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HEB

ENGINEERS



PREPARED FOR NHDOT

**PREQUALIFICATION FOR PRELIMINARY ENGINEERING SERVICES FOR LPA PROJECTS**

FEBRUARY 2024



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Resumes
Applicable Work Experience

February 1, 2024

Tobey Reynolds, PE  
Assistant Director of Project Development  
Chairperson, Consultant Selection Committee  
New Hampshire Department of Transportation  
7 Hazen Drive, PO Box 483  
Concord, NH 03302-0483



## **Re: Prequalification for Preliminary Engineering Services for LPA Projects**

Dear Mr. Reynolds and Members of the Selection Committee,

Thank you for the opportunity to present the following information as part of the prequalification process for Preliminary Engineering (PE) Services for LPA projects statewide. We take great pride in our ability to assist Local Public Agencies (LPA) in the development and construction of their transportation infrastructure projects. Our strong track record with LPA projects makes us a good fit for the prequalified list.

HEB's experience providing PE services for locally administered projects is deep. The vast majority of HEB's workload directly correlates to the proposed assignments under this contract. Municipal bridge, highway, and trail design is what we do well! HEB's most-recent experience includes:

- » 14 ongoing State Bridge Aid (SBA) projects
- » Five SBA bridge projects completed in the last three years
- » Three ongoing Transportation Alternative Program (TAP) Projects
- » One ongoing Regional Planning Commission Transportation Planning contract
- » Three Regional Planning Commission Transportation Planning contracts completed in the last three years
- » Two ongoing non-TAP funded trail projects
- » Several completed federally-funded rail-with-trail and recreational pathway projects
- » Several commercial development projects with traffic impact studies and NHDOT Driveway permitting

In addition, the majority of our work is directly with New Hampshire municipalities on their transportation infrastructure needs. Because of this history, and the successes that have followed, we are viewed as one of the most well-respected New Hampshire-based engineering firms. We think it makes good sense to include HEB on the prequalified list so that New Hampshire municipalities will have the option to work with a local firm.

We sincerely hope the following information provides the Department with the confidence to include HEB on the prequalified list for PE Services for LPA Projects. We have the experience, expertise, and capacity to provide these services for NH municipalities. We look forward to hearing from you.

Thank you for your consideration.

Sincerely,  
**HEB Engineers, Inc.**

A handwritten signature in blue ink, appearing to read 'Jay Poulin', is written over a light blue circular stamp. The signature is fluid and cursive.

Jay Poulin, PE  
President

# PROJECT UNDERSTANDING & APPROACH

## PROJECT UNDERSTANDING

Similar to the Department, municipalities are always looking for ways to more efficiently address their infrastructure needs. Developing a prequalified list of capable and experienced LPA consultants for which municipalities can streamline their consultant selection process is one way to be more efficient. Prequalification by NHDOT would allow the LPA to solicit proposals from at least three firms from the prequalified list which would eliminate the need to advertise, review qualification statements, and develop a short-list of firms as required under the standard qualifications-based selection (QBS) process. The prequalification list will help municipalities save time up front during the QBS process and ensure communities are working with qualified firms.



In addition, due to conflict of interest (COI) concerns, the prequalification list is being developed for both Preliminary Engineering (PE) and Construction Engineering and Inspection (CE&I) services. Developing both prequalified lists will ensure procurement of consulting services for either PE or CE&I are done in a fair, open, and competitive manner.

HEB is ready to put our experience, expertise, and capacity to work. We hope the following approach demonstrates how HEB can build off past experiences and assist LPAs with their transportation projects.

## PROJECT APPROACH

HEB's project approach will be guided by two primary principles: **Responsiveness** and **Quality Service**. Each project will be different so we'll cater our approach in a way the best meets the need of the LPA.

Our approach will include:

### » Confirm Project Goals

Understanding the goals and priorities of the proposed project that are critical to its success is the first step. This is usually completed during the QBS process when the LPA is soliciting statements of qualifications for engineering services.

### » Develop Project Team

Based on the understanding of the project goals, we will assemble an experienced team of licensed professionals and specialized subconsultants best suited for the scope of services. Each project will be led by senior level staff providing the high-quality service expected by the LPA.

### » Contract Negotiation

Once the LPA has completed the QBS process, contract negotiations are then completed with the most-qualified firm for the project. Negotiations begin with the development of the project scope outlining the anticipated work tasks and schedule. The scope of work matrix is then provided to the LPA to complete the independent government estimate (IGE). Once the IGE is completed by the LPA, it is compared to the consultant's proposed fee and negotiations are then completed on the final scope and fee. Items such as direct labor rates and overhead factors are provided to the LPA prior to the IGE being completed. A notice to proceed (NTP) is then provided by NHDOT once the LPA and NHDOT are in agreement with the consultant's proposed contract.

### » Design Process

The design process for all LPA projects can be broken down into three major phases: Engineering Study, Preliminary Design, and Final Design. Each phase, further described below, requires NHDOT approval prior to proceeding to the next phase.

