the walkway. Project has required work plans and continued coordination/consultation with Michigan Department of Transportation, MDNR, and U.S. Fish & Wildlife Service mussel biologists. Relocation of mussels is anticipated in 2023. 2022.

Grand River, I-96, Grand Rapids, Michigan Department of Transportation (MDOT), Kent County, MI. Senior Aquatic Biologist/Federal Permit Holder. GEI's dive team conducted quantitative mussel surveys of the river bottom, over the course of two weeks, focusing on creating population estimates of all species, including the federally listed snuffbox, within a yet to be determined footprint of impact for replacement of the bridge. Project has required work plans and continued coordination/consultation with MDOT, MDNR, and U.S. Fish & Wildlife Service mussel biologists. Relocation of mussels



EDUCATION

M.S., Fisheries/Aquatic Biology, Limnology,
Michigan State University
B.S., Fisheries and Wildlife Management,
Michigan State University

EXPERIENCE IN THE INDUSTRY

37 years

EXPERIENCE WITH GEI

9 years

CERTIFICATIONS

Professional Wetland Scientist (since 2000)
Federal permit for handling and relocation of
federally listed freshwater mussels
Ohio Mussel Identification Certification 2022
Soil Erosion and Sedimentation Control Plan
Review and Design; Comprehensive &
Stormwater Management – Construction
Site

TRAINING

Wetland Delineation and Regional
Supplement Training
Defined Streams and Wetland Consistence
Training
Hydric Soils
USACE Midwest Regional Supplement
Wetland Restoration Techniques and
Incentives
Creating and Restoring Urban Wetlands
Identifying Key Wetland Indicator Plants and
Creating & Restoring Wetlands in an Urban
Environment
Shrub Identification

PROFESSIONAL ASSOCIATIONS

Society of Wetland Scientists, Member
American Fisheries Society, Member
Michigan Wetlands Association, Member
Michigan Association of County Drain
Commissioners, DEQ Liaison Committee
Member



commenced in 2021 and is continuing in 2022. 2020-22.

Kalamazoo River Mussel Salvage, NCR, Allegan County, MI. Senior Aquatic Biologist. Commenced a mussel salvage operation within an approximate 1-mile reach of the Kalamazoo River, upstream of the Trowbridge Dam, in preparation for remediation of contaminated bottom sediments. Prior to conducting this salvage work a work plan was prepared and approved by the federal and state agencies to conduct both a reconnaissance survey and mussel salvage operation. In 2020, approximately 30,000 square meters of bottom substrates were cleared by GEI divers and biologist of freshwater mussels and those mussels were relocated far upstream to similar and more suitable habitats. Less than 20,000 square meters remains to salvaged in 2021. 2020.

Mussel Relocation, ATC and Resolute Paper Company, Menominee River, MI, and WI. Senior Aquatic Biologist. These two mussel relocation projects were conducted during the same week for two different clients at three different sites on the river less, in Michigan and Wisconsin waters, but less than 2 miles apart. Mussels were relocated from these sites and all state-listed species were tagged for potential future post-relocation. Listed species included purple wartyback (*Cyclonaias tuberculata* – T) in Wisconsin, and black sandshell (*Ligumia recta* – E) in Michigan. Over one thousand mussels were relocated for these two projects. 2020.

Cut River Freshwater Mussel Relocations, Roscommon County Road Commission, Roscommon County, MI. Project Manager and Senior Aquatic Biologist. Conducted freshwater mussel surveys and post-relocation and post-construction monitoring of the County Road 300 Cut River bridge crossing. Michigan's 2019 freshwater mussel protocol was followed for all relocation and monitoring events. State-listed rainbow (*Villosa iris*; special concern) and eastern pondmussel (*Ligumia nasuta*; endangered) were tagged and relocated to suitable areas upstream of the project sites. Survey techniques included scuba diving, snorkeling, viewing buckets, grubbing. 2019-2020.

Freshwater Mussel Surveys, Barr Engineering Co., Multiple Counties, MI. Senior Aquatic Biologist. Conducted transect-based surveys for freshwater mussels at over 30 pipeline water crossings throughout Upper and Lower Michigan. Required approval of work plan by MDNR; Michigan Department of Environment, Great Lakes, and Energy; and U.S. Fish & Wildlife Service. Surveys included Group 3a streams that required a federal permit. Provided quality assurance and control for over 30 mussel reports that are currently under review by agency personnel. Survey techniques included scuba diving, viewing buckets, grubbing. 2019.

Pine River and Chippewa River Freshwater Mussel Relocations, MDOT, Gratiot and Isabella Counties, MI. Senior Aquatic Biologist. Conducted freshwater mussel surveys at MDOT bridge project locations. Michigan's 2019 freshwater mussel protocol was followed. Nearly 700 mussels, including species of special concern (e.g., Elktoe [*Alasmidonta marginata*], Flutedshell [*Lasmigona costata*]), were found and relocated to suitable areas upstream of the project sites. Survey techniques included scuba diving, viewing buckets, grubbing. 2019.

River Raisin and Otter Creek Freshwater Mussel Relocations, MDOT, Monroe County, MI. Senior Aquatic Biologist. Conducted freshwater mussel surveys at MDOT bridge project locations. Michigan's 2018 freshwater mussel protocol was followed. Nearly 900 mussels, including species of special concern (e.g., Flutedshell [*Lasmigona costata*], Pink heelsplitter [*Potamilus alatus*]), were found and relocated to suitable areas upstream of the project sites. Survey techniques included scuba diving, viewing buckets, grubbing. 2018.

Shoreline Assessment, Barley Excavating, Inc., Menominee River, Menominee County, MI. Assessment of over 200 linear feet of riverine shoreline prior to placement of fieldstone utilizing snorkel/mask and viewing buckets. 2018.

Zack Pitman
Wetland Ecologist

Zack Pitman is a wetland ecologist in GEI's Traverse City, Michigan, office. Zack's experience at GEI includes delineating wetlands in accordance with the U.S. Army Corps of Engineers handbook; documenting fauna encountered during wetland delineations, particularly birds and herpetofauna; mapping wetlands and other sensitive ecological features using Trimble GPS units and ArcGIS online software; creating plant lists and conducting Floristic Quality Assessments; conducting annual monitoring of Michigan Department of Environment, Great Lakes, and Energy (EGLE) wetland mitigation sites; designing and implementing rare plant and animal surveys, including for federally protected species such as dwarf lake iris and EMR; preparing Joint Permit Applications on behalf of clients using the EGLE MiWaters website; assisting with mussel and stranded aquatic biota surveys; working as part of an ecological restoration field crew to develop and maintain wetland mitigation sites; and drafting reports detailing the results of field work for review by clients and state and federal resource agencies.

PROJECT EXPERIENCE

Confidential Mining Client, Upper Peninsula, Michigan.

Responsible for conducting desktop and field assessments to locate potential sites to provide over 130 acres of wetland mitigation. Also conducted wetland delineations over 100 acres at a potential stream/wetland restoration site.

