



Hayner/Swanson, Inc.

Civil Engineers/Land Surveyors

December 28, 2021

VIA EMAIL TO William.Oldenbourg@dot.nh.gov

William J. Oldenburg, P.E.
Assistant Director of Project Development
John O. Morton Building
P.O. Box 483, 7 Hazen Drive
Concord, NH 03302-0483

Dear Mr. Oldenburg:

Hayner/Swanson, Inc. (HSI) is pleased to submit this Letter of Interest to be prequalified for On-Call Preliminary Engineering on LPA projects. We are proud of the similar services which we have provided to our municipal clients.

Our team includes Sanborn Head & Associates, Inc., who will provide environmental and geotechnical support as needed. Stephen G. Pernaw & Company, Inc. will provide traffic analysis and engineering. Hardesty & Hanover is on our team to provide structural engineering.

We are proud of this team and confident of our ability to work closely together on projects. Whenever we form a team, having an established working relationship is important.

Thank you for the opportunity to submit our qualifications. If you have any questions or would like more information on any aspect of this Letter of Interest, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "John C. Vancor".

John C. Vancor, P.E.
Vice President/Principal Engineer

Project Understanding and Approach

Hayner/Swanson, Inc. (HSI) is highly experienced in planning, managing and designing projects following the LPA process. Demonstrating our understanding of this process is our experience providing project management support and design services to the City of Nashua for the Broad Street Parkway Project from 2009 through the completion of construction in 2016. Relevant aspects of the services we provided on this large LPA project include:

Project Management Services

It was our responsibility to assure that our work and the work of other firms providing engineering services all complied with LPA requirements. We believe this experience presents our understanding of the process and how to approach an LPA project to assure success.

Design Services

We completed the design for several contracts in the project including the Pine and Palm Streets contract. This contract included urban roadway and intersection improvements, ADA improvements, enhancements for bicycles and traffic calming.

Public Involvement

John Vancor, our Project Manager, was extensively involved in public involvement and outreach. He presented monthly updates to the Board of Public Works and to the Board of Aldermen. He presented design development updates at several public information meetings. He was often interviewed by newspaper reporters regarding progress and specific engineering concerns.

Alternative Procurement

Hayner/Swanson participated in the City's consideration of whether the Parkway should be a design/bid/build project or a design/build project. We also developed the strategy and prepared the bid documents for the design/build effort to rehabilitate the 180 foot tall Millyard chimney.

Topographic Survey & Right of Way

Our staff completed all survey for the project and prepared acquisition plans for numerous takings. In support of the right-of-way process, Hayner/Swanson led the procurement of appraisal services from multiple firms and managed their contracts. In the acquisition process, we worked closely with several City departments and NHDOT.

Managing the Work Performed by Other Firms

Our experience on this project also highlights our success at effectively managing the work by other firms performing services which fall outside our own areas of expertise. We believe our ability to lead effective teams on large and small projects in both the public and private sectors has been one of the keys to our firm's success over nearly 50 years.

Relevant to future LPA projects, on the Parkway we managed work in the following disciplines:

Structural Engineering

Six firms provided a variety of structural engineering services related to bridges, buildings, a dam, the Millyard chimney and retaining walls. We successfully managed the scope of work, schedule and budget for each aspect of the work and led the overall coordination effort assuring roles were clearly defined and unnecessary redundancy avoided.

Environmental Engineering

We participated in the permitting and managed the efforts of several firms performing environmental engineering. We participated in related coordination with the City, NHDOT, NHDES and FHWA.

Cultural Resources

We managed the effort of several firms providing historic and archaeological services. We participated in the related coordination with the City, NHDOT, FHWA and NHDHR.

Traffic Analysis

Our work on the project included extensive coordination with traffic experts from the City, NRPC and other consultants. Whether the work was performed by a subcontractor on our own design work, or traffic experts working on design work led by others, we worked closely with the City Engineering Department to assure consistency in approach.

Staging and Traffic Control

With a very aggressive schedule, staging the work on multiple concurrent contracts was an important element which we took the lead on. Traffic control at the project terminus points at Broad Street and in the Millyard were important considerations as well.