# PROJECT UNDERSTANDING & APPROACH

**Engineering Study:** The Engineering Study phase is a critical time in the project as the “proposed action” of the project is identified during this phase. The “proposed action”, which best meets the purpose and needs of the project, is confirmed by several actions throughout the phase, including:

- » Conducting a Local Concerns Meeting to provide a general overview of the project including schedule, project area, and concerns as well as allowing the public to comment on the general details of the project.
- » Development of a Purpose and Need Statement that will guide the assessment of alternatives as the design is beginning to take shape. Alternatives that don't align with the Purpose and Need Statement will likely not be justifiable for continued development.
- » Gaining an understanding of Existing Conditions within the project area. Identification of applicable Design Standards.
- » Completing a Preliminary Environmental Review to understand the potential impacts to natural and cultural resources.
- » Conducting an Alternatives Assessment with identification of environmental, historical, property, and utility impacts for each alternative. It is at this time a “proposed action” is identified.
- » A Cost Estimate is then developed to confirm if the proposed action is achievable within the project budget. If not, adjustments are made to bring project within available funding.
- » Finally, a Public Presentation of Proposed Action is conducted to conclude the Engineering Study. Comments from the public presentation are taken into consideration during the development of the Engineering Study recommendations.

**Preliminary Design:** Upon NHDOT approval of the Engineering Study, the LPA may proceed with Preliminary Design. Preliminary Design incorporates any comments from the Engineering Study and includes further development of the proposed action. Typically, a standard set of design drawings will be developed during this phase illustrating the details of the proposed action along with an undated project cost estimate.

In addition, all LPA projects involving construction must undergo a “resource review” including an environmental, historical, cultural, and socio-economic analysis. These reviews are typically completed in parallel with the Preliminary Design phase as any environmental commitment identified as part of the resource reviews must be included into the Final Design.

**Final Design:** Final Design is the phase where final plans, specifications, and engineer's estimate (PS&E) are developed. Final Design may proceed once NHDOT has granted approval of the Preliminary Design and the resource reviews have been completed. Right-of-Way (ROW) negotiations, if required, are also completed in the Final Design phase. The final PS&E will include all necessary bidding and contract documents so the LPA can conduct a proper public bidding process.

**Bidding:** The final step in the design process of a project is the bid phase, which follows completion and approval of the final design process. The bid phase typically includes advertising for bids, confirming contractor qualifications, conducting a bid opening followed by review of bids, and recommendation of bid award. At the completion of this phase, an executed contract between the LPA and the Contractor sets the stage for the construction phase of the project.

## » Project Status Reports

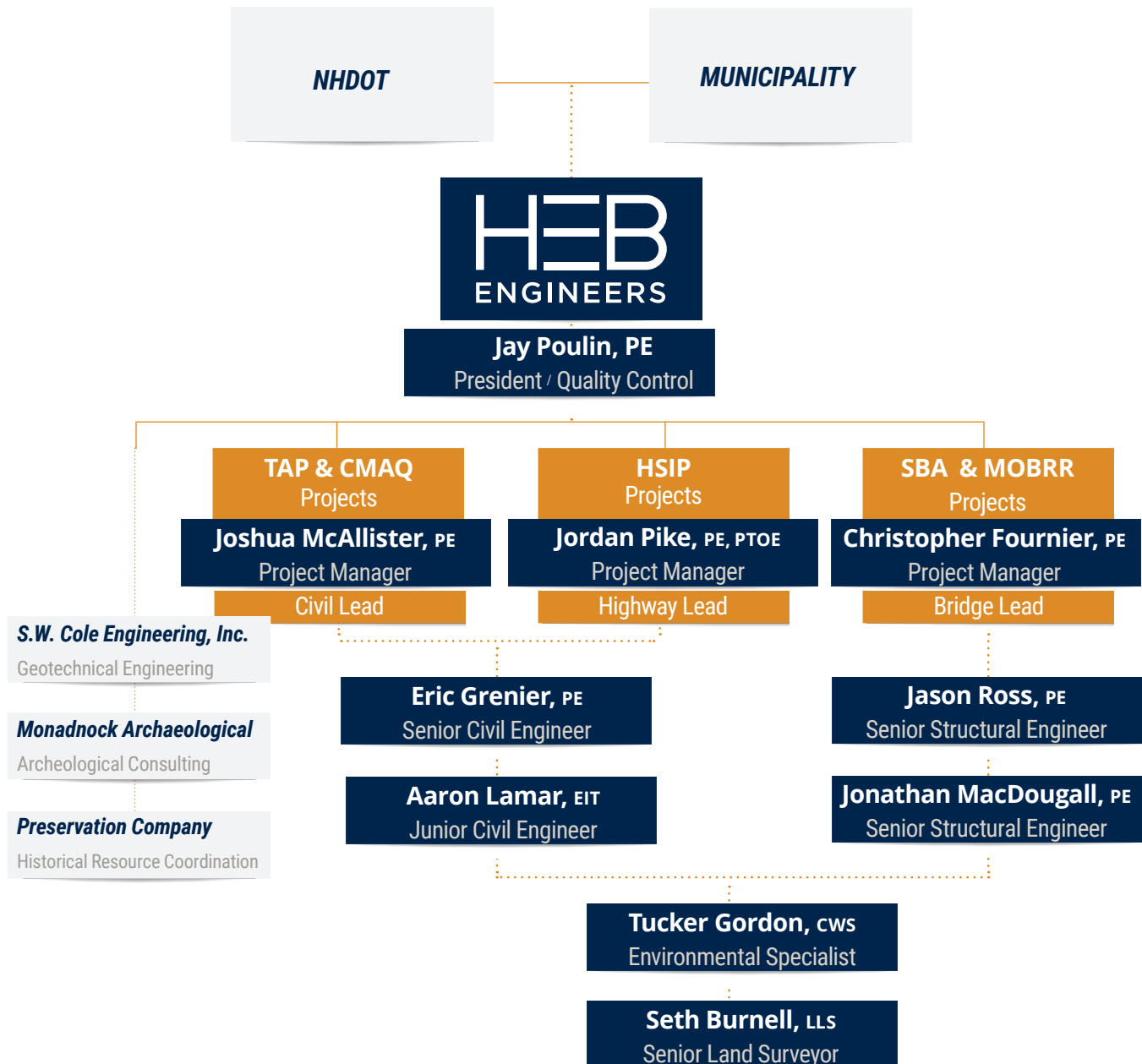
Throughout the entire process, HEB completes project status reports for each invoice period to keep all parties informed of where we are. We have found these reports to be very effective in keeping on track and providing a consistent forum for project updates.