Wetland Mitigation, Mackinac County Road Commission, Upper Peninsula, Michigan. Responsible for conducting desktop and field assessments to locate land to provide over 7 acres of wetland mitigation. Communicated with Michigan Department of Natural Resources and Road Commission staff to determine mitigation feasibility of selected sites.

Desktop and Field Reviews, WSP Advisors and Michigan Department of Transportation, Monroe, MI. Determined presence of protected plant and animal species via desktop and field review within a proposed I-75 interchange expansion area. Desktop review included accessing Michigan Natural Features Inventory and U.S. Fish and Wildlife Service IPaC databases and providing a summary to the client. Field reviews of the site identified two previously undocumented state listed plant species within the project area.

Bond Falls Control Dam Conduit Rehab Design, Upper Peninsula Power Company (UPPCO), Ontonagon County, MI.

Conducted stranded aquatic biota surveys and relocations which occurred as a result of scheduled maintenance drawdowns at Victoria Dam and Bond Falls Dam on the Ontonagon River. Stranded biota relocations focused on identification and documentation of encountered freshwater mussel species.



EDUCATION

M.S., Biology, Grand Valley State University

B.S., Natural Resources Management, Grand Valley State University

EXPERIENCE IN THE INDUSTRY
5 Years

EXPERIENCE WITH GEI
3 Years

CERTIFICATIONS

S130/190 – Wildland Firefighter Type 1

RX 310 – Intro to Fire Effects

Michigan Commercial Pesticide Applicator

Project Learning Tree & Project Wild
Outdoor Educator

TRAINING

Wetland Plants of Northern Michigan

PROFESSIONAL ASSOCIATIONS

Michigan Wetlands Association

Society for Ecological Restoration –
Midwest Great Lakes Chapter

Range and Training Land Assessments, Michigan Department of Military and Veterans Affairs, Camp Grayling, MI. Worked with Camp Grayling environmental staff to conduct monthly Range and Training Land Assessment surveys at select firing points, landing zones, bivouac sites, and observation points throughout the training area.

Wetland Delineations and Habitat Mapping, Confidential Gypsum Mining Client, Iosco County, MI. Responsible for conducting wetland delineations and habitat mapping on over 500 acres of potential mining expansion. Designed and conducted field assessments for Federally threatened eastern massasauga rattlesnakes (*Sistrurus catenatus*), including both passive (camera trap) and active (visual survey transects) surveys in coordination with U.S. Fish and Wildlife Service staff. Prepared permits for installation of groundwater and surface water monitoring wells for assessing potential impacts of activities on the subject properties and assessed lands for suitability to use as mitigation for potential expanded mining operations.

5-Year Mitigation Site Monitoring, SEMCO Energy & Gas Company, Delta County, MI. Responsible for conducting annual monitoring of an 11-acre Michigan Department of EGLE wetland mitigation site. Monitoring duties included identifying plants to species and estimating percent cover of each species in previously established vegetation monitoring plots, identifying all plant species observed during a meander survey of the entire wetland, and conducting detailed analysis of monitoring plot data. Drafted annual monitoring reports to document mitigation wetland status according to established EGLE performance standards.

Cloverdale Drain, Barry County Drain Commissioner, Barry County, MI. Developed and implemented an aquatic invasive species (AIS) and wetland monitoring plan for the Cloverdale Chain of Lakes (COL). Established wetland survey transects and plots throughout the COL for monthly assessment during the growing season. Conducted monthly surveys for AIS, including zebra mussel veligers following established plankton sampling protocols. Drafted monthly summary reports for submittal to Michigan Department of EGLE.

Wetland Delineation, Lansing Board of Water and Light (LBWL), Lansing, MI. Responsibilities included conducting wetland delineations individually and as a team on over 100 acres of LBWL property. Also assured compliance with an issued Michigan Department of EGLE permit for the construction of a natural gas power plant within regulated wetlands. Prepared a permit application for construction of a haul road through regulated wetlands.

Wilscox Avenue, Damfino Development LLC, Muskegon County, MI. Conducted field site assessments, wetland delineations, and botanical surveys of a potential development area within an interdunal system on the shore of Muskegon Lake. Assessed classifications of wetlands as whether they are classified as being interdunal, rare and imperiled, and regulated pursuant to Part 303 of Natural Resources and Environmental Protection Act.

Great Lakes Tunnel Project, Enbridge Energy and Stantec, Threatened and Endangered Species Population Estimates, Mackinac County, MI. Assisted with the development of a survey and monitoring plan for submittal to U.S. Fish and Wildlife Service and Michigan Department of Natural Resources for federally- and state listed plant species, dwarf lake iris (*Iris lacustris*) and Houghton's goldenrod (*Solidago houghtonii*). Conducted census surveys in the spring and fall, respectively, at the project site and at nearby ecological reference sites. Conducted statistical analysis to confirm sufficient quadrats sampled to provide population estimates for each species within various areas of the proposed impact and mitigation areas.

Blake Short

Staff Professional Ecological Services

Blake Short is a wetland ecologist in GEI's Allendale, MI office. Blake's experience includes performing wetland delineations, botanical surveys and floristic quality assessments of wetland and upland areas, drafting wetland delineation reports, mitigation bank monitoring and reporting, and invasive species management. Blake is passionate about Michigan's natural features, high-quality natural areas, botany, and wetland ecology, and is motivated to grow as an ecological professional.

PROJECT EXPERIENCE

Gypsum Mine Expansion, Gold Bond Building Products, Iosco County, MI. Ecologist assisting with wetland delineations and habitat mapping and assessment on over 500 acres of potential mining expansion. Conducted desktop and field assessments for potential to impact state and federally listed plant and animal species and regulated wetlands and water bodies across the site. Conducted botanical surveys to compile plant inventories and assess floristic quality, natural communities, and potential for listed species habitat for wetland preservation as mitigation.

PREVIOUS PROJECT EXPERIENCE

EGLE and USDA Wetland Mitigation Bank Monitoring, Wetland Mitigation II, Various Locations Across Southeast MI. Ecologist responsible for annual monitoring and reports for seven wetland mitigation banks totaling approximately 200 acres from 2022 through 2023. Assessed plant communities, hydrology and ground water levels, tree and shrub development, invasive species cover, wildlife use, and general site conditions. Compiled data into annual monitoring reports regarding specific performance standards for state and/or federal agency review.

Lake Huron Woods Preserve, Presbyterian Villages of Michigan, Fort Gratiot, MI. Ecologist assisting with the assessment of a high-quality Beach Ridge and Swale Complex natural community in St. Clair County, MI. Assessed wetland and upland communities, floristic quality, surrounding land use, and potential threats for the proposed preservation as mitigation conservation easement of the on-site Beach Ridge and Swale Complex. Additionally, assisted with drafting the Long-term Monitoring and Management Plan for the proposed Lake Huron Woods Preserve, which was submitted to EGLE for approval.