Stormwater Management and Hydrology

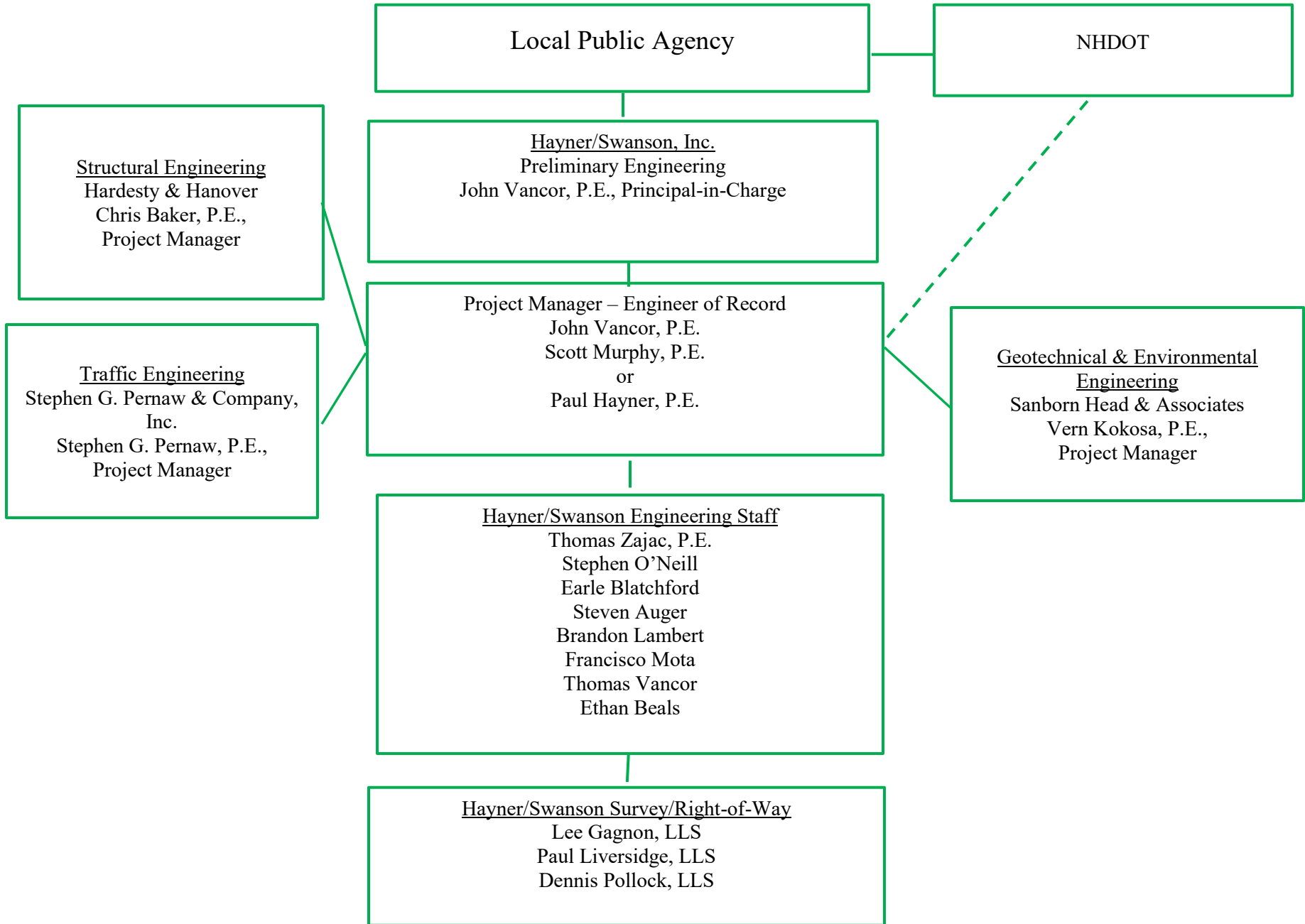
Hayner/Swanson has extensive expertise in-house in hydrologic and hydraulic analysis and in the design of stormwater systems. In instances where hydrologic analysis of a river or stream may be needed, as on the Parkway project, we have established relationships with experts who can perform this analysis.

Complete Streets

For several municipalities we have provided advice, assisted in planning and significant public outreach, and developed designs embracing the principals of Complete Street consideration.

Our success in following the LPA process on the massive Parkway project, as well as a proven history of either completing or in some cases managing the work of outside experts to complete all the discipline tasks listed in the solicitation notice which we are responding to, makes us confident that we have the necessary project understanding and approach needed to succeed on future LPA projects.

Organizational Chart



Project Team

Hayner/Swanson, Inc. has provided engineering and project management support on many municipal projects to design transportation and infrastructure improvements. Several of these projects have been LPA projects and many have been funded through other State funding sources.

John Vancor, Scott Murphy and Paul Hayner are all qualified to serve as Project Manager on a particular assignment, as well as perform a supporting role as needed. Our staff of engineers has the depth to assure our clients of our ability to complete work on schedule.