**UTILIZING THIS APPROACH, HEB WILL EFFICIENTLY GUIDE THE LPA THROUGH THE PROCESS RELIEVING THEM OF MANY TIME-CONSUMING DETAILS.**

**WE ARE READY TO SERVE!**

# ORGANIZATIONAL CHART

Jay Poulin, President of HEB Engineers, will serve as Principal-In-Charge and provide overall Quality Control. Project Managers will be assigned based on the project type and will be supported by our experienced staff of engineers, surveyors, technicians, and administrators as needed for the successful completion of the work. Our focus on training and technical expertise enables us to provide you versatile project teams for your project, as outlined in the project team organizational chart below:



# PROJECT TEAM



## HEB Engineers, Inc. PRIME CONSULTANT

HEB Engineers, Inc. was founded in 1974 with a commitment to providing quality engineering and surveying services to the Mount Washington Valley. Throughout the years, HEB has grown steadily into a diversified consulting firm with a continued commitment to serving our community and people throughout New Hampshire and western Maine.

As an employee-owned firm, this commitment flourishes today as we deliver on our core purpose of **empowering our people to positively impact our clients and communities.** Today's well-established civil, structural, and surveying teams are each led by experienced professionals licensed in their various disciplines. We take pride in our reputation and proven ability to deliver high-quality and cost-effective solutions. HEB offers a full range of civil, structural, and surveying services, with offices in North Conway, NH, and Bridgton, ME, to government, commercial, and industrial entities, as well as architects, developers, and individuals.

### HIGHWAY AND BRIDGE DESIGN ENGINEERING SERVICES IN SUPPORT OF LPA PROJECTS

LPA CERTIFIED  
 YEARS OF EXPERIENCE  
 YEARS AT HEB ENGINEERS, INC.  
 PROJECT MANAGEMENT  
 HIGHWAY DESIGN  
 BRIDGE DESIGN  
 STRUCTURAL DESIGN  
 ALTERNATIVE ENGINEER  
 CORRIDOR STUDY PLANNING  
 BRIDGE INSPECTION  
 BRIDGE LOAD RATING  
 HYDROLOGY  
 ENVIRONMENTAL  
 TRAFFIC ANALYSIS  
 GEOTECHNICAL ENGINEER  
 SURVEYOR  
 NATURAL/CULTURAL RESOURCES  
 PUBLIC INVOLVEMENT

HEB KEY PERSONNEL	PROJECT ROLE	LPA CERTIFIED	YEARS OF EXPERIENCE	YEARS AT HEB ENGINEERS, INC.	PROJECT MANAGEMENT	HIGHWAY DESIGN	BRIDGE DESIGN	STRUCTURAL DESIGN	ALTERNATIVE ENGINEER	CORRIDOR STUDY PLANNING	BRIDGE INSPECTION	BRIDGE LOAD RATING	HYDROLOGY	ENVIRONMENTAL	TRAFFIC ANALYSIS	GEOTECHNICAL ENGINEER	SURVEYOR	NATURAL/CULTURAL RESOURCES	PUBLIC INVOLVEMENT
Jay Poulin, PE	Principal-In-Charge / Quality Control	X	25	20	X	X		X											X
Christopher Fournier, PE	Project Manager / Bridge Lead	X	17	17	X		X	X	X	X	X								X
Jordan Pike, PE	Project Manager / Highway Lead	X	15	3	X	X			X	X			X						X
Joshua McAllister, PE	Project Manager	X	20	19	X	X			X		X	X							X
Eric Grenier, PE	Senior Civil Engineer	X	16	16	X	X													X
Jason Ross, PE	Senior Structural Engineer	X	23	23			X	X		X	X								
Jonathan MacDougall, PE	Senior Structural Engineer	X	14	12			X	X		X	X								
Aaron Lamar, EIT	Junior Civil Engineer	X	3	3			X					X							X
Tucker Gordon, CWS	Environmental Specialist	X	5	5							X	X							
Seth Burnell, LLS	Senior Surveyor			20	20												X		

SUB CONSULTANTS	PROJECT ROLE	LPA CERTIFIED	YEARS OF EXPERIENCE	YEARS AT HEB ENGINEERS, INC.	PROJECT MANAGEMENT	HIGHWAY DESIGN	BRIDGE DESIGN	STRUCTURAL DESIGN	ALTERNATIVE ENGINEER	CORRIDOR STUDY PLANNING	BRIDGE INSPECTION	BRIDGE LOAD RATING	HYDROLOGY	ENVIRONMENTAL	TRAFFIC ANALYSIS	GEOTECHNICAL ENGINEER	SURVEYOR	NATURAL/CULTURAL RESOURCES	PUBLIC INVOLVEMENT
S.W. Cole Engineering, Inc.	Geotechnical Engineering															X			
Preservation Company	Historical Resource Coordination																		X
Monadnock Archaeological Consulting	Archaeological Consulting																		X