EDUCATION

B.S., Environmental Biology, Ferris State University

EXPERIENCE IN THE INDUSTRY

2 years

EXPERIENCE WITH GEI

Less than 1 year

TRAINING AND CERTIFICATIONS

Certified Commercial Pesticide Applicator
in Categories 5 (Aquatic) and 6 (ROW)
Certification Number: C004240378

American Red Cross CPR/First Aid
Certificate ID: 01H7TE3

OSHA 40-hour HAZWOPER
Serial Number: 1240787405

PROFESSIONAL AFFILIATIONS

Michigan Wetlands Association Member
Society of Wetland Scientists Member

Jennifer M. Sanka, R.P.A.

Senior Archaeologist

Jennifer Sanka has over 20 years of archaeological fieldwork and project experience in the U.S., including projects in Alaska, Arizona, California, Illinois, Indiana, Maryland, Michigan, Nevada, New York, North Carolina, Ohio, Oregon, and Wisconsin. She has conducted all aspects of archaeological fieldwork and has authored/certified numerous technical reports and memorandums to demonstrate compliance with Section 106 of the National Historic Preservation Act and state regulations.

Ms. Sanka is a Registered Professional Archaeologist, meets the Secretary of Interior Standards for Archaeology, and has served as a principal investigator on projects reviewed by the Bureau of Land Management (BLM), U.S. Forest Service (USFS), U.S. Army Corps of Engineers (USACE), Bureau of Indian Affairs (BIA), U.S. Fish and Wildlife Service (USFWS), U.S. Department of Veterans Affairs (USDVA), National Oceanic and Atmospheric Administration (NOAA), and the Federal Highway Administration. She has also served as the cultural resources lead for work with Michigan agencies, including projects for the Michigan Department of Natural Resources (DNR) and the Michigan Department of Technology, Management, and Budget (DTMB). Her qualifications are on file with the Michigan State Historic Preservation Office (SHPO), and she is included in the current Michigan SHPO Consultant List as an Archaeological Consultant (Prehistoric and Historic Resources).

PROJECT EXPERIENCE

Flat Rock-Huroc Dam Removal Project Cultural Resources Feasibility Study, Huron-Clinton Metropolitan Authority, Flat Rock, Wayne County, MI. Cultural resources lead and senior technical review (archaeology) for this feasibility study that examined the results of a Michigan SHPO records search, background research, and site visit for the Flat Rock-Huroc Dam Removal Project. The purpose of the study was to present the results of the research and outline the next steps for cultural resources compliance under applicable laws and regulations. The project will eventually require compliance with Section 106 and thus, the study recommended preparation of a Michigan SHPO Section 106 Application Package and supporting technical studies to address archaeological, architectural, and submerged resources.

Cheboygan Lock Facility Improvement Project Cultural Resources Technical Services, DTMB, City of Cheboygan, Cheboygan County, MI. Principal investigator (archaeology) for a project that included upgrades to the Cheboygan Lock. The project included a Land and Water Conservation Fund (LWCF) grant to assist with funding and under the LWCF, the DNR makes recommendations to the National Park Service (NPS) on which applications to fund and the NPS provides the final approval. The pursuit of this federal funding includes an action by a federal agency that prompts the need for compliance with Section 106. The technical services included a records search and desktop review; a National Register of Historic Places (NRHP) evaluation of the Cheboygan Lock and an assessment of effects by an Architectural Historian; and the preparation of a Section 106 application package. The Section 106 application package was submitted to DTMB and DNR for DNR use. The



EDUCATION

M.A., Religion (Hebrew Bible and Archaeology), Duke University
Graduate Certificate, Women's Studies, Duke University
B.A., Anthropology, Classics, and Comparative Religion, Miami University

EXPERIENCE IN THE INDUSTRY

21 years

EXPERIENCE WITH GEI

6 ½ years

REGISTRATIONS AND LICENSES

Registered Professional Archaeologist (RPA 15927, 2006)
Certified Riverside County (California) Archaeologist (103, 2007)
Certified San Diego County (California) CEQA Consultant for Archaeological Resources (2010)
Certified Orange County (California) Archaeologist (2017)
Qualified as a Principal Investigator for the BLM Cultural Resources Use Permit (CRUP) for the State of California
Qualified as a Principal Investigator for the BLM CRUP for the State of Nevada, Historic Resources
Qualified as a Principal Investigator for the State of Nevada Antiquities Permit
Meets the Qualifications of the Secretary of Interior (SOI) Standards for Archaeology
SOI Qualifications Reviewed:
Illinois
Michigan
New York
Wisconsin

technical services resulted in a recommendation of no adverse effect on Historic Properties (Cheboygan Lock) and SHPO concurred with these findings.

Wooded Wetland Enhancement and Lower Lake St. Clair Habitat Restoration Projects, Edsel and Eleanor Ford House, Grosse Pointe Shores, Macomb County, MI. Cultural resources lead for this ongoing project that includes design and engineering services intended to restore coastal wetland in a heavily developed section of Lake St. Clair that includes the Edsel and Eleanor Ford House and Estate (Ford House). The project includes funding from a Transformational Habitat Restoration and Coastal Resilience grant and NOAA is the federal source for this grant opportunity. The issuance of these federal funds necessitates compliance with Section 106. Project duties have included meetings with NOAA, SHPO, Ford House, and various consultants; review of all project-related documents; and preparation of Section 106 application packages for two separate projects. The technical services are ongoing with early SHPO consultation requests anticipated in the summer of 2024 for both projects. These projects are especially unique given that the Ford House is listed in the NRHP, and its contributing resources are also included in the Gaukler Point National Historic Landmark.

Infrastructure for Michigan's Peninsulas and Critical Crossings Project (3 Projects), JSI Engineering, Critical Issues Analyses, SHPO Coordination, Cultural Resources Technical Studies, NEPA Categorical Exclusion and Environmental Assessment Support, Several Counties, MI. Cultural resources lead and non-federal representative for Section 106 consultation. Responsibilities include co-managing and co-organizing several cultural resources specialists and subcontracted cultural resources specialists for desktop reviews, feasibility studies, and NEPA/Section 106 compliance for three proposed broadband projects that traverse over 500 miles of Michigan's lakes and unserved counties and towns, bringing much needed middle mile infrastructure to rural Michigan counties. National Telecommunications and Information Administration (NTIA) is the lead federal agency. Project work is ongoing.

Port Infrastructure Development Program (PIDP) – City of Marquette – Protecting Critical Infrastructure and Improving Efficiency Project Cultural Resources Technical Services, City of Marquette, Marquette County, MI. Cultural resources lead and principal investigator (archaeology) for this project that addresses dredging at the mouth of the Dead River and use of the dredging materials for beach nourishment and dune restoration along the shoreline of Lake Superior. The project proposes to straighten the existing Dead River channel into Lake Superior and remove sand deposited next to an existing coal conveyor and ore dock. The PIDP grant is a discretionary grant program administered by the U.S. Department of Transportation Maritime Administration (MARAD) and the cultural resources technical services are intended to assist the City of Marquette (designee) and MARAD in meeting their obligations under Section 106. Project duties included meetings with the City of Marquette and MARAD; review of all project-related documents, including an architectural resources survey report and a Phase I archaeological resources survey report; and preparation of the Section 106 application package. The technical services resulted in a recommendation of no Historic Properties affected and SHPO concurred with these findings.

