



Statewide On-Call Preliminary Engineering Prequalified List of Consultants for Locally Administered Local Public Agency Qualifications-Based Selection Contracts

Revised January 2024





McFarland Johnson

Innovative Solutions / Sustainable Results

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Transmitted via e-mail.

January 26, 2024

C.R. Willeke, P.E.
Municipal Highways Engineer
NH Department of Transportation

Re: Revised Prequalification Package for Statewide On-Call Preliminary Engineering Prequalified List of Consultants for Locally Administered Local Public Agency (LPA) Qualifications-Based Selection Contracts

Dear Mr. Willeke:

McFarland Johnson (MJ) is pleased to submit our revised Prequalification Package for the Statewide On-Call Preliminary Engineering Prequalified List of Consultants for Locally Administered Local Public Agency (LPA) Qualifications-Based Selection Contracts. Our qualifications package demonstrates that MJ's experience aligns with the services required to successfully complete Highway and Bridge Design/Engineering Services for various LPA transportation projects located throughout the State. MJ provides the following capabilities and characteristics to assist communities in navigating through the LPA process to successfully complete projects:

- ***Experienced NHDOT and Municipal Partner***
- ***Thorough Knowledge of LPA Process and Procedures***
- ***Large Multi-Discipline Local Staff***

MJ has a long history of partnering with the NHDOT and municipalities to complete a wide array of transportation projects encompassing preliminary design and development of contract plans for a variety of projects including complete streets, bridge replacements and rehabilitation designs, bridge inspection and load ratings, traffic control, traffic signals, roundabouts, utilities, drainage, corridor studies, and roadway designs to name a few. Our diverse team comprised of talented highway, bridge, environmental, and public outreach professionals provide our clients with a firm with resources to complete assignments requiring a multi-disciplinary approach.

Our Team is prepared to provide the value, quality, and responsiveness the Department and our municipal partners have come to expect from us. As always, our employee owners join me in thanking you for your consideration of the McFarland Johnson Team.

Sincerely,

Thomas T. Kendrick, PE
Director of Transportation Services

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Project Understanding and Approach

Project Understanding and Approach

This Prequalification Process for Preliminary Engineering for locally administered Local Public Agency (LPA) projects will provide municipalities with assurance that the consultant firm selected to complete LPA projects will have the requisite experience, knowledge, and competence to complete projects successfully. Municipalities will greatly benefit from MJ's unsurpassed understanding of the LPA process and the depth and breadth of our highway and bridge design services that we have developed while completing numerous successful projects, varying widely in both size and complexity.

We have a long and successful history of assisting communities and partnering with the Department on LPA projects, completing over 20 projects in more than a dozen communities in recent years. These projects were funded through various programs including State Highway Aid (SHA), State Bridge Aid (SBA), Congestion Mitigation and Air Quality (CMAQ), Transportation Alternative Program (TAP), Municipal Off System Bridge (MOBRR), and Transportation Investment Generating Economic Recovery (TIGER). We understand what is expected throughout the LPA process, and there is no learning curve for us to navigate.

MJ has a strong understanding of the NHDOT Local Public Agency Manual for the Development of Projects. Our project experience has exposed us to nearly every facet of project development and potential funding sources, which results in a tremendous resource to our Clients. Our LPA project expertise includes ROW and property acquisition services, force account work for railroads and utilities, NEPA compliance documentation, Section 4(f) and 6(f) surveys and mitigation, and the development of project specific websites and social media platforms to solicit public input. Our depth and breadth of experience allows us to anticipate project development challenges and develop solutions quickly, allowing projects to stay on schedule and budget.

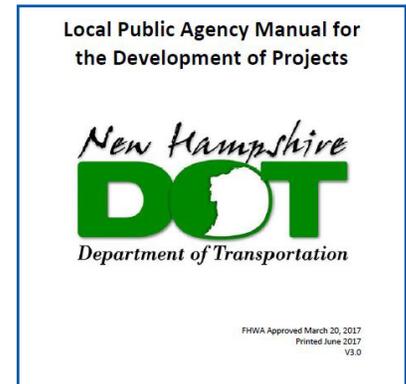
We have worked with a wide variety of municipalities, having worked in many of New Hampshire's largest and smallest cities as well as many Towns, both large and small. Each municipality has their own decision-making process, requiring MJ to work with City Councils, Board of Selectmen, ad-hoc committees, and even presenting projects at Town meetings as part of a warrant article presentation. This experience has shown us the importance of understanding each municipality's governmental structure so we can make sure we are involving the decision makers from the outset of the project.

Our group of talented multi-disciplinary professionals, located in our NH offices in Concord and Portsmouth, include expertise in roadway design, bridge design, environmental documentation and permitting, and public outreach. This depth and breadth of staff provides our project managers with the resources required to successfully administer and complete municipal LPA projects. Our Project Managers are the single point of contact, benefitting our municipal partners with a consistent 'go-to' person throughout the design development process.