# PROJECT TEAM | SUB CONSULTANTS

## **Monadnock Archaeological Consulting, LLC**

### **ARCHAEOLOGICAL CONSULTING**

Founded in 2004, Monadnock Archaeological Consulting, LLC (Monadnock) is qualified to direct all levels of investigation on Pre-Contact Native American and historic period sites. For the past twelve years we have been awarded Service Contracts for both Pre-Contact Native American and Historic Euroamerican archaeology by NHDOT. We have developed a close working relationship with the NHDOT while successfully completing archaeological review for dozens of transportation-related projects, working directly for NHDOT and as a partner with engineering and environmental consulting firms and municipalities throughout New Hampshire. Monadnock has developed a level of expertise and reputation for thorough, high quality work that has made it one of the leading archaeological consulting firms in northern New England.

## **S.W. Cole Engineering, Inc.**

### **GEOTECHNICAL ENGINEERING**

Established in 1979 in Bangor, Maine, S. W. Cole Engineering, Inc. is a geotechnical engineering, geo-environmental consulting and construction materials testing firm serving private and public-sector clientele across New England. Our team of engineers, scientists, and technicians provide services on more than 1,800 projects each year.

## **Preservation Company**

### **HISTORICAL RESOURCE COORDINATION**

Founded in 1983, Preservation Company is New Hampshire's oldest and largest preservation firm. We offer a range of preservation services to public and private clients, with a concentration in the New England region. We are listed as a certified woman-owned DBE in Maine, Massachusetts, New Hampshire and Vermont. Preservation Company has partnered with architectural and engineering firms, government agencies, non-profits and private owners on hundreds of successful projects throughout New England.



**SPRING ROAD BRIDGE | GORHAM, NH**



# REFERENCES

We encourage you to contact any of these client references:

## PAMELA LAFLAMME | DIRECTOR OF STRATEGIC INITIATIVES

### City of Berlin

168 Main Street  
Berlin, NH 03570  
(603) 752-7532  
plaflamme@berlinnh.gov

RECENT PROJECTS	PROJECT TYPE	PROJECT COMPLETION
Mason Street Bridge #238/055	Bridge Preservation	On-going
Berlin Regional Airport General Consultant	NHDOT AIP/SBG Projects	On-going
Multi-Use Riverwalk	NHDOT TA Program	Completed 2023
Hillside Avenue Bridge #232/066	State Bridge Aid Program	Completed 2019
Route 16 Roadway Reconstruction	Roadway/Infrastructure Upgrades	Completed 2018
Hutchins Street Reconstruction	State Aid Highway Program	Completed 2016
Route 110 Reconstruction	Sewer Conflict Resolution	Completed 2013
12th Street Bridge #256/087	State Bridge Aid Program	Completed 2011

## PAUL DEGLIANGELI, PE | DEPUTY TOWN MANAGER

### Town of Conway

23 Main Street  
Conway, NH 03818  
(603) 447-3811  
pauld@conwaynh.org

RECENT PROJECTS	PROJECT TYPE	PROJECT COMPLETION
Multi-Purpose Pathway Phase II NHDOT #41755	EDA Funded Pathway	On-going
Multi-Purpose Pathway Phase I NHDOT #41755	Construction Administration	Completed 2023
Main Street Improvements	Construction Administration	Completed 2022
Thompson Road Culvert #2	Bridge Replacement	Completed 2021
Thompson Road Culvert #1	Bridge Replacement	Completed 2020
West Side Road Culvert	Culvert Replacement	Completed 2020
Brownfield Road Bridge	Bridge Replacement	Completed 2017
Skimobile Road Bridge	Bridge Replacement	Completed 2016

## WESLEY ANDERSON, PE | DIRECTOR OF PUBLIC WORKS

### City of Laconia

45 Beacon Street East  
Laconia, NH 03246  
(603) 528-6379  
wanderson@laconianh.gov

RECENT PROJECTS	PROJECT TYPE	PROJECT COMPLETION
Elm St. Pedestrian Improvements	NHDOT TA Program	On-going
Centenary Avenue Bridge	MOBRR	On-going
Academy Street Bridge	State Bridge Aid Program & MOBIL	On-going
Court Street Bridge	State Bridge Aid Program	Completed 2022
Bridge Management Plan	Town-Wide Inventory & Mgmt. Plan	Completed 2019
Downtown Riverwalk	Pathway & Pedestrian Bridge	Completed 2019
WOW Trail – Phase II	Municipal Pathway	Completed 2016
WOW Trail – Phase I	ARRA Funded Pathway	Completed 2010

# APPENDIX

An aerial photograph of Lake Winnisquam in Belmont, New Hampshire. The lake is a deep blue, occupying the left and center of the frame. On the right side, a paved trail runs along the shoreline, bordered by a low wall. The surrounding forest is in peak autumn colors, with trees in shades of red, orange, and yellow. In the background, a residential area with several houses and a road is visible. The sky is a clear, bright blue with a few wispy clouds. The overall scene is scenic and peaceful.

**BELMONT, NH**  
**LPA ADMINISTERED | LAKE WINNISQUAM TRAIL**

# PROJECT TEAM RESUMES



**Jay Poulin** PE

President

Mr. Poulin has been practicing as a consulting civil engineer for over 25 years and has been President of HEB Engineers since 2013. Over that time, he has developed a wide range of engineering expertise largely in the public infrastructure market. In addition to his President duties, Mr. Poulin leads the Business Development and Marketing activities and is responsible for HEB's client service initiatives. In 2008, he was invited to join HEB's ownership team and became a shareholder of the firm.