Preserve on Ash (POA) Project Cultural Resources Technical Services, The Community Builders (TCB), North Corktown Neighborhood, City of Detroit, Wayne County, MI. Cultural resources lead for the POA Project. The POA Project consists of a comprehensive neighborhood revitalization including the construction of a combination of townhouses, single-family residences, multi-family buildings, and commercial and community spaces. It occupies approximately 11.60-acres in the North Corktown Neighborhood of the City of Detroit. The proposed project includes the pursuit of U.S. Department of Housing and Urban Development (HUD) funding and the issuance of HUD grants constitutes an undertaking. GEI is completing cultural resources services to assist the City of Detroit and HUD in their compliance with Section 106. Project duties have included ongoing meetings with the City of Detroit, TCB, and SHPO; review of all project-related documents, including an architectural resources survey report, an archaeological investigation plan, and a trenching investigation for POA Phase I; and preparation of the City of Detroit Section 106 application package(s). POA Phase II and POA Phase III Section 106 application packages, archaeological investigation plan(s), and fieldwork are forthcoming in 2024.

C. Lorin Brace

Archaeologist

Lorin Brace is an archaeologist in GEI's Ann Arbor office with more than a decade of experience working on all phases of academic and Cultural Resource Management archaeological research across the Midwest, Mid-Atlantic, and Appalachian regions of the United States, as well as in the Caribbean. He holds an M.A. from Wayne State University and is currently a Ph.D. Candidate in Anthropology at University of Maryland. His research specializations include 19th and 20th century urban historical archaeology, the historical archaeology of pre- and post-emancipation African American culture and spirituality, and the historic and contemporary archaeology of popular music. Mr. Brace meets the Secretary of the Interior's Professional Qualification Standards for conducting archaeological research and has extensive experience conducting and leading cultural resources investigation projects in compliance with Section 106 of the National Register of Historic Places, the National Environmental Policy Act, and consultation with State Historic Preservation Offices (SHPO).

PROJECT EXPERIENCE

Marquette County Veterans Home Project, Marquette County, MI. Principal Investigator responsible for leading Cultural Resources component of project, including conducting cultural resources records review and leading Phase I archaeological field survey of project area to support Section 106 review. Conducted analysis of recovered artifacts, prepared SHPO archaeological site forms, and drafted Phase I survey report.

Johnson Solar Site, Home-Grown Illinois Solar Portfolio, Pike County, IL. Principal Investigator responsible for leading Cultural Resources component of project, including conducting cultural resources records review and Phase I archaeological field survey of proposed solar site for compliance under The Illinois State Agency Historic Resources Preservation Act (Section 707). Led archaeological field survey of property, documenting previously recorded and unrecorded precontact sites. Conducted analysis of recovered artifacts, prepared IAS archaeological site forms, and drafted Phase I survey report.

Havenwoods State Forest Habitat Restoration Plan Project, City of Milwaukee, WI. Conducted cultural resources records review and led Phase I archaeological field survey of project area in support of Wisconsin Department of Natural Resources. Conducted analysis of recovered artifacts, prepared and updated Wisconsin archaeological site forms, and drafted Phase I survey report.

Mainland Drain Flood Mitigation Project, Oakland County, MI. Principal Investigator responsible for leading Cultural Resources component of project, including conducting cultural resources records review and leading Phase I archaeological field survey of project area to support Federal Emergency Management Agency (FEMA) Section 106



EDUCATION

Ph.D., Anthropology, University of Maryland, (in progress)

M.S. Anthropology, Wayne State University, 2016

B.S., Double Major in History and Anthropology, Eastern Michigan University, 2012

EXPERIENCE IN THE INDUSTRY

12 years

EXPERIENCE WITH GEI

Less than 1 year

REGISTRATIONS/LICENSES

Register of Professional Archaeologists (RPA) – Registrant ID: 5876

Meets the Qualifications of the Secretary of Interior (SOI) Standards for Archaeology

SOI Qualifications Reviewed:

Indiana
Illinois
Kentucky
Maryland
Michigan
Ohio
Tennessee
Texas
Virginia
Wisconsin

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists

Society for Historical Archaeology

review. Conducted analysis of recovered artifacts, prepared SHPO archaeological site form, and drafted Phase I survey report.

Peninsula Fiber Network (PFN) Infrastructure for Michigan Peninsulas and Critical Crossings (IMPACC) Project, MI, and IL. Prepared Section 106 package for IMPACC Project 3 fiber optics line between Flint and Port Huron, MI. Conducted desktop reviews of proposed project landing sites along Great Lakes shorelines in Michigan and Illinois.

Lower Lake St. Clair Habitat Restoration Project, Macomb County, MI. Prepared Section 106 application package for habitat restoration of shoreline and coastal marshland along Lake St. Clair at the Edsel and Eleanor Ford National Historic Landmark property.

PREVIOUS PROJECT EXPERIENCE

Marysville BESS Phase I Archaeological Survey, Environmental Consulting & Technology, Saint Clair County, MI. Principal Investigator responsible for leading Cultural Resources component of project, including conducting preliminary background research, conducting archaeological probability analysis, supervising, and directing fieldwork, analysis, and processing of collected artifacts, and producing Cultural Resource Report.

Nimbus Wind Phase I Archaeological Survey, Environmental Consulting & Technology, Carroll County, AR. Field lead responsible with supervising and directing fieldwork, recording newly identified archaeological sites, and identifying and recording precontact rock shelters.

Thorn Lake Solar Phase I Archaeological Survey, Environmental Consulting & Technology, Washtenaw County, MI. Principal Investigator responsible for leading Cultural Resources component of project from beginning through completion, including conducting preliminary background research, conducting archaeological probability analysis, supervising, and directing fieldwork, analysis, and processing of collected artifacts, and co-producing Cultural Resource Report.

Beecher Solar Phase I Archaeological Survey, Environmental Consulting & Technology, Lenawee County, MI. Principal Investigator responsible for leading Cultural Resources component of project from beginning through completion, including conducting preliminary background research, conducting archaeological probability analysis, supervising, and directing fieldwork, analysis, and processing of collected artifacts, and producing Cultural Resource Report.

Plano Skies Energy Center Phase I Archaeological Survey, Environmental Consulting & Technology, Kendall County, IL. Principal Investigator responsible for leading Cultural Resources component of project from beginning through completion, including conducting preliminary background research, conducting archaeological probability analysis, supervising, and directing fieldwork, assessment of 55 previously recorded precontact archaeological sites, analysis, and processing of collected artifacts, and co-writing Cultural Resource Report.

Sebree Solar II Phase I Archaeological Survey, Environmental Consulting & Technology, Henderson County, KY. Principal Investigator responsible for leading Cultural Resources component of project from beginning through completion, including conducting preliminary background research, conducting archaeological probability analysis, supervising, and directing fieldwork, analysis, and processing of collected artifacts, and co-producing Cultural Resource Report.