Bridge Design:

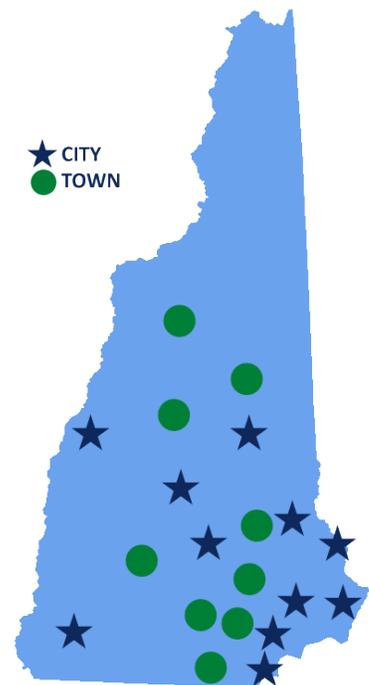
Our talented bridge design staff has extensive LPA and State Bridge Aid (SBA) bridge replacement and rehabilitation experience throughout the state. We have assisted municipalities with bridges of all types, including steel beam, concrete, and timber, and have the expertise to evaluate alternatives and provide best-value solutions. While we have experience with large and complex bridges, we understand that the majority of municipal bridges are

Statewide On-Call Preliminary Engineering for LPA Projects - Revised January 2024



Municipalities will benefit greatly from our extensive knowledge of the LPA Manual and processes.

NH MUNICIPAL EXPERIENCE



smaller, single span structures where detailed alternatives evaluation can produce value-oriented designs. The majority of municipal bridges span waterways, placing an increased importance on hydraulic design capabilities. Our in-house hydraulics staff has extensive experience and expertise and the ability to perform both 1-D and 2-D hydraulic analyses. This capability will result in economically sized and scour resistant structures.

With the demand for infrastructure rehabilitation and replacement projects high and the funding sources constrained, MJ focuses on economical designs to maximize the value of every dollar spent. We understand that many municipalities do not have the capital available to consistently perform costly maintenance operations recommended for certain types of structures. Our municipal bridge designs emphasize economical construction and bridge components, such as jointless decks and precast concrete, that have high durability and produce prolonged service life with minimal maintenance requirements.



Buried structures provide an economical, environmentally friendly, and low maintenance solution for many small bridges.

Highway Design:

Our highway Team has developed plans for the reconstruction of several roadways, including the replacement of utility infrastructure and new sidewalks, curbing, and guardrails. Other projects have included traffic signals, roundabouts, and other traffic control devices, including traffic calming measures. Many of these projects have also included important ADA improvements to sidewalks, crosswalks, accessible ramps, and crossing lights at intersections.

Both urban and rural communities have benefited from our broad expertise as we have completed roadway focused LPA projects in cities like Concord, Nashua, Keene, Portsmouth, Claremont, and Franklin, while also completing projects in towns like Bedford, Goffstown, and Warner. In each location, context was a critical element of the design.



MJ developed the plans and oversaw the construction of this roundabout in Warner completed under the LPA process.

Environmental:

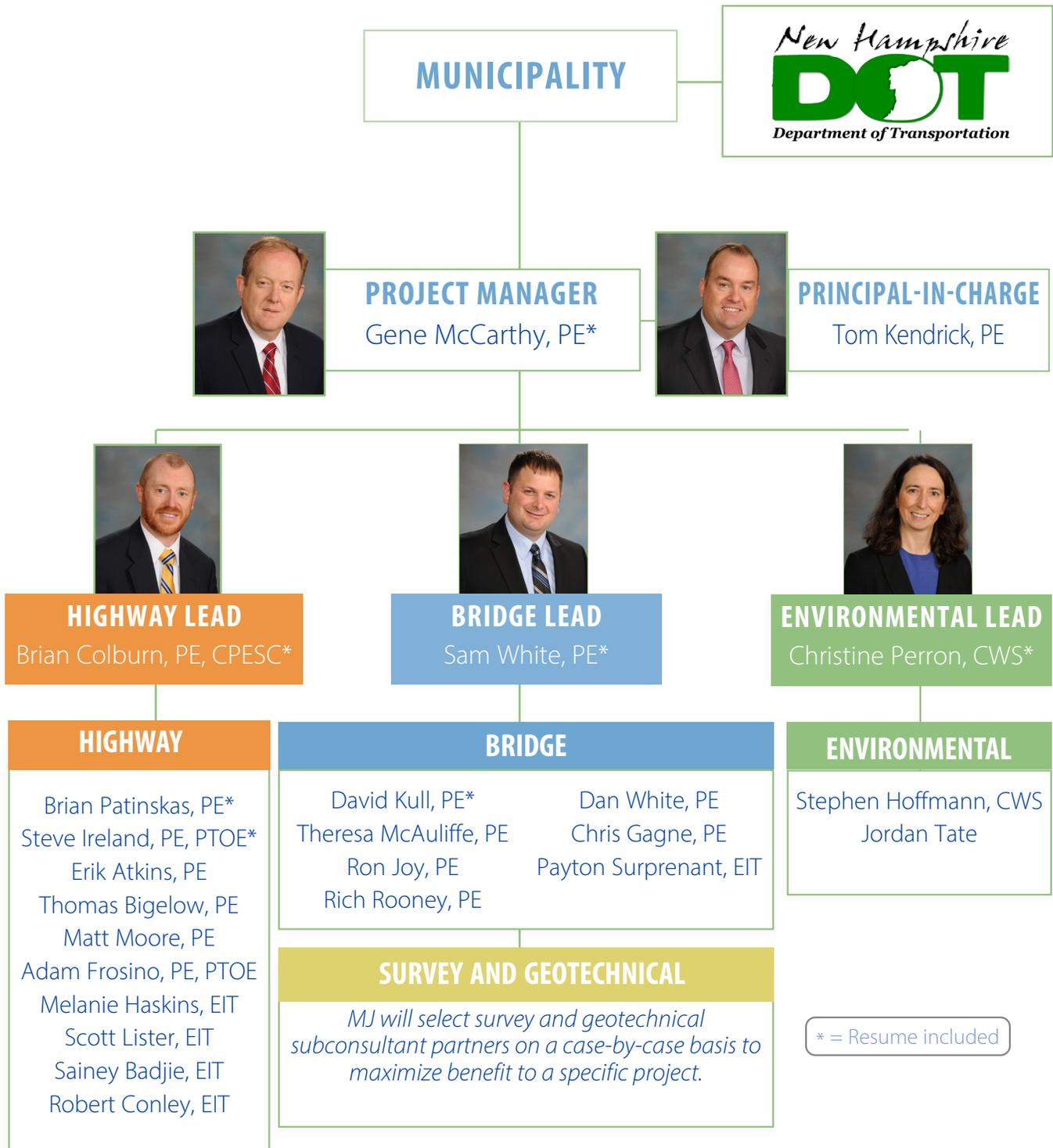
Our in-house environmental staff is unsurpassed in experience and expertise with environmental documentation and permitting on transportation projects. Environmental regulations are always evolving and present ever-increasing challenges for municipal projects, including the New Hampshire Department of Environmental Services (NHDES) stream crossing guidelines. This expertise avoids costly pitfalls that can impact project budgets and schedules. Our ability to navigate through the NEPA and environmental permitting process provides significant value to municipal projects.