With three registered Land Surveyors and multiple field crews, we have a strong reputation for dependable topographic and boundary surveys delivered on time.

Sanborn Head will provide geotechnical and environmental support to our team. We enjoy a strong working relationship with Sanborn Head that has spanned many years.

Sanborn Head worked closely with Hayner/Swanson throughout the LPA project to construct the Broad Street Parkway. Their role was related to significant concerns with hazardous materials and management of urban fill.

Hardesty & Hanover will provide structural engineering. Chris Baker is well known to NHDOT through the many projects he has completed in his career. Chris also worked with Hayner/Swanson on the Broad Street Parkway where he provided peer review of structural designs by others. His insight lead to valuable recommendations as designs advanced.

Stephen G. Pernaw & Company will provide traffic engineering. Hayner/Swanson has worked with Stephen Pernaw on many projects and respects his expertise and the reliability of his work.

References

Lisa Fauteux
Director of Public Works
City of Nashua
P.O. Box 2019
Nashua, NH 03061-2019
(603) 589-3140

Dan Hudson, P.E.
City Engineer
City of Nashua
P.O. Box 2019
Nashua, NH 03061-2019
(603) 589-3134

Chris Bibbo
Director of Public Works
Town of Lincoln
30 Lewis Street
Lincoln, MA 01773
(781)259.8999

APPENDIX

Resumes

Resumes

John Vancor, P.E. is a Professional Engineer with over 35 years experience on projects focused on improvements to public infrastructure. As a consultant and as a former City Engineer, Mr. Vancor has planned, designed and managed construction of improvements to highways, municipal roads and sidewalks, parking lots, recreational facilities, as well as stormwater, sanitary sewer and water distribution systems and water facilities.

On the Broad Street Parkway project, John provided overall project management support and engineering services to the City of Nashua on this \$60 million LPA project. He managed in-house design as well as design contracts performed by other firms. He developed, tracked and updated the planning and preliminary schedule. He assisted in the efforts to identify and secure early priority permits. He coordinated closely with the City, NHDOT, in-house surveyors and outsourced appraisers to assure numerous acquisitions would be complete while maintaining the overall schedule. Public outreach and involvement were a significant part of his responsibilities.

Early in his career, John participated in the design of several NHDOT contracts. He was the lead designer for the widening of Exits 3 through 7 of the F.E. Everett Turnpike in Nashua. He was the Project Engineer for the widening of Route 106 in Belmont. He was also the Project Manager during early phases of the corridor study and preliminary design for Exit 20 in Lebanon.

John has worked on many projects that include the reconstruction of roadways, sidewalks and trails. In Lincoln, MA, he led a public outreach effort which included workshops to build consensus for a town-wide strategy for traffic calming. As part of this project, he managed the effort to prepare bid documents for two contracts totaling \$6 million to repave, reclaim and reconstruct major roadways in Town.

Later, John participated in a similar outreach effort to develop a Lincoln Complete Street Policy. Following enactment of this policy, he has helped the Town implement several Complete Street projects with State funding including safety improvements at the intersection of Lincoln Road and State Route 117, a location identified as a high priority during the outreach workshops.

Scott Murphy, P.E. is a Project Manager with over 25 years experience with emphasis on projects involving roadway and sidewalk construction and reconstruction, stormwater management, utility improvements and site improvements. Scott has extensive experience in preparation of designs, specifications, bid documents and estimates. He has expertise in reviewing existing conditions for ADA compliance and detailing improvements to address noncompliant sidewalk conditions.

An example is Kinsley Street in Nashua. During an LPA project, this roadway was milled and overlaid in 2019. A key complexity was the need to reconstruct pedestrian ramps to attain ADA compliance. Complicating this effort on this urban arterial were tight right-of-way restrictions and the location of buildings and structures at the back of the walk.

On another similar effort, Scott prepared sketches and in some cases detailed grading plans for the reconstruction of pedestrian ramps at the on and off ramps of the F.E. Everett Turnpike Exits 6 and 7. This work, which is also an LPA effort, is presently under construction.

Scott has worked on numerous other municipal roadway and utility projects. An example is the \$5 million Harbor Avenue project which included separation of combined sewer and full roadway reconstruction of 9,000 linear feet of roadway.

During the Broad Street Parkway project, Scott worked on the design of the reconstruction of Pine and Palm Streets. These two streets are located in a highly developed urban neighborhood. The very flat roadway profiles led to the need for an exacting grading design.

Scott has worked closely with several of our municipal clients in the evaluation of pavement conditions and preparation of bid documents for their pavement programs. His work often includes resolution of existing grading and drainage issues.