Mission Road Solar Phase I Survey, Environmental Consulting & Technology, Isabella County, MI. Principal Investigator responsible for leading Cultural Resources component of project from beginning through completion, including conducting preliminary background research, conducting archaeological probability analysis, supervising, and directing fieldwork, analysis, and processing of collected artifacts, and producing Cultural Resource Report.

Madeline R. Bowen

Senior Historian/Architectural Historian

Madeline Bowen is a senior historian/architectural historian with more than 28 years of experience in the field of cultural resources. She is experienced in historic research, field inventory, and site assessment for the National Historic Preservation Act (NHPA) Section 106 and Section 110, National Environmental Policy Act, and California Environmental Quality Act compliance. She meets the Secretary of the Interior's standards for work in history and architectural history. Ms. Bowen is the author and co-author of cultural resources technical reports, including historic resources and historic architectural inventories/evaluations. She evaluates resources including residential, commercial, and industrial structures, linear features, dams, bridges, and cultural landscapes for significance for the California Register of Historical Resources and the National Register of Historic Places (NRHP). She also prepares Historic American Building Survey and Historic American Engineering Record documentation and develops integrated cultural resources management plans and mitigation measures for compliance purposes. In 2018, Ms. Bowen was part of a team for a project that received a Governor's Historic Preservation Award from the State of California

PROJECT EXPERIENCE

Little Cedar Creek, White River, and Stony Creek Fish Passage and Habitat Restoration Projects, West Michigan Shoreline Regional Development Commission and the National Oceanic and Atmospheric Administration (NOAA), Muskegon and Oceana Counties, MI. Senior architectural historian who contributed to and peer reviewed cultural resources documentation for the projects. Project tasks included archival research, identification and evaluation of Historic Properties, preparation of Section 106 reports and memorandums for three habitat restoration projects in western Michigan designed to benefit the local ecosystem and community. Also contributed to Section 106 applications submitted to Michigan State Historic Preservation Officer (SHPO) to assist NOAA in meeting their obligations under Section 106 of the NHPA.

Flat Rock-Huroc Dam Removal Project/Flat Rock, Wayne County, MI. The proposed project considers several restoration alternatives along the Lower Huron River Watershed. The best alternative would allow for the passage of native fish species and the reconnection of important tributary habitat of Great Lakes species. Senior architectural historian who contributed to documentation to meet Section 106 requirements.

Southside Diversion Dam (SDD) Modifications and River, City of Pueblo, Pueblo County, CO. The proposed project would improve river passage at the SDD and Raw Water Intake (RWI) facility on the Arkansas River to address safety concerns, improve fish movement, and maintain the functionality of the SDD and RWI. Senior architectural historian who prepared historical and architectural report that assessed historical significance of the dam.



EDUCATION

M.A., History, San Francisco State University

B.A., Liberal Studies, San Francisco State University

EXPERIENCE IN THE INDUSTRY

28 years

EXPERIENCE WITH GEI

8 years

REGISTRATIONS AND LICENSES

Registered Historian, CA No. 568

PROFESSIONAL ASSOCIATIONS

California Preservation Foundation

Finding of Effect for the Norway Dam Stop Log Replacement Project: Norway Hydroelectric Project, Northern Indiana Public Service Company, White County, IN. The proposed project plans to modify the dam to improve dam function and safety. It would replace the primary spillway flood gate stop log set and associated rigging and hoisting system for Norway Dam. Senior architectural historian who prepared cultural resources analysis for NRHP-eligible dam.

Addendum Report and Finding of Effect for the Spillway Deck Widening Project: Prairie du Sac Dam, Alliant Energy, Sauk and Columbia counties, WI. The proposed project would modify the dam to improve personnel safety, as well as meet current dam design and safety requirements established by the Federal Energy Regulatory Commission (FERC). Senior architectural historian who prepared cultural resources documentation for the dam including preparing a Finding of Effect document.

Cheboygan Lock Facility Improvement Project Cultural Resources Technical Services, Michigan Department of Technology, Management, and Budget (DTMB), City of Cheboygan, Cheboygan County, MI. Senior architectural historian for a project that includes upgrades to the Cheboygan Lock. The project includes a Land and Water Conservation Fund (LWCF) grant to assist with funding and under the LWCF, the Department of Natural Resources (DNR) makes recommendations to the National Parks Service (NPS) on which applications to fund and the NPS provides the final approval. The pursuit of this federal funding includes an action by a federal agency that prompts the need for compliance with Section 106. The technical services included a records search and archival research; a NRHP evaluation of the Cheboygan Lock and an assessment of effects by an Architectural Historian; and the preparation of a Section 106 application package. The Section 106 application package was submitted to DTMB and DNR for DNR use. The technical services resulted in a recommendation of no adverse effect on Historic Properties (Cheboygan Lock) and SHPO concurred with these findings.

Buck Island Weir and Rubicon Dam Outlet Project, Sacramento Municipal Utility District (SMUD), El Dorado County, CA. New FERC license requires SMUD to increase the streamflow releases at all Upper American River Project dams. Because the weir directly downstream of Buck Island Dam is approximately 50 years old and shows signs of seepage, SMUD proposes to replace it. In addition, because the existing outlet works at Rubicon Dam cannot provide the higher minimum flow, SMUD proposes to modify the dam's outlet works. The project team was tasked with conducting a cultural resources evaluation in compliance with Section 106. As lead architectural historian, prepared the technical documentation and peer reviewed work of the team. The SHPO concurred with the findings

Lost Creek Dam Improvements Project, South Feather Water and Power Agency (SFWPA), Butte County, CA. SFWPA proposes to modify Lost Creek Dam to meet current flood design and safety requirements per FERC and the Department of Water Resources. Co-authored cultural section for an environmental impact report (EIR) and technical report assessing NRHP-eligible dam.

New Bullards Bar Secondary Spillway Project. Yuba Water Agency, Yuba County, CA. Senior architectural historian who prepared cultural resources documentation. The project involves constructing a secondary spillway on New Bullards Bar Dam from which water would discharge into the North Yuba River.

El Dorado Forebay Dam Modification Project, El Dorado Irrigation District (EID), El Dorado County, CA. The proposed project would remediate the El Dorado Forebay Dam in El Dorado County and its associated facilities to meet current dam safety requirement as required by California Department of Safety and Dams and FERC. The Forebay is a component of the El Dorado Hydroelectric Project which is owned and operated by EID and licensed by FERC. Senior architectural historian who assisted with the preparation of the cultural resources section of the EIR for the project. Section 106 documentation was also completed.

Kelly L. Thorsby

Regional Safety Manager (Central Region)/Staff Professional

Kelly Thorsby is a staff professional with a background in natural resource management, biology, and business. She has supervised and assisted with a variety of ecological restoration projects and has experience with invasive species control, installation of native vegetation, and implementation of various ecological restoration practices. Ms. Thorsby has also taken on a safety leadership role as the project safety manager on an Environmental Protection Agency (EPA) Superfund Site.