Public Outreach:

When a municipality takes on an LPA project, it is to resolve a perceived need. While resolving the issue is important, it is also important that the solution fit within the community's vision for itself and its citizens. That's why public outreach is also an important element of each LPA project. While public outreach is required by NEPA, we view it as necessary to make sure that each project incorporates input from stakeholders and achieves the concurrence of all stakeholders.

In summary, whether your LPA project is a highway, bridge, or anything in between, our Design Team knows and understands the LPA process and can successfully complete your infrastructure improvement project in a timely and cost-effective manner.

Organization Chart



Project Team

The LPA program requires a consultant to fully understand the processes and procedures needed to successfully navigate a project through the design development phase, from the Engineering Study Phase up to construction. The MJ Team has completed a variety of projects using the LPA process, including one of the largest projects ever completed under the program; the Sewalls Falls Bridge replacement over the Merrimack River in Concord. Many of the Team members shown below were involved in the successful completion of that project. From large transportation projects such as Sewalls Falls Bridge and Concord Main Street to smaller projects such as the NH 103 roundabout in Warner and the Hannah Nutter Bridge in Barnstead, our Team has the knowledge, dedication, and experience to successfully complete any LPA project.

The Team members outlined in the following table are available on an as needed basis and will be selected based on the type, size, and complexity of each project. **Gene McCarthy, PE is our designated Project Manager.** Gene has been the Project Manager on many of our LPA projects and his experience and thorough understanding of the LPA process ensures efficient and streamlined project completion. **Tom Kendrick, PE will be the Principal-in-Charge** for LPA projects, and ensure all necessary and appropriate resources are available to fully service each project.

Brian Colburn, PE is designated as our Highway Design Lead. Brian has more than 23 years of experience and has been the Highway Design Lead for a variety of municipal projects including LPA and State Aid Highway. Brian's experience will benefit projects with improved drainage, safety, and serviceability.

Sam White, PE is designated as our Bridge Design Lead. Sam has more than 11 years of experience and has been the Bridge Design Lead on a variety of municipal projects including State Aid Bridge. His background ranges from small three-sided precast concrete structures to large multi-span river crossings and he emphasizes economic design, low maintenance, and long-term durability on municipal projects. Sam currently leads our bridge design group in Concord.

Christine Perron, CWS is our designated Environmental Lead. She is well known at the NHDOT and by the resource agencies and has successfully navigated many LPA projects through the NEPA process. Her extensive experience includes a broad range of environmental work, including wetlands, water resources, wildlife, vegetation management planning, and permitting.

Steve Ireland, PE, PTOE is our designated Traffic Lead. Steve has over 27 years of experience and has been involved in the management and design of projects including construction and maintenance of roadways. His experience includes developing designs for roundabouts, traffic signals, unsignalized intersections, and roadway corridors, as well as safety projects that implemented signing, resurfacing, and guardrail improvements.

Our senior staff is supported by a deep bench of talented highway and bridge engineers including Brian Patinskas, PE; Ron Joy, PE; and David Kull, PE who have all been critical to the completion of our numerous LPA projects. The following table outlines our extensive resources available to quickly and efficiently complete any type of project that may be requested.

Our extensive multi-disciplinary staff is supported by trusted subconsultant partners to provide survey and geotechnical services. We intend to select our subconsultants on a project-by-project basis to maximize project benefit based on project location, complexity, and input from our municipal partners.

The Sewalls Falls Bridge project encompassed every facet of the LPA project development process. This knowledge and experience will greatly benefit our municipal partners for projects of any size and complexity.

The MJ Team at a Glance



HIGHWAY AND BRIDGE DESIGN ENGINEERING SERVICES IN SUPPORT OF LPA PROJECTS

MJ will select survey and geotechnical subconsultant partners on a case-by-case basis to maximize benefit to a specific project.