## SPECIALIZATION

- » Municipal Infrastructure Design
- » Pathway Planning & Design
- » Utility Planning & Design
- » Construction Administration

## AWARDS

'40 Under Forty' 2014  
NH Union Leader

## EXPERIENCE

HEB Engineers, Inc. // 2003 - Present  
President  
North Conway, NH

Gale Associates // 2002 - 2003  
Project Engineer  
Bedford, NH

## EDUCATION

BS Civil & Environmental Engineering  
Clarkson University // 1997

## LICENSURE

Professional Engineer // NH, ME, MA  
Licensed Designer of Subsurface Disposal  
Systems // NH

## CERTIFICATION

NHDOT Local Public Agency  
MEDOT Local Project Assistance

## MEMBERSHIP

National Society of Professional Engineers (NSPE)

# PROJECT TEAM RESUMES



## **Christopher Fournier** PE, SE

**Vice President / Director of Structural Engineering**

Mr. Fournier has over 17 years of professional experience in structural engineering and has served as Vice President since 2013. At HEB, he is responsible for the management of HEB's Structural Engineering services and oversight of Business Development initiatives. Mr. Fournier has a wealth of specialized experience with assisting clients in securing and administering state and federal grant opportunities for the improvement of aging and flood-prone infrastructure. In 2011, he was invited to join HEB's ownership team and became a shareholder of the firm.

### **SPECIALIZATION**

- » Bridge Engineering
- » Bridge Inspection & Assessment
- » Bridge Replacement / Rehabilitation Design
- » Bridge Load Rating
- » Regulatory Documentation & Compliance
- » Agency Funding Coordination
- » Construction Administration

### **AWARDS**

- 'Top Young Professional' 2018  
Engineering News-Record New England
- 'Young Engineer of the Year' 2016  
New Hampshire Society  
of Professional Engineers
- 'Rising Star in Structural Engineering' 2013  
Structural Engineer Magazine
- 'Young Professional' 2013  
Structural Engineers Institute  
Congress Scholarship

### **EXPERIENCE**

HEB Engineers, Inc. // 2006 - Present  
Director of Structural Engineering  
North Conway, NH

### **EDUCATION**

- MS Structural Engineering, *summa cum laude*  
University of Maine // 2005
- BS Civil Engineering  
University of Maine // 2004

### **LICENSURE**

Professional Engineer // NH, ME, VT, MA, CT

### **CERTIFICATION**

- Structural Engineering Certification Board Certified
- NHDOT Local Public Agency
- MEDOT Local Project Administration
- Tower Climbing Safety and Rescue  
(OSHA - CFR 1910 and 1926)

### **MEMBERSHIP**

- Structural Engineers of NH (SENH), Past President
- American Society of Civil Engineers (ASCE & ASCE-NH)
- Structural Engineers Institute (SEI)
- American Council of Engineering Companies (ACEC)

# PROJECT TEAM RESUMES



## **Joshua McAllister** PE, CPESC, MBA

**Vice President / Director of Civil Engineering**

Mr. McAllister has been practicing as a consulting civil engineer for over 20 years and has served as Vice President since 2013. He is responsible the management of HEB's Civil Engineering services and oversight of HEB's operations. His expertise includes municipal infrastructure, commercial development and hydraulic and hydrology studies and is a Certified Professional in Erosion and Sediment Control. In 2008, he was invited to join HEB's ownership team and became a shareholder of the firm.

### **SPECIALIZATION**

- » Roadway and Streetscape Planning & Design
- » Commercial Site Development & Master Planning
- » Municipal Plan Reviews & Construction Observations
- » Hydrologic & Hydraulic Analysis
- » Erosion & Sediment Control Planning
- » Construction Administration

### **AWARDS**

**NH's Top 200 Most Influential Business Leaders, 2021**

NH Business Review

**John Bruni Distinguished Young Leadership Award, 2019**

Mt. Washington Valley Economic Council

**'40 Under Forty', 2017**

NH Union Leader

**Steve Eastman Community Spirit Award, 2016**

Mt. Washington Valley Chamber of Commerce

### **EDUCATION**

**MBA**

Plymouth State University // 2010

**BS, Civil & Environmental Engineering**

Clarkson University // 2002

### **EXPERIENCE**

**HEB Engineers, Inc. // 2004 - Present**  
Senior Civil Engineer  
North Conway, NH

**Bohler Engineering // 2002 - 2003**  
Junior Civil Engineer  
Sterling, VA & Albany, NY

### **LICENSURE**

**Professional Engineer // NH, ME, VT**

### **CERTIFICATION**

**Certified Professional in Erosion & Sediment Control (CPESC)**

**NHDOT Local Public Agency**

**MEDOT Local Project Administration**

**Designing for Aquatic Organism Passage at Road-Stream Crossings**

USDA Forest Service Training

### **MEMBERSHIP**

**American Society of Civil Engineers (ASCE-NH)**

**International Erosion Control Association (IECA)**

New England Chapter Board

# PROJECT TEAM RESUMES



**Jordan Pike** PE, PTOE  
Senior Civil Engineer

Mr. Pike brings with him over 15 years of transportation engineering experience and leads HEB's Transportation services. He started his career with the Connecticut Department of Transportation and was later promoted to a Project Engineer in the State Design unit where he led a team of engineers delivering highway safety projects. His expertise includes roundabouts and he was an active member for the CT Roundabout Committee where he helped draft updated design guidance. Mr. Pike joined HEB in 2021 after relocating to the White Mountains where he continues his advocacy for safe transportation corridors for all users.