Paul Hayner, P.E. has more than 50 years professional experience on a wide variety of public and private development projects. He has successfully led design teams including in-house staff and outside experts to complete projects of all sizes. He has a strong reputation for completing his design projects and securing all critical permits and approvals on schedule.

Paul led Hayner/Swanson's design for the reconstruction of the downtown Lincoln Road area in Lincoln, MA. The challenge was to provide appropriate accommodation for traffic including delivery vehicles, while maintaining the character of the local roadway network which emphasizes narrow widths as an important traffic calming element. Roadside paths and provisions to enhance ADA compliance were an integral part of the design solution.

He has also taken a leading role in numerous contracts for roadway reconstruction and utility improvements in Malden, MA. These projects often involve painstaking grading on flat roadway, improvements for drainage, utility coordination, sidewalk design for ADA compliance and consideration of construction staging.

Thomas Zajac, P.E. has over 10 years experience developing designs that often include roadway, sidewalk and significant drainage improvements. He has developed expertise in performing hydrology and hydraulic analysis in his effort to design effective stormwater solutions.

For our work on the Great Pond Infrastructure Phase I project in Windsor, Connecticut, Tom completed a study of a 130-acre watershed. With a total disturbed area of 81 acres, the project included design of significant bioretention BMPs and an extensive new drainage system. He also was the lead designer on over 6,000 linear feet of new public roadway.

Tom also completed the hydrologic study, hydraulic analysis and roadway design for Groton Woods, a development that includes study of a 241-acre watershed with proposed disturbance of 64 acres. This project includes nearly 10,000 linear feet of new roadway.



VERNON R. KOKOSA, PE, Principal

Vern has over 39 years of experience in the areas of geotechnical engineering, civil, hydraulic engineering, administration of construction contracts, and construction quality control testing. His experience in these areas includes geotechnical engineering for interstate highways and bridges, power plants, multi-story buildings, treatment plants, and other infrastructure projects. Vern has also served as the geotechnical engineer of record on numerous earthwork projects providing construction monitoring and testing during placement and compaction of engineered fills. He currently serves as the Principal Geotechnical Engineer for a NHDOT On-Call Geotechnical Engineering Contract and is the active Principal-in-Charge for Sanborn Head's NHDOT and MADOT bridge projects.

RELEVANT EXPERIENCE

KEY AREAS OF PRACTICE

Geotechnical Engineering
Environmental Site Assessment and Remediation
Hydrogeologic Studies for Subsurface Wastewater Disposal
Solid Waste Engineering and Permitting
Geothermal Design

EDUCATION

M.S., Civil Engineering, California State University at Long Beach, 1984
B.S., Civil and Environmental Engineering, Clarkson University, 1981

REGISTRATIONS / CERTIFICATIONS

Professional Engineer – VT, CA, MA, ME, NH, OH

PROFESSIONAL AFFILIATIONS

National Association of Industrial and Office Properties- MA Chapter
American Council of Engineering Companies of New Hampshire
American Council of Engineering Companies of Massachusetts

SANBORN HEAD

Since 1996

U.S. Route 2 Bridge Replacement, Subsurface Exploration, Lancaster, NH, Guildhall, VT

Principal-in-Charge for test borings conducted from a barge in the Connecticut River, including 20 feet of bedrock core sampling in each boring, to support replacement of the Rt. 2 bridge with a 2-span bridge with two abutments on land and a central pier in the river.

NH Route 119 Bridge Borings, Hinsdale, NH and Brattleboro VT

Principal-in-Charge for on-call geotechnical services that included test boring observations and sampling along the western bank of the Connecticut River for a proposed bridge replacement on NH Route 119.

NH 1B/Wentworth Road Bridge, Bedrock Core Sample Testing, New Castle/Rye, NH

Principal-in-Charge of laboratory testing on bedrock core samples obtained from test borings for the proposed replacement bridge for NH 1B/Wentworth Road over Little Harbor in New Castle and Rye, NH.

U.S. Route 302 Culvert, Bethlehem, NH

Principal-in-Charge for test boring inspection task order conducted to support design of a replacement culvert under U.S. Route 302.

The Mall at Rockingham Park Roadway Improvements, Geotechnical Engineering, Salem, NH

Provided design and construction phase geotechnical engineering services. Effectively provided more load test data over the length of the bridge while reducing construction time and cost. Designed cantilevered sheet pile retaining walls, masonry gravity retaining walls and steepened slopes with facing stone slope protection to limit impacts from roadway widening. Completed subsurface explorations and monitored the removal of organic soils as part of the widening of 1.7 miles of Interstate 93.