		YEARS OF EXPERIENCE	YEARS WITH FIRM	LPA CERTIFIED	PROJECT MANAGEMENT	HIGHWAY DESIGN	BRIDGE DESIGN	STRUCTURAL ENGINEER	ALTERNATIVE PROCUREMENT METHODS	CORRIDOR PLANNING	BRIDGE INSPECTION	BRIDGE LOAD RATING	HYDROLOGY AND HYDRAULICS	ENVIRONMENTAL	TRAFFIC ANALYSIS	PUBLIC INVOLVEMENT
KEY PERSONNEL	PROJECT ROLE															
Tom Kendrick, PE	Principal-in-Charge	30	17		•		•	•	•		•	•	•			•
Gene McCarthy, PE	Project Manager	36	24	•	•	•			•	•					•	•
Sam White, PE	Bridge Engineer	11	11	•	•		•	•			•	•				•
David Kull, PE	Bridge Engineer/Lead Bridge Inspector	22	15		•		•	•	•		•	•	•			•
Theresa McAuliffe, PE	Bridge Engineer	22	8		•		•	•	•		•	•				•
Ron Joy, PE	Bridge Principal Quality Engineer	40	23		•		•	•			•	•	•			•
Erik Atkins, PE	Regional Division Director	28	1													
Dan White, PE	Bridge Engineer	9	9	•			•	•			•	•				
Chris Gagne, PE	Bridge Designer	7	7				•	•			•	•				
Brian Colburn, PE, CPESC	Highway Design Lead	23	23	•	•	•			•	•			•		•	•
Brian Patinskas, PE	Highway Engineer	11	11	•		•				•			•			•
Steve Ireland, PE, PTOE	Traffic Lead	27	10	•	•	•									•	•
Matt Moore, PE	Highway Designer	20	10	•		•										
Adam Frosino, PE, PTOE	Traffic Engineer	19	12		•	•				•					•	•
Melanie Haskins, EIT	Highway / Hydraulic Designer	29	29			•							•			•
Scott Lister, EIT	Highway Designer	6	6	•		•				•					•	•
Sainey Badjie, EIT	Highway Designer	8	3			•										
Robert Conley, EIT	Highway Designer	3	3			•							•			
Christine Perron, CWS	Environmental Lead	25	9		•					•				•		•
Steve Hoffmann, CWS	Environmental Analyst	13	8											•		•
Jordan Tate	Environmental Analyst	9	6											•		•

Client References



Donald R. Lussier, P.E.

City Engineer
City of Keene
(603) 352-6550
dlussier@keenenh.gov
KEENE 15854 - Roxbury Street Bridge Replacement
KEENE 10309B - Winchester Street Roadway Reconstruction



Nancy Merrill

Director, Planning & Economic Development
City of Claremont
(603) 504-0340
nmerrill@claremontnh.com
CLAREMONT 13888 – Sugar River Pedestrian Bridge Project
CLAREMONT 23677 – Main Street Reconstruction Project



Seth Creighton, AICP

Planning and Zoning Director
City of Franklin
(603) 934-2341
screighton@Franklinnh.org
FRANKLIN 42531- Winnipesaukee Rail Trestle Bridge



Eugene McCarthy, PE

SENIOR PROJECT MANAGER

Gene has more than 36 years of experience in the design, planning, and management of large and small transportation improvement projects. He leads multi-discipline teams in the development of contract drawings as well as environmental documents and studies for state transportation departments and municipalities throughout New England. He is especially skilled in project management and public outreach for large highway and bridge projects and he has a strong background in roadway geometrics, traffic analysis, traffic control, and plan development. Gene has developed plans and studies for transportation projects ranging from less than one million dollars to a bridge project with an estimated cost over one billion dollars.

EDUCATION

BSCE - San Jose State University | Civil Engineering | 1988

Certificate - NHDOT | Local Public Agency Certification Training - Federal Aid | Exp - 2026

REPRESENTATIVE EXPERIENCE

Gene has served as Project Manager for many LPA and State-Aid projects in New Hampshire including the following:

CONCORD 23717 - Main Street Complete Street Project - This project converted Main Street's four-lane vehicular roadway to a two-lane roadway with wide lanes to accommodate bicycles. The sidewalks were enlarged to include landscaping, seating, pocket parks, lighting, and many places for people to gather. Prominent bump-outs, in-street brick pavers at crosswalks, new lighting, and were all implemented as part of this project to increase pedestrian safety. This project reimagined the entire downtown area, receiving numerous awards and reinvigorating the entire community. *Project Owner: City of Concord*

KEENE 10309B - Winchester Street Reconstruction Project - MJ was selected to evaluate alternatives and develop final design plans for this heavily traveled corridor in Keene. The final product included pedestrian and bicycle facilities, as well as streetscape elements, to provide a Complete Street leading to Keene State College. *Project Owner: City of Keene*

WARNER 15972 - NH Route 103 Traffic Calming & Roundabout - This project involved NH Route 103 traffic calming measures which improved safety for motorists and pedestrians using Route 103 and exit 9 on Interstate 89. The project included traffic calming, roundabout design, improved driveway access to local businesses, and a park and ride lot. *Project Owner: Town of Warner*

CONCORD 12004 - Sewalls Falls Bridge Replacement over the Merrimack River - This bridge project involved the replacement of the Sewalls Falls Bridge and approach roadway. The existing two-span 100-year-old bridge truss was replaced by a three-span, steel girder bridge supported by drilled-shaft river piers. *Project Owner: City of Concord*

MANCHESTER 15390 - Kelley Street (Nazaire E. Biron) Bridge Rehabilitation over the Piscataquog River - This project consisted of professional engineering services for the rehabilitation of the Kelley Street Bridge. The bridge had been recently added to the NHDOT "Red List" due to the poor condition of the bridge deck. The project involved evaluating deck replacement and traffic control alternatives to accommodate the heavily traveled 900' long, five span, steel plate girder bridge carrying Kelley Street over the B&M Railroad and the Piscataquog River. *Project Owner: City of Manchester*

FRANKLIN 15584 - Downtown Transportation Improvement Project - The project involved an evaluation of congestion and access challenges in Franklin that impeded redevelopment of the Mill Buildings in the downtown area. An extensive public participation program included public, owner, and city council meetings, and ensured an improvement concept that was developed and supported by the City. *Project Owner: City of Franklin*



Brian Colburn, PE, CPESC

HIGHWAY DESIGN LEAD

Brian has more than 23 years of experience in the management, design, and construction of transportation infrastructure projects. His experience ranges from large interstate highway projects to small intersection modifications and local road projects. In addition, Brian has specialized experience in the design of roundabouts, park and ride lots, and ADA facilities. His expertise includes traffic modeling, alignments, drainage, utilities, quantities, right-of-way, signing, lighting, and cost estimates. Brian leads MJ's highway design group in Concord, NH.