## SPECIALIZATION

- » Transportation Planning
- » Road Safety Audits
- » Intersection & Roundabout Design
- » Roadway Design
- » Signing and Pavement Marking Design
- » Capacity Analysis
- » Multi-Use Trails

## EXPERIENCE

**HEB Engineers, Inc.** // 2021 - Present  
Senior Civil Engineer  
North Conway, NH

**Connecticut DOT** // 2008 - 2021  
Project Engineer | 2014-2021  
Staff Engineer | 2008-2014  
Newington, CT

## EDUCATION

**BS, Civil Engineering**  
University of Hartford // 2008

## LICENSURE

Professional Engineer // NH, ME, CT

## CERTIFICATION

NHDOT Local Public Agency

## CIVIC INVOLVEMENT

**University of New Hampshire**  
2022 Guest Lecturer on Transportation Engineering

**Mentor for College Seniors 2014 - 2023**  
1 year University of New Hampshire  
4 years University of Connecticut  
6 years University of Hartford

**New Hampshire Municipal Association**  
2023 Stepping Up for Local Road Safety, Webinar  
2023 Town & City Magazine: *Caution, Safer Roads Ahead!*

**Institute of Transportation Engineers**  
2022 Roundabout Guidance Database, Webinar  
2019 Northeast ITE Conference, Presenter

# PROJECT TEAM RESUMES



Our Clients Make Better Decisions  
From the Ground Up.



**Chad B. Michaud, P.E.**

Executive Vice President  
Chief Operating Officer  
Senior Geotechnical Engineer

**Education:**

B.S., Civil Engineering,  
University of Maine

GBA Fundamentals of  
Professional Practice Course

**Registrations:**

Professional Engineer (P.E.),  
New Hampshire, Maine,  
Connecticut, Massachusetts,  
Vermont and Rhode Island

**Affiliations:**

American Council of Engineering  
Companies (ACEC)

GBA Professional Firms  
Practicing in the Geosciences

**Public Service:**

Board of Directors, Barrington  
Youth Association

Environmental Technical  
Advisory Board, Creteau Career  
and Technical Center, Spaulding  
High School

Youth Baseball, Softball, and  
Soccer Coach

Chad Michaud went to Stearns High School in Millinockett, Maine before attending the University of Maine in Orono, Maine. Chad joined S. W. Cole Engineering, Inc. in 1999 as a Geotechnical Engineer. His duties progressed to a project manager and senior geotechnical engineer.

Chad has served on the Board of Directors since 2009. In 2014, he was named Executive Vice President and Chief Operating Officer of the firm. His responsibilities in these roles include corporate management, branch office management, project management training and mentoring, and corporate level oversight of operational functions such as health and safety, human resources and information technology.

Chad's responsibilities with the firm as a Senior Geotechnical Engineer are to manage projects, service clients, provide contract development, coordination of subcontractors and subconsultants, and oversee a staff of geotechnical engineers providing coordination of subsurface investigations and geotechnical design and specifications. Chad has experience providing soils engineering services on a variety of projects including multi-story mixed use commercial buildings, roadways, state and municipal bridges, airports, wastewater and water treatment facilities and lagoons, gas pipelines, municipal buildings, schools, towers, and large retail facilities and industrial structures in New Hampshire, Maine, Connecticut, Vermont, Massachusetts and Rhode Island.

Chad is known for his extensive experience with municipal and local public agency (LPA) funded bridge projects. Chad has worked on hundreds of bridge replacements and rehabilitations in the state of New Hampshire, as well as across New England.

Chad has significant experience providing geotechnical evaluation and global stability analyses for segmental mechanically stabilized earth (MSE) retaining walls and earth embankment slopes. Chad has been involved with many projects requiring a review of slope failures and the development of alternatives for reconstruction.

Chad has experience with field testing and evaluation of various stormwater infiltration testing techniques such as double-ring infiltrometer, Guelph permeameter, and borehole falling head methods.

In his free time, Chad can be found coaching youth sports, spending time with his family, on a mountain bike ride, or occasionally enjoying a craft beer.

# APPLICABLE WORK EXPERIENCE | SBA



## Clark Pond Road Bridge

**Location** Haverhill, NH

**Owner** Town of Haverhill

The Clark Pond Road Bridge, which consisted of a 9-foot diameter sliplined culvert, was damaged and subsequently closed as a result of severe storms in October 2017. Shortly thereafter, HEB began working with the Town of Haverhill to procure and utilize FEMA Public Assistance Hazard Mitigation and NHDOT State Bridge Aid funding. In addition, HEB recognized the opportunity to complement dam removal and fish passage restoration work upstream by working with the Connecticut River Conservancy to incorporate additional stream restoration components.

While assisting the Town in its generation of funding for the project, HEB began existing-features analysis including topographic survey, geotechnical investigations, hydrologic/hydraulic assessment, and an engineering study. This information provided the Town with valuable decision-making criteria such as project cost, complexity, and permitting considerations for multiple culvert replacement alternatives. Design was then carried out for a successful NHDES Wetlands Permit application.