Ms. Thorsby also serves as Regional Safety Manager for GEI's Central Region. In this role, she is responsible for assisting GEI's employees in their adherence to the company's procedures, rules, and guidelines. She also works with GEI's Safety Director to expand and create intentional commitment to the company's safety culture. Some of the responsibilities that support this goal are assisting with creating and reviewing project specific health and safety plans for fieldwork, investigating incidents and near miss situations, conducting safety audits on project sites, creating, and following through with company safety initiatives, and assisting staff members with training needs. As part of this role, she also serves as the administrator for GEI's Department of Transportation (DOT) Driver Program.

PROJECT EXPERIENCE

Project Safety Management

OU5 Allied Paper/Portage Creek/Kalamazoo River Superfund Site, LLC, Plainwell, MI. Project safety manager in charge of overseeing and supporting smooth execution of multiple disciplines of fieldwork on site. Project components have included aspects from disciplines including geotechnical exploration, earth work construction, ecological surveying, dive exploration/mussel relocation, hydrologic poling, in-river sediment sampling, and sediment processing.

Ecological Restoration

Sabin Dam Removal and River Restoration, MJ-Van Damme, Traverse City, MI. Field supervisor overseeing the on-site coordination among the project manager, contractor staff, and the GEI field technicians. This bank stabilization project on the Boardman River included native seeding, installing erosion control blankets, harvesting, and installing live stakes, planting live stakes and potted stock, and securing deer exclusion fencing around specific planted trees.

Aspen Regeneration Habitat Improvement, Allegan Conservation District, Allegan, MI. Field technician supporting a crew working on habitat improvement for various animal species. Approximately 40 acres of mature growth Aspen stands were strategically clear-cut using chainsaws for habitat improvement.



EDUCATION

B.S., Natural Resource Management,
Grand Valley State University,
Allendale, MI

EXPERIENCE IN THE INDUSTRY

6 years

EXPERIENCE WITH GEI

5 years

TRAINING AND CERTIFICATIONS

Adult First Aid-CPR-AED – Updated 2022
Certified Natural Shoreline Professional
10 Hour OSHA Construction
30 Hour OSHA Construction
40 Hour HAZWOPER
HAZWOPER Supervisor for Construction
DOT Hazardous Materials Safety
RCRA Training

Brendan Cousino, PE

Principal, Senior Civil and Environmental Engineer

Brendan is a Principal and Senior Civil and Environmental Engineer at LimnoTech. He has 22 years of professional experience in both the public sector and consulting. His work is focused on the management, restoration, and revitalization of water resources in urban environments, including work to improve water quality, aquatic ecology, and flood protection. His work includes helping communities understand water quality impacts from their regulated stormwater, CSO, and treatment plant discharges and providing communities with regulatory compliance and permitting support. Brendan's work also involves designing and restoring urban waterways, including creating sustainable public spaces that help to reduce flood risks, provide natural recreation opportunities, and improve aquatic habitat.

Brendan has extensive experience in developing and applying complex watershed hydrology, river hydrodynamics, water quality, and sediment transport models. He has a broad range of engineering experience, with projects including the design of municipal infrastructure systems, green infrastructure design, asset management, total maximum daily load assessments, watershed characterizations, sediment dredging and disposal, operations and maintenance planning, and capital project planning and budgeting.

SELECTED PROJECT EXPERIENCE

Peninsular Paper Dam Removal Project, Ypsilanti, MI.

Project manager for additional data collection and study to support the removal of the existing historic dam. This project included bathymetric and depth of refusal data collect to evaluate the quantity of sediment accumulation, developing a hydraulic model of the restored river channel, scour evaluation at existing bridge piers, and sediment sampling to identify ecological and public health risks from pollutant levels in the impoundment sediments.

Beyer and Tyler Dam Removal Project, Ypsilanti, MI.

Project manager for additional data collection and study to support the removal of the existing historic dam. This project included bathymetric and depth of refusal data collect to evaluate the quantity of sediment accumulation, and sediment sampling to identify ecological and public health risks from pollutant in the impoundment sediments. Sediment sampling included analysis of PFAS in the sediments from nearby airport and historical industrial uses.

Flat Rock and Huroc Dam Removal Feasibility Study, Flat Rock, MI.

Project manager for LimnoTech's data collection and study to support the Dam Removal Feasibility Study of existing historic dams on the Huron River. This project included bathymetric and depth of refusal data collected to evaluate the



AREAS OF SPECIALIZATION

Hydrologic, Hydraulic & Hydrodynamic Modeling

Surface Water Quality Modeling

Water Quality Sampling & Assessment

Stormwater Management & Collection System Modeling

Municipal Engineering & Urban Restoration

EDUCATION

**MS, Civil Engineering (Water Resources),
University of Michigan**

**BSE, Civil & Environmental Engineering,
University of Michigan**

PROFESSIONAL CERTIFICATIONS OR TRAINING/ETC

**Professional Engineer, Michigan
(6201052745)**

quantity of sediment accumulation, and sediment sampling to identify ecological and public health risks from pollutant in the impoundment sediments.

Port Lands Flood Protection Project, Toronto, ON.

Project manager for the design phase of LimnoTech's ongoing work in the construction phase to develop a restoration plan for the lower Don River in Toronto. LimnoTech efforts include creating and application of complex 2D hydrodynamic and sediment transport models of the lower Don River to evaluate extreme-event floodwater conveyance and sediment transport under the full range of wet-weather conditions, as well as the range of normally encountered flows and lake levels. The models were used iteratively throughout the design process to evaluate the geomorphology and varying ecological regimes along the 1.5 km of river to be developed and restored, and to inform the required maintenance dredging to maintain a sediment trap to ensure long-term flood conveyance capacity.

Ralph C. Wilson Jr. Centennial Park, Detroit, MI.

Project manager for LimnoTech's work in the design of this transformative waterfront park. The park design transforms the waterfront from a hardened bulkhead to include a revetment shoreline that supports a water garden, river connected wetland, and areas of riparian habitat integrated into the park design. LimnoTech provided hydrodynamic and water quality modeling to support the design and regulatory compliance, as well as water quality and sediment data collection, and contaminated sediment remediation design. Water quality in the Detroit River at this site is impacted during wet weather by CSO discharges that need to be considered to protect public health. LimnoTech also designed the aquatic and riparian habitat features to support ecosystem restoration.

GLWA Combined Sewer Overflow Long-Term Control Plan Update, Detroit, MI.

Brendan led the watershed and in-stream water quality modeling task as a part of the overall project to develop an updated LTCP to address remaining untreated combined sewer overflow discharges as required by GLWA and DWSD's NPDES permit. He oversaw the technical work to update of the SWMM urban stormwater quality and hydraulic model, and update and calibration of an in-stream HSPF water quality model. The HSPF model was updated to run in the HSP2 (python) framework and integrated into the optimization framework to allow for system optimization based on water quality outcomes. He oversaw the

development and calibration of a 2D hydrodynamic and water quality model of the Detroit River in the areas impacted by GLWA CSO discharges. He provided key leadership in the modeling coordination between multiple firms for updating the hydrologic and hydraulic models, and integrating the water quality model results to inform the key decisions on CSO control recommendations and regulatory negotiations.