EDUCATION

BS - Rensselaer Polytechnic Institute | Civil Engineering | 2001

Specialized Training - Workforce New York | 10-Hour OSHA Construction Course | 2007

Certificate - EnviroCert International | Certified Professional in Erosion & Sediment Control (CPESC) | 2011

Certificate - NHDOT | Local Public Agency Certification Training - Federal Aid |

REPRESENTATIVE EXPERIENCE

Brian has served as Project Manager or Lead Highway Engineer for many LPA and State-Aid projects in New Hampshire including the following:

PORTSMOUTH 20258 - Peverly Hill Road Complete Street Reconstruction Project - This project included a new sidewalk along one side of the road and a shared-use path along the other, roadside plantings, and improved safety through traffic calming. The final design includes improved stormwater management, installation of new granite curbing, rehabilitation of pavement structures, new crosswalks, and ADA compliant pedestrian signal upgrades. *Project Owner: City of Portsmouth*

NASHUA 13117 - Crown Street Park and Ride - This project included comprehensive engineering services, including civil engineering design and construction administration, which involved the demolition of an old warehouse building and the construction of a park and ride and accessory facilities design to accommodate a future rail station. *Project Owner: City of Nashua*

CONCORD 23717 - Main Street Complete Street Project - This project converted Main Street's four-lane vehicular roadway to a two-lane roadway with wide lanes to accommodate bicycles. The sidewalks were enlarged to include landscaping, seating, pocket parks, lighting, and many places for people to gather. Prominent bump-outs, in-street brick pavers at crosswalks, new lighting, and were all implemented as part of this project to increase pedestrian safety. This project reimaged the entire downtown area, receiving numerous awards and reinvigorating the entire community. *Project Owner: City of Concord*

CONCORD 12004 - Sewalls Falls Bridge Replacement over the Merrimack River - This bridge project involved the replacement of the Sewalls Falls Bridge and approach roadway. The existing two-span 100-year-old bridge truss was replaced by a three-span, steel girder bridge supported by drilled-shaft river piers. *Project Owner: City of Concord*

FRANKLIN 15584 - Downtown Transportation Improvement Project - The project involved an evaluation of congestion and access challenges in Franklin that impeded redevelopment of the Mill Buildings in the downtown area. An extensive public participation program included public, owner, and city council meetings, and ensured an improvement concept that was developed and supported by the City. *Project Owner: City of Franklin*

WARNER 15972 - NH Route 103 Traffic Calming & Roundabout - This project involved NH Route 103 traffic calming measures which improved safety for motorists and pedestrians using Route 103 and exit 9 on Interstate 89. The project included traffic calming, roundabout design, improved driveway access to local businesses, and a park and ride lot. *Project Owner: Town of Warner*



Samuel White, PE

BRIDGE DESIGN LEAD

Sam has more than 11 years of experience in the design, load rating, and inspection of a variety of bridge types including precast concrete boxes and rigid frames, steel girders, prestressed concrete, steel trusses. Sam's design experience includes bridge projects throughout New England. Sam is proficient in a variety of structural software programs including MathCAD, LARSA, CSI Bridge, AASHTOWare, Merlin-Dash, and LEAP Bridge.

REPRESENTATIVE EXPERIENCE

Sam has served as the lead Bridge Engineer for many LPA and State-Aid projects in New Hampshire including the following:

BARNSTEAD 16020 - Hannah Nutter Bridge over the Big River - This project consisted of the replacement of a 34' span consisting of double Tee concrete girders on stone abutments with a 42' precast concrete three-sided rigid frame with an open bottom that meets the NHDES Stream Crossing Guidelines. The approach roadway was realigned to meet the minimum design speed of 30 mph, requiring acquisition of temporary and permanent easements. *Project Owner: Town of Barnstead*

KEENE 10309B – Island Street over the Ashuelot River - As part of the overall Winchester Street reconstruction project, the existing "temporary" bridge on Island Street that was installed in 1979 will be replaced with a new integral abutment bridge spanning the existing bridge abutments. Spanning the existing abutments limits the work and associated permitting within the Ashuelot River. The bridge was designed such that it can be replaced while Island Street is closed, taking advantage of the road closure necessary as part of the roundabout construction at the intersection of Island Street and Winchester Street. *Project Owner: City of Keene*

CONCORD 12004 - Sewalls Falls Bridge Replacement over the Merrimack River - This bridge project involved the replacement of the Sewalls Falls Bridge and approach roadway. The existing two-span 100-year-old bridge truss was replaced by a three-span, steel girder bridge supported by drilled-shaft river piers. *Project Owner: City of Concord*

NORTHWOOD 41397 - Bow Lake Road over Sherburne Brook - The Town of Northwood selected MJ to design the replacement of the Red List Bridge carrying Bow Lake Road over Sherburne Brook. Using an ABC approach, MJ developed an innovative long weekend closure over Columbus Day weekend to replace the bridge, minimizing impacts to the school system bus routes and minimizing the time that residents were required to traverse the ten-mile detour around Bow Lake. A hydraulic analysis carefully considered the remnants of a historic dam located upstream. *Project Owner: Town of Northwood*