With funding received, and design and permitting complete, HEB produced necessary construction documents and also assisted with the public bidding process. Construction of the new Clark Pond Road Bridge was completed in the fall of 2020. HEB Engineers provided Construction Administration services to ensure quality implementation of the project documents. Ultimately, the Town's share of the project was 5% after the federal and state reimbursements (*see Photo below*).

## Loon Mountain Bridge

**Location** Lincoln, NH

**Owner** Town of Lincoln

Flooding due to Tropical Storm Irene caused the East Branch of the Pemigewasset River to critically erode the Loon Mountain Bridge's north bank abutment, ultimately leading to a partial collapse of the first span in the early morning of August 29, 2011. Working with Town officials, NHDOT staff, and the Governor's office, HEB assisted in preparing an emergency repair plan. A temporary pedestrian bridge was in place in time for the popular Highland Games two weeks after the storm, and a temporary Acrow bridge was constructed to allow vehicular traffic access to Loon Mountain until a permanent solution could be completed. The permanent solution includes multiple bank stabilization techniques coupled with the construction of a new bridge. The new three-lane bridge is 290-feet long with abutments which are secured via micropiles driven down to bedrock to protect against scour. The intersection at the entrance of the bridge was redesigned to improve traffic flow to the popular Loon Mountain Resort. Construction of the replacement bridge began in 2015 and the bridge was officially opened to vehicular traffic in the summer of 2016 (*see Photo above*).





# APPLICABLE WORK EXPERIENCE | SBA

## Spring Road Bridge

**Location** Gorham, NH  
**Owner** Town of Gorham

The Town of Gorham sought HEB's assistance in securing funding for this repetitively damaged crossing. HEB first, prepared a Benefit-Cost Analysis to confirm the feasibility of the project for the Town's FEMA Hazard Mitigation Grant Program (HMGP) application submission. The Town was awarded the HMGP grant and the initial intent of the project was to replace the existing culvert with a three-sided concrete rigid frame. However, during this process HEB discovered the crossing could be considered a bridge and eligible for the NHDOT State Bridge Aid (SBA) program. At that point, we assisted in modifying the project criteria to meet both funding agency requirements. An Engineering Study was prepared reviewing options for the new bridge, which provides access to over 20 residences on the dead-end road. Ultimately, the recommended design was a new bridge with a span length of 12 feet and a separate 6-foot high pipe arch culvert. The bridge is aligned with Mount Crescent Brook and the pipe arch culvert is aligned with the tributary which moved the convergence of Mount Crescent Brook downstream of the Spring Road crossing and allowed for the natural alignment of both Mount Crescent Brook and the tributary. HEB prepared construction and bidding documents and assisted the Town through the public bidding process. Lee T. Corrigan, LLC was the selected Contractor and HEB provided construction administration services within the NHDOT SBA Program. In order to provide continuing access to the families living on Spring Road, a temporary bridge was used during construction. Construction began in the summer of 2018 and opened to the public that fall. The project was completed in 2019 (see *Photo on page 6*).

## Covered Bridge Road Bridge

**Location** Thornton, NH  
**Owner** Town of Thornton

HEB was engaged by the Town of Thornton to provide engineering and surveying services for a new 42-foot single span two-lane bridge comprised of precast concrete voided slab beams and cast-in-place concrete abutments with 400 feet of approach roadway reconstruction on Covered Bridge Road over Mill Brook. Beginning in 2012, following damage from Tropical Storm Irene, HEB provided pre-design survey and geotechnical investigations, preliminary design and permitting, preparation of final design and construction documents, bidding assistance, and construction observation services within the NHDOT State Bridge Aid Program. Construction of the new bridge replaced the previous faux Covered Bridge which was partially destroyed during a 2017 storm event. The new two-lane bridge was constructed by Neil H. Daniels, Inc. of Ascutney, VT. and was completed in May 2019 (see *Photo below*).



# APPLICABLE WORK EXPERIENCE | SBA



## **River Street Bridge**

**Location** Bartlett, NH

**Owner** Town of Bartlett

The River Street Bridge in Bartlett, NH was damaged during Tropical Storm Irene in August 2011. HEB worked with the Town to provide temporary repairs in 2011. In 2013 HEB began providing engineering and surveying services to rehabilitate the existing two-lane, 132-foot-long bridge. The Engineering Study, which was submitted to NHDOT in 2013 explored five rehabilitation alternatives. In the end, HEB designed a relief culvert to provide a larger flow area and included scour protection and bank stabilization measures. The project included pre-design survey, geotechnical investigations, preliminary design and permitting, preparation of final design and construction documents, and construction observation services. In addition to State-Aid Bridge funds, additional funds were provided through a FEMA Hazard Mitigation Grant to cover 75% of the project costs. The construction was performed by Alvin. J. Coleman & Son, Inc. of Conway, NH, and was completed January 2016 (*see Photo below*).

## **Hillside Avenue Bridge**

**Location** Berlin, NH

**Owner** City of Berlin

HEB was engaged by the City of Berlin to replace the existing steel and concrete Jack Arch bridge which allowed the Dead River to cross under Hillside Avenue. The original bridge was constructed in 1931 and had deteriorated to the point where repair was not a viable option. HEB worked with the City and NHDES to design a crossing that meets the hydraulic needs of the Dead River so that Hillside Avenue does not overtop during large storm events. As the project progressed, it was clear that a precast concrete, rigid-frame bridge was the appropriate replacement and HEB designed and permitted a new two-lane bridge over the 16-foot channel under the State Bridge Aid (SBA) Program. HEB assisted the City with bidding assistance and construction administration services and the bridge was constructed in the fall of 2018 (*see Photo above*).