Ford Cove Restoration Project, Grosse Pointe Shores, MI.

Hydrodynamic model using the FVCOM framework for the Lake St. Clair to support the design of aquatic habitat restoration in a cove and around an artificially created island on the Ford House estate. This work included an assessment of the impact of wind-driven circulation velocity currents impacting long-term shoreline stability. A companion SWAN wind-wave model was also developed to simulate wind-driven waves to design offshore shoals to protect the shallow, still-water habitat areas and shoreline protection.

Saw Mill Run Integrated Watershed Management Plan, Pittsburgh, PA.

Brendan was the project manager to prepare an integrated watershed plan in a highly developed urban watershed with many impairments, including nutrients, CSO/SSOs discharges, and acid mine drainage (AMD) from historical coal mining, and highly variable flows that contribute to flooding and bank erosion. This project considered green infrastructure alternatives to the traditional, end-of-pipe solutions to address the CSOs and SSOs in the watershed, as well as stormwater controls. There were several regulatory requirements for this project to meet, including consent orders for CSO/SSO reduction, and TMDLs for nutrients, sediment and AMD with stormwater controls required. Project included detailed watershed and in-stream water quality modeling to characterize the impact of pollutant loads from CSOs, SSO, and stormwater sources.

Andy Schripsema, PS, PE

Survey Manager (MI)



Education

- Bachelor of Science in Land Surveying, 2000, Michigan Technological University (Houghton, MI)
- Bachelor of Science in Civil Engineering, 2000, Michigan Technological University (Houghton, MI)

Professional Registration(s)

Professional Surveyor
MI, 2008, #55483
WI, 2009, #2915-008

Professional Engineer

MI, 2005, #52605

Experience

With OHM since 2007
7 years prior experience

Background

Andy has been involved in all parts of surveying and engineering projects, from design survey preparation through construction. As a Survey Manager, Andy is directly involved with every aspect of the projects he oversees including project scope, budget, schedule, plans, calculation, review, and deliverables. He has a clear understanding of project requirements and is constantly striving to make sure that projects are performed efficiently with his direct approach for the most common-sense results. Andy has a vast background with a wide range of experience in boundary and infrastructure projects. With Andy's experience, he has the knowledge and ability to manage a full range of project complexities, while being able to communicate and solve issues with the project team. Andy's background ensures all work is conducted skillfully, in a timely manner and has been through the proper checks and balances to assure quality. Andy's 30-years of boundary survey experience provide him with the knowledge to navigate the sometimes-complex fields of boundary resolution and property rights.

Select Relevant Experience

Penn Dam Removal Assistance, Ypsilanti, MI

Lead Surveyor; OHM Advisors (OHM) was requested to provide surveying services for the City of Ypsilanti. Andy was responsible for evaluating several chains of title, back to the Federal Government, for select parcels surrounding the impoundment area to determine who may have vested rights in the currently submerged lands under the impoundment. Summaries of Findings were prepared for each quarter-section impacted by the impoundment for the City's legal counsel to review.

Freighthouse Parking Lot Survey, Ypsilanti, MI

Lead Surveyor; OHM Advisors (OHM) was requested to provide surveying services for the City of Ypsilanti. Andy was responsible for managing field work and preparation of a PA132 Certified Survey over the Freighthouse Parking Lot bounded by Cross Street, Rice Street, and the Conrail Railroad.

US-223 Rehabilitation; Stoddard to US-127 & US-127 Rehabilitation; Junction Road to US-12, Lenawee County, MI

Lead Surveyor; for this 15.5-mile-long project which included resurfacing of US-127/US-223 to improve the surface of this high-speed facility that cuts across Lenawee County, traversing Woodstock, Rolling and Rome Townships. Andy led the survey work including coordination for control, LiDAR scanning, supplemental survey, ROW survey, 12 certified surveys and the survey portfolio.

NW Hwy Connector Orchard Lake Road to Haggerty Road (Survey Services), Oakland County, MI

Lead Surveyor; responsible for all survey tasks. The project was one of North America's largest roundabout chains in one of Michigan's busiest, most congested corridors. Survey scope required establishment of the horizontal and vertical control and existing right of way for aerial mapping and topographic design of nine modern roundabouts. Survey scope also required topographic survey, establishing the existing and the preparation of Temporary Easements, Highway Easements and Right of Way Acquisitions documents for 120 parcels.





REQUEST FOR LEGISLATION
January 21, 2025

For: Mayor and City Council

From: Andrew Hellenga, City Manager

Subject: Resolution No. 2025-013 Entering into a Closed Session, pursuant to MCL 15.268 (e), for the purpose of discussing the following pending litigation: VTP River Woods LLC and VTP Arbor One LLC v City of Ypsilanti; and David McGill v City of Ypsilanti and also, pursuant to MCL 15.268 (c), to discuss Command Officers Association of Michigan (COAM) Contract Negotiations.

CLOSED SESSION

Resolution No. 2025-014 Leaving the Closed Session and returning to the Open Session of this meeting.

SUMMARY & BACKGROUND:

RECOMMENDED ACTION:

ATTACHMENTS:

1. Closed Resolution 2025-013
2. Return to Open Session Resolution 2025-014

CITY MANAGER APPROVAL:

COUNCIL AGENDA DATE: January 21, 2025

CITY MANAGER COMMENTS:

FISCAL SERVICES DIRECTOR APPROVAL:



Resolution No. 2025-013
January 21, 2025

RESOLVED BY THE COUNCIL OF THE CITY OF YPSILANTI:

That this Council enter into a Closed Session, pursuant to MCL 15.268 (e), for the purpose of discussing the following pending litigation:

1. VTP River Woods LLC and VTP Arbor One LLC v City of Ypsilanti.
2. David McGill v City of Ypsilanti

And also, pursuant to MCL 15.268 (c), to discuss Command Officers Association of Michigan (COAM) Contract Negotiations.

OFFERED BY: _____

SUPPORTED BY: _____

YES: NO: ABSENT: VOTE:



Resolution No. 2025-014
January 21, 2025

RESOLVED BY THE COUNCIL OF THE CITY OF YPSILANTI:

That this Council leave the Closed Session, and return to the Open Session of this meeting.

OFFERED BY: _____

SUPPORTED BY: _____

YES: NO: ABSENT: VOTE:



REQUEST FOR LEGISLATION
January 21, 2025

For: Mayor and City Council

From: Andrew Hellenga, City Manager

Subject: Resolution No. 2025-015 Approving the new collective bargaining agreement between the City of Ypsilanti and the COAM, for the term commencing on January 1, 2025, and terminating on December 31, 2028, as presented and authorize the Mayor, City Manager, and City Clerk to execute the agreement on behalf of the city after approval by the City Attorney as to form.