KEENE 15854 - Roxbury Street over Beaver Brook – This bridge project involved the replacement of a 22' span with a new three-sided precast concrete rigid frame. Using an ABC approach MJ developed a design that allowed the bridge to be reconstructed in sixty days minimizing impacts to commuters and the school system on this busy roadway. The bridge is founded on clay which required extensive geotechnical investigations and coordination, ultimately requiring a mud slab to not disturb the clay layer. *Project Owner: City of Keene*

BEDFORD – Eastman Avenue Bridge over McQuesten Brook - This municipally-managed bridge project consisted of the replacement of a 36" diameter culvert. The existing metal pipe was deteriorated and significantly undersized leading to the use of a culvert with a 15'-0" three-sided precast concrete rigid frame.

EDUCATION

BSCE - University of New Hampshire | Civil Engineering | 2011

Coursework - University of New Hampshire | Structural Engineering | 2013

Specialized Training - NH Department of Transportation | FHWA-NHI-130055 Safety Inspection of In-Service Bridges | 2014

Certificate - NBIS | Fracture Critical Inspection Training | 2017

Certificate - OSHA | OSHA 10 Hour | 2016

Certificate - NHDOT | Local Public Agency Certification Training - Federal Aid | Exp - 2025



Christine Perron, CWS

ENVIRONMENTAL LEAD

Christine has more than 25 years of experience in environmental permitting, compliance, and documentation for transportation projects. Before joining MJ, Christine worked for the NHDOT managing environmental reviews. She has a thorough understanding of state and federal regulations and has developed excellent relationships with the resource agencies. Christine has a strong background in ecological services in the transportation sector, including wetland delineation and impact assessment, invasive plant management, rare plant identification, Biological Assessments, and Essential Fish Habitat Consultation.

EDUCATION

BS - Plymouth State University |
Biology | 1999

Certificate - FHWA | NEPA
Compliance Workshop | 2013

Specialized Training - Bat
Conservation and Management,
Inc. | Bat Acoustic Data
Management Workshop | 2015

Certificate - FHWA |
Endangered Species Act
Workshop | 2015

REPRESENTATIVE EXPERIENCE

NORTHWOOD 41397 - Bow Lake Road over Sherburne Brook – MJ was selected to design the replacement of the Red List bridge carrying Bow Lake Road over Sherburne Brook. Using an ABC approach, MJ developed an innovative long weekend closure over Columbus Day weekend to replace the bridge, minimizing impacts to school bus routes and the time required for the 10-mile detour around Bow Lake. *Project Owner: Town of Northwood*

KEENE 15854 - Roxbury Street over Beaver Brook – This ABC bridge project involved the replacement of a 22' span bridge with a three-sided precast concrete rigid frame. MJ developed a design that allowed the bridge to be reconstructed in 60 days minimizing impacts to commuters and the school system on this busy roadway. The bridge is founded on clay which required extensive geotechnical investigations and coordination, ultimately requiring a mud slab to be installed to ensure that construction did not disturb the clay layer. *Project Owner: City of Keene*



Steve Ireland, PE, PTOE

HIGHWAY ENGINEER / LEAD TRAFFIC ENGINEER

Steve's experience includes the management and design of projects including construction and maintenance of roadways. His design experience includes roundabouts, traffic signals, unsignalized intersections, roadway corridors, and safety projects that implemented signing, resurfacing, and guardrail improvements. Steve has significant experience serving as resident engineer for over eight years on numerous bridge and highway construction projects, including the first accelerated bridge in New Hampshire.

EDUCATION

BS – University of New
Hampshire | Civil Engineering |
1996

Certificate - NHDOT | Local
Public Agency Certification
Training - Federal Aid |
Exp - 2026

Certificate – Professional Traffic
Operations Engineer | 2021

Certificate | OSHA 10 Hour
Construction Program Training
| 2014

REPRESENTATIVE EXPERIENCE

NORTHWOOD 41397 - Bow Lake Road over Sherburne Brook – MJ was selected to design the replacement of the Red List bridge carrying Bow Lake Road over Sherburne Brook. Using an ABC approach, MJ developed an innovative long weekend closure over Columbus Day weekend to replace the bridge, minimizing impacts to school bus routes and the time required for the 10-mile detour around Bow Lake. *Project Owner: Town of Northwood*

NASHUA 16314 - East Hollis St-Bridge St Intersection Improvement Project – This project involved developing a solution for this complicated crossroads of commuter routes and local streets. MJ evaluated several solutions that would reduce congestion, while improving access to adjacent parcels. SIDRA, Synchro, and SimTraffic were used to analyze the possible solutions, which ranged from a roundabout to a reconfigured intersection with roundabout-like features, to a reconfigured traffic signal. *Project Owner: City of Nashua*



David Kull, PE

SENIOR BRIDGE ENGINEER/BRIDGE INSPECTOR

Dave has more than 22 years of experience in the design, rehabilitation, condition inspection, and load rating analysis of bridges and related structures. Dave has developed the design of rehabilitations for deck truss, steel multi-girder, girder-floor beam-stringer, and concrete bridges using ASD, LFD and LRFD methodology. Dave has also performed load ratings for many bridge types using ASD, LFD, and LRFD methodology.