# APPLICABLE WORK EXPERIENCE | SAH



## **Sandogardy Pond Road**

**Location** Northfield, NH

**Owner** Town of Northfield

HEB recently worked with the Town of Northfield for the Sandogardy Pond Road Reconstruction project in Northfield, NH. The project required detailed Existing-Features analysis in order for the Town and HEB to understand the direction the project would need to go to best meet the needs of the community. This analysis included survey, right-of-way determination, geotechnical investigation, and a detailed analysis of drainage systems. The project includes roadway reconstruction design, drainage improvements, and access improvements. The project also includes the replacement of the existing concrete pipe arch bridge at Cross Brook. HEB worked closely with project abutters and stakeholders to verify that information is available and feedback is considered. With permits in hand, final design was completed in January 2018. HEB provided the Town with bidding assistance services and construction administration services. The project was completed in the fall of 2020. This project is funded through the NHDOT State-Aid Highway Program (*see Photo above*).

## **Hutchins Street**

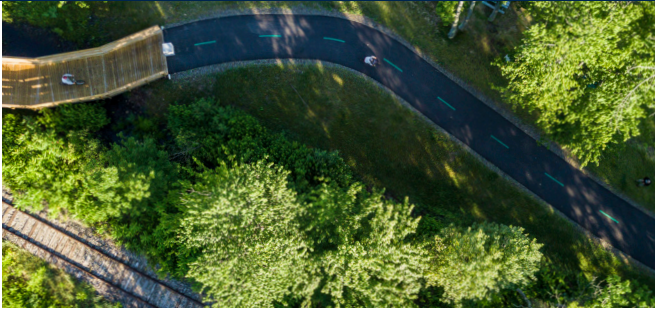
**Location** Berlin, NH

**Owner** City of Berlin

HEB was engaged by the City of Berlin to assist with the planning and design of much-needed improvements to a stretch of Hutchin Street between Bridge Street and Napert Street. This section of road, also known as the East Side Arterial, is the major truck route through the City and was built over a former bark landfill and had experienced significant settlement and deformation over the years. In addition, the City was interested in constructing sidewalks and improving the streetscape of this section of road due to the heavy pedestrian use as part of a loop connecting the Bridge Street and Mason Street bridges. HEB was also responsible for near full-time resident engineering during construction to meet Local Public Assistance (LPA) requirements. Beginning in 2009, HEB worked with the City providing existing-features analysis, soil testing, coordination with NHDOT and private landowners, rehabilitation design, and preparation of contract documents. The project includes roadway, sidewalk, and streetscape improvements including infrastructure for future lighting considerations. Due to funding constraints, the City was not able to remove all the unsuitable material so HEB utilized a bi-axial geo-grid to slow differential settlement and pavement reclamation to re-use as much existing material as possible. Construction was completed in the Summer of 2016 (*see Photo below*).



# APPLICABLE WORK EXPERIENCE | TAP



## **W.O.W. Trail & Riverwalk**

**Location** Laconia, NH

**Owner** City of Laconia

HEB was selected by the City to work on Phases I and II of the Winnepesaukee-Opechee-Winnisquam (WOW) Trail. On both phases, HEB provided full engineering services including preliminary design, environmental permitting, pathway design, parking lot design, bidding assistance, and construction administration services. Phase I and II are approximately 2.4 miles in length and the majority of trail construction was conducted in the railroad corridor as part of the NHDOT Rail Trail initiative. Phase I of the project was funded through ARRA, locally administered through NHDOT, and construction was completed in 2010. Phase II followed in 2012 and construction was completed in 2016.

In addition, construction has wrapped up on an expansion of Laconia's Downtown Riverwalk which takes pedestrians along a section of the Winnepesaukee River through the heart of the City of Laconia. The project included construction of Riverwalk and associated amenities in two different locations along the Downtown District including City Hall and Rowe Court which totaled approximately 825-linear feet of Riverwalk construction. Amenities included a new 68-foot steel truss pedestrian bridge over Perley Canal along with reconstruction of the existing stacked-granite retaining wall along the river to allow the construction of new Riverwalk. A combination of interlocking concrete pavers and pavement create the Riverwalk surface and decorative steel fencing was installed along the river's edge. HEB started design on the project in 2016 and construction was completed in summer 2019 (see *Photo to left*).

## **Multi-Use Riverwalk**

**Location** Berlin, NH

**Owner** City of Berlin

Following the successful completion of the \$6M Route 16 Roadway Reconstruction through the heart of Berlin, HEB was selected under the QBS process by the City of Berlin for planning, design, permitting, and construction administration of a  $\pm$  \$1 million Riverwalk along the banks of the Androscoggin River. The project includes the construction of a 10-foot-wide, non-motorized, paved multi-modal Riverwalk between NH Route 16 and the western bank of the Androscoggin River in Berlin. The proposed Riverwalk will be approximately 3,200 linear feet in length and would connect active recreation and greenspace areas. Additional amenities and site upgrades are anticipated to be constructed as part of the project as well including benches, scenic overlooks, shade structures, interpretive signage, and landscaping improvements.

The project was funded by the federal Transportation Alternatives Program (TAP) and by a grant from the Northern Border Regional Commission (NBRC). The project was administered through the NHDOT LPA process and was completed the spring of 2023 (see *Photo below*).