SUMMARY & BACKGROUND:

RECOMMENDED ACTION: Approval

ATTACHMENTS:

1. RFL - COAM 2025-2028 Collective Bargaining Agreement

CITY MANAGER APPROVAL:

COUNCIL AGENDA DATE: January 21, 2025

CITY MANAGER COMMENTS:

FISCAL SERVICES DIRECTOR APPROVAL:



REQUEST FOR LEGISLATION

January 21, 2025

To: Honorable Mayor and Ypsilanti City Council
From: Andrew Hellenga, City Manager
Subject: **COAM 25-28 COLLECTIVE BARGAINING AGREEMENT**

SUMMARY & BACKGROUND:

COAM, representing the city's command officers, and the city have tentatively agreed on a new collective bargaining agreement for January 1, 2025, through December 31, 2028.

PREVIOUS COUNCIL ACTION:

None

FINANCIAL IMPACT:

Please refer to the tentative agreement for specific details.

ATTACHMENTS:

CITY MANAGER APPROVAL: _____

COUNCIL AGENDA DATE: 01/21/2025

CITY MANAGER COMMENTS: Approve the new COAM collective bargaining agreement as presented.

FISCAL SERVICES DIRECTOR APPROVAL: _____



Resolution No. 2025-015
January 21, 2025

RESOLVED BY THE COUNCIL OF THE CITY OF YPSILANTI:

WHEREAS, the COAM, collective bargaining agreement with the city expired on December 31, 2024; and

WHEREAS, the city and the union have been engaged in contract negotiations for a successor contract; and

WHEREAS, the city and the union have reached a tentative agreement on a new collective bargaining agreement for the term commencing on January 1, 2025, and terminating on December 31, 2028; and

WHEREAS, the city desires to approve the new contract as presented.

NOW THEREFORE BE IT RESOLVED BY THE CITY OF YPSILANTI that the city council does hereby approve the new collective bargaining agreement between the City of Ypsilanti and the COAM, for the term commencing on January 1, 2025, and terminating on December 31, 2028, as presented and authorize the Mayor, City Manager, and City Clerk to execute the agreement on behalf of the city after approval by the City Attorney as to form.

OFFERED BY: _____

SUPPORTED BY: _____

YES: NO: ABSENT: VOTE:

ARTICLE V. SOLICITATION OF IMMIGRATION STATUS

Sec. 58-200. Statement of purpose.

It is the policy of the City of Ypsilanti to respect the rights of, and provide equal services to, all persons regardless of appearance, ethnicity, immigration status, manner of dress, national origin, physical characteristics, race, religious beliefs, sexual orientation, or gender identity or expression; to ensure the enforcement of rights under the United States Constitution, including due process and equal protection; to promote community safety; to encourage victims of crime and witnesses to cooperate with law enforcement authority without regard to immigration status; to prevent bias-based policing; and to promote acceptance. In order to permit members of immigrant communities to access services that are provided by the City of Ypsilanti government to which they are entitled; and to ensure that city public servants are acting consistent with federal law regarding local governments cooperating with federal immigration authorities, the City of Ypsilanti enacts this article as an effective way to guide city public servants in adhering to rights under the United States Constitution, including due process and equal protection, and under federal law, while protecting the safety and health of all members of the Ypsilanti community.

(Ord. No. 1281, § 1, 2-7-2017; Ord. No. 1368, 10-20-2020)

Sec. 58-201. Definitions.

Public servant means the mayor, members of the city council, the city clerk, any member of any city agency, board, commission, or other voting body that is established by the Ypsilanti City Charter or by this Code, and any appointee, any employee, or any individual who provides services to the City of Ypsilanti within or outside of its offices or facilities pursuant to a personal services contract.

(Ord. No. 1281, § 1, 2-7-2017)

Sec. 58-203. Bias-based policing by public servants, who are police officers, on the basis of appearance, ethnicity, immigration status, manner of dress, national origin, physical characteristics, race, religious beliefs, sexual orientation, or gender identity or expression prohibited.

A public servant, who is a police officer, shall not exercise differential treatment of individuals in rendering police services based on a person's appearance, ethnicity, immigration status, manner of dress, national origin, physical characteristics, race, religious beliefs, or sexual orientation, or gender identity or expression. A public servant, who is a police officer, shall not base reasonable suspicion for an investigative detention, probable cause for an arrest, or any other police action, on a person's appearance, ethnicity, immigration status, manner of dress, national origin, physical characteristics, race, religious beliefs, sexual orientation, or gender identity or expression. A public servant, who is a police officer, may take into account the reported appearance, ethnicity, immigration status, manner of dress, national origin, physical characteristics, race, religious beliefs, sexual orientation, or gender identity or expression for the purpose of identifying a described individual.

(Ord. No. 1281, § 1, 2-7-2017; Ord. No. 1368, 10-20-2020)

Sec. 58-204. Solicitation of immigration status by public servants, prohibited; exceptions.

- (a) *Prohibited.* A public servant, while acting within the scope of public service employment and/or authority shall not:
- (1) Solicit information concerning immigration status for the purpose of ascertaining a person's compliance with federal immigration law; or
 - (2) Solicit information for the purpose of determining immigration status from a person who is seeking police services, or is a victim, or is a witness; or
 - (3) Inquire into the immigration status of any person, or engage in activities for the purpose of ascertaining the immigration status of any person.
- (b) *Exceptions.* Notwithstanding the prohibitions set forth in subsection (a) of this section, public servants, are expressly permitted to engage in the following activities, which shall not constitute a violation of this article:
- (1) Solicitation of information concerning immigration status when performing public safety functions while assisting federal law enforcement in the investigation of a criminal or civil offense; or
 - (2) Solicitation of information concerning immigration status from the subject of an investigation only when relevant to the investigation or prosecution of a criminal offense, or when processing an arrested person; or
 - (3) Solicitation of information concerning immigration status where specifically required by any federal, state, or city law or program as a condition of eligibility for the service sought; or
 - (4) Solicitation of information concerning immigration status for the purpose of completing I-9 Forms, and, when relevant, in making hiring and payroll withholding decisions, including, but not limited to, completing I-9 Forms, questioning a person to complete the I-9 Form, obtaining documents that support the I-9 Form, and allowing federal authorities to audit an I-9 Form in accordance with law; or
 - (5) Solicitation of information concerning immigration status for a subpoena issued in a criminal proceeding, civil litigation, or an administrative proceeding for the production of city documents or for testimony of a public servant, including where related to immigration issues or other security issues.

(Ord. No. 1281, § 1, 2-7-2017; Ord. No. 1368, 10-20-2020)

Sec. 58-205. Violations and penalties.

Where a public servant is alleged to have violated this article, the matter shall be referred, as appropriate, to the city council or to the department director or agency head, for review, investigation, and disposition. Any disciplinary action shall be carried out in accordance with the provisions of the Ypsilanti City Charter and other laws, city personnel rules, civil service rules, union contracts, or other departmental or agency rules and regulations.

The city manager shall provide an annual report to city council of all violation complaints of this article and their disposition.

(Ord. No. 1281, § 1, 2-7-2017; Ord. No. 1368, 10-20-2020)