EDUCATION

BS - University of Pittsburgh | Civil Engineering | 2001

Certificate - FHWA/USDOT/NHI | Safety Inspection of In-Service Bridges | 2004

Certificate - PENNDOT | Certified Bridge Safety Inspector | 2004

REPRESENTATIVE EXPERIENCE

David has served as Project Manager or Lead Bridge Engineer for many LPA and State-Aid projects in New Hampshire including the following:

CONCORD 12004 - Sewalls Falls Bridge Replacement over the Merrimack River - This bridge project involved the replacement of the Sewalls Falls Bridge and approach roadway. The existing two-span 100-year-old bridge truss was replaced by a three-span, steel girder bridge supported by drilled-shaft river piers. The new bridge included a new sidewalk which connects existing recreational trails on both sides of the river. *Project Owner: City of Concord*

NORTHWOOD 41397 - Bow Lake Road over Sherburne Brook - The Town of Northwood selected MJ to design the replacement of the Red List Bridge carrying Bow Lake Road over Sherburne Brook. Using an ABC approach, MJ developed an innovative long weekend closure over Columbus Day weekend to replace the bridge, minimizing impacts to the school system bus routes and minimizing the time that residents were required to traverse the ten-mile detour around Bow Lake. A hydraulic analysis carefully considered the remnants of a historic dam located upstream of the bridge. *Project Owner: Town of Northwood*



Brian Patinskas, PE

HIGHWAY ENGINEER

Brian has more than 11 years of experience in the design of roadway projects throughout New England for both public and private clients. He is well-versed in highway design and layout, drainage design and analysis, and utility system design. He has worked closely with the Town of Bedford, NH where he often acts as an extension of Town staff, assisting with design tasks. Brian has a firm knowledge of ADA compliance on bicycle and pedestrian facilities from his work on the Main Street Improvements in downtown Concord, NH.

EDUCATION

BS - University of New Hampshire | Civil Engineering | 2012

Certificate - RedVector | OSHA 10 Hour Construction Program Training | 2013

Certificate - NHDOT | Local Public Agency (LPA) Certification Training | 2027

REPRESENTATIVE EXPERIENCE

Brian has served as a Roadway Engineer for many LPA and State-Aid projects in New Hampshire including the following:

KEENE 10309B - Winchester Street Reconstruction Project - MJ was selected to evaluate alternatives and develop final design plans for this heavily traveled corridor in Keene. The final product included pedestrian and bicycled facilities, as well as streetscape elements, to provide a Complete Street leading to Keene State College. *Project Owner: City of Keene*

NASHUA 16314 - East Hollis St-Bridge St Intersection Improvement Project - This project involved developing a solution for this complicated crossroads of commuter routes and local streets. MJ evaluated several solutions that would reduce congestion, while improving access to adjacent parcels. SIDRA, Synchro, and SimTraffic were used to analyze the possible solutions, which ranged from a roundabout to a reconfigured intersection that incorporated roundabout-like features, to a reconfigured traffic signal. *Project Owner: City of Nashua*



CONCORD 12004 - Sewalls Falls Bridge over the Merrimack River

This municipally-managed and federally-funded bridge project involved the design of the Sewalls Falls Bridge and approach roadway. The original structure, constructed in 1915, was a 2-span Pratt Truss Bridge which was in significant disrepair. The new bridge is a 3-span, 400', continuous steel haunched girder bridge. In addition to bridge and roadway design, this project included resource identification and environmental permitting, survey, hydraulic design, geotechnical design, right-of-way, utility coordination, and public outreach, including a project website and many public meetings.

Key Services:

- Bridge Design
- Roadway Design
- Right-of-Way Acquisition
- Geotechnical Design
- Hydraulics
- Environmental Permitting
- Utility Design
- Railroad Agreements
- Comprehensive Public Outreach
- Historic Resource Mitigation

As one of the largest LPA projects, the knowledge and experience gained on this project will greatly benefit all of our municipal Clients on projects both large and small.



BEDFORD 21685 – Jenkins Road Bridge over McQuade Brook

This municipally-managed State Bridge Aid project consisted of the replacement of a group of three deteriorated concrete pipe culverts with a 28' precast concrete three-sided rigid frame. The existing pipes were significantly undersized and the roadway embankment was classified as a dam by the NHDES. The completed bridge removed the dam designation, was hydraulically sized to accommodate the 100-year flow and provided a natural streambed for aquatic passage. Approach roadway design included re-alignment of the road to remove a sharp, substandard curve.

Key Services:

- Bridge Design
- Roadway Design
- Survey
- Geotechnical Design
- Hydraulics
- Environmental Permitting
- Historic Resource Coordination

The environmental process, including NHDES dam removal was greatly benefitted from our strong environmental capabilities and State agency relationships.



NORTHWOOD 41397- Bow Lake Road Bridge over Sherburne Brook

MJ designed the replacement of the Red List Bridge carrying Bow Lake Road over Sherburne Brook through the municipally-managed State Bridge Aid Program. MJ developed an innovative long weekend closure over Columbus Day weekend to replace the bridge using Accelerated Bridge Construction (ABC) methods. This approach met the needs of the tourist beach community while minimizing impacts to the school system bus routes and general traffic impacts. The design of the new opening required a hydraulic analysis that also considered the remnants of a historic dam located upstream of the bridge.

ABC techniques, utilizing precast concrete elements, allowed the bridge to be replaced over a 6-day roadway closure, significantly reducing impacts to the community.

Key Services:

- Bridge Design
- Roadway Design
- Utility Coordination
- Geotechnical Investigation
- Survey
- Hydraulics
- Environmental Permitting
- Easement Acquisition
- Accelerated Bridge Construction



BARNSTEAD 16020 - Hannah Nutter Road Bridge over the Big River

This municipally-managed State Bridge Aid project involved the replacement of the Hannah Nutter Road Bridge. The existing bridge consisted of double Tee concrete girders on stone abutments and spanned 34'. The replacement structure is a 42' precast concrete three-sided rigid frame with an open bottom that met the NHDES Stream Crossing Guidelines. The approach roadway was realigned to meet the minimum required design speed of 30 mph, requiring the acquisition of temporary and permanent easements.

Precast bridge elements were used to reduce the construction time while also minimizing the overall construction cost and maximizing bridge life span.

Key Services:

- Bridge Design
- Roadway Design
- Utility Coordination
- Geotechnical Design
- Survey
- Hydraulics
- Environmental Permitting
- Easement Acquisition



CONCORD 23717 - Main Street Complete Street Project

The Downtown Complete Streets Improvement Project proposed a transformation of Main Street, making it a destination for residents, shoppers, and tourists with enhanced landscaping and streetscape features, improved accessibility for all users, improved safety through traffic calming, and improved pedestrian and bicycle accommodation, all while maintaining its historic character. The new layout converted its four lanes into two lanes with a traversable layout center median.

MJ guided an extensive public outreach program that included many public meetings to engage citizens in the design development, providing a Complete Street that fit the City's vision for downtown.

Key Services:

- Roadway Design
- Utility Design
- Survey
- Environmental Permitting
- Traffic Analysis
- Historic Resource Mitigation
- Public Outreach
- Streetscape & Landscape Design
- Use of TIGER Grant Funding



KEENE 10309B - Winchester Street Reconstruction Project

MJ was selected to evaluate alternatives and develop final design plans for this heavily traveled corridor within Keene. MJ evaluated several options before a preferred option was selected that includes multi-lane roundabouts, a raised median, bicycle shoulders, and sidewalks. This "Complete Street" is in concert with the City's complete street policy and includes landscaping and streetscape features that should help to calm traffic while maintaining efficient movement.

MJ evaluated both traffic signal and roundabout options before utilizing a robust public outreach program that helped guide the Steering Committee in choosing an alternative that met the City's goals.

Key Services:

- Roadway Design
- Utility Design
- Survey
- Environmental Permitting
- Traffic Analysis
- Public Outreach
- Streetscape & Landscape Design
- Right-of-Way Acquisition



CLAREMONT 23677 - Main Street Roadway Improvements

MJ developed the contract plans for the reconstruction of a historic section of Main Street in Claremont. The project required attention to detail to upgrade to ADA standards while grading around existing historic structures. As one of the oldest roads in the City, the right-of-way needed to be re-established due to lack of existing monumentation. The objective of the Main Street Reconstruction project was to upgrade the road condition from Opera House Square to the intersection with Union Street.

This LPA project determined whether roadway rehabilitation or reconstruction would be necessary, providing a Complete Street that improved the bicycle and pedestrian facilities while addressing ADA accessibility issues.

Key Services:

- Roadway Design
- Utility Coordination
- Survey
- Environmental Permitting
- Public Outreach
- Re-Establish Existing Right-of-Way
- Historic Resource Review



NASHUA 16314 - East Hollis St-Bridge St Intersection Improvement Project

The intersection of East Hollis Street (NH 111) and Bridge Street is the eastern gateway into the City of Nashua. In an effort to mitigate the congestion and spur economic development and revitalization, MJ was selected to develop a solution for this complicated crossroads of commuter routes and local streets. MJ identified and evaluated several solutions that would reduce congestion, while improving access to adjacent parcels that could be redeveloped.

A robust public involvement program was used to identify the preferred alternative; a new configuration that utilizes a system of coordinated traffic signals controlling multiple turning lanes.

Key Services:

- Roadway Design
- Utility Coordination
- Survey
- Environmental Permitting
- Traffic Analysis
- Historic Resource Review
- Public Outreach
- Streetscape & Landscape Design



PORTSMOUTH 20258 - Peverly Hill Road Complete Street Reconstruction Project

The City received funds to improve pedestrian and bicycle access as part of the City-wide Master Pedestrian and Bicycle Plan. MJ worked with the City and residents through the public involvement process to determine how to accommodate each travel mode while providing a safe roadway for all users. The project will include stormwater management, granite curbing, rehabilitation of pavement structures, new crosswalks, and ADA compliant pedestrian signal upgrades.

The preferred alternative provides for a new sidewalk along one side of the road and a shared-use path along the other side, creating a Complete Street that includes roadside plantings and improved safety through traffic calming.

Key Services:

- Roadway Design
- Multi-Use Path Design
- Utility Coordination
- Survey
- Environmental Permitting
- Historic Resource Review
- Public Outreach
- Landscape Design
- Right-of-Way Acquisition



KEENE 15854 - Roxbury Street Bridge over Beaver Brook

This municipally-managed State Aid Bridge project replaced the existing bridge carrying Roxbury Street over Beaver Brook. The existing bridge was a concrete slab and on the Redlist for bridges in poor condition. The replacement bridge consisted of a precast concrete rigid frame founded on a concrete foundation slab. Roxbury Street is a busy street in an urban area with significant utilities. Accelerated Bridge Construction techniques used a 60-day closure, with a signed detour route, to minimize long-term impacts to the community.

This ABC project was completed in less than 60 days, including the relocation of an existing sewer line that partially blocked the stream, improving the hydraulic capacity of this urban stream channel, while reducing the potential for flooding.

Key Services:

- Bridge Design
- Roadway Design
- Utility Design
- Accelerated Bridge Construction
- Survey
- Hydraulics
- Environmental Permitting
- Geotechnical Design for Clay
- Easement Acquisition



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