NH Route 101, Geotechnical Engineering, Brentwood/Exeter, NH

Geotechnically supported 5 miles of state highway to be constructed to interstate geometric standards and construction of three bridges. Designed fill embankments overlying soft marine clays and exploration program that included field vane shear testing of the marine clay in addition to laboratory testing for strength and compressibility. Engineering analyses addressed slope stability and settlement of fill embankments. Evaluated the use of surcharge fill and wick drains to accelerate the rate of settlement. Provided foundation recommendations for bridges supported by spread footings and end bearing H-piles.

Interstate 393, Geotechnical Engineering, Concord, NH

Provided geotechnical design support for 3 miles of interstate highway, relocation of 5 miles of state highway, and construction of eight bridges. Responsible for planning and managing the exploration program for the proposed roadways and bridge structures. Prepared a geotechnical engineering report addressing foundation design for bridges supported by both shallow spread footings and piles, rock slope design, and high groundwater conditions where underdrains and slope protection appeared necessary.

Registration

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

Education

B.S.C.E., 1977, Worcester
Polytechnic Institute (WPI)

Years Experience

Years with H&H: 5
Total Years: 42

Summary Biography

Chris Baker is a Senior Project Manager and a Senior Structural Engineer with 40+ years of progressively responsible experience in transportation engineering. He has extensive experience in project management, task management, construction management, and inspection for state, municipal and other public clients throughout New Hampshire, New England and the East Coast.

Mr. Baker has worked on bridges in New Hampshire for the past 35 years

Relevant Project Experience

Nashua Cotton Transfer Pedestrian Bridge, Nashua, NH

Project Manager and QA Reviewer for this historic bridge rehabilitation project in the Millyard area in Nashua. Provided the City with integrated inspection, design and construction management services for this oldest steel Pratt Truss bridge in New Hampshire spanning the Nashua River in Nashua's downtown Millyard area.

NH Route 123 over Otter Brook, Sharon, NH

Project Manager, Lead Bridge Engineer and QA Review Engineer for bridge replacement of NH Route 123 over Otter Brook in Sharon, NH. This "simple" project dealt with complexities of traffic control, permitting, a narrow roadway, and local input. Project responsibilities include Quality Assurance reviews and oversight of the design of a new concrete box culvert

NH Municipal Bridges, Various Cities & Towns, NH

Project Manager, Lead Bridge Engineer and QA Review Engineer for projects under the New Hampshire Municipal Bridge Program, State Bridge Aid Program, and initial TE/CMAQ Program. Completed multiple bridge replacements and rehabilitation for communities throughout New Hampshire including Manchester, Portsmouth, Concord, Franklin, and Conway. These municipal projects involved full design services including inspection, structure studies, design, contract administration, and construction services.

Route 121 over Saxtons River, Grafton, VT

Project Manager for the rehabilitation and widening of Bridge No. 16G. This project was part of the Town Highway Bridge Grant Program for 2002. Project responsibilities included Project Management as well as Quality Assurance review of the rehabilitation design and detailing of new superstructure and substructure components as well as providing roadway improvements and construction support services. The final design included a new concrete deck supported by recycled steel beams and associated roadway shoulder widening and safety improvements.

New Hampshire State System Bridges, Statewide, NH

Project Manager and Lead Bridge Engineer for the rehabilitation, replacement or widening on bridge projects throughout New Hampshire on the state highway system ranging from coastal single span bridges to Connecticut River crossings. Interesting features of the projects on these 80 to 463-foot long structures included construction phasing to maintain emergency response, re-utilization of Connecticut River pier to avoid time-consuming permitting, and use of grouted bag for pier scour protection.

**STEPHEN G. PERNAW, P.E., P.T.O.E.
TRANSPORTATION PLANNING EXPERIENCE**

US Route 3/NH Route 25 Corridor, Meredith, New Hampshire

Provided services to the town of Meredith, New Hampshire and a local task force relative to access management (on a parcel-by-parcel basis), intersection design issues, and identifying conceptual alternative transportation solutions.

US Route 3/NH Route 28 Corridor Study, Hooksett, New Hampshire, Allenstown, New Hampshire

Subconsultant to New Hampshire Department of Transportation for the preparation of a comprehensive plan for the construction and re-construction of an eight-mile section of highway in Hooksett and Allenstown, New Hampshire.

Main Street (NH Route 108) Reconstruction Project, Newmarket, New Hampshire

Subconsultant in a multi-disciplinary team that provided the Town of Newmarket with Professional Engineering and Streetscape Architectural Design Services that culminated in final engineering and successful implementation of the project. The traffic component involved extensive data collection, preparation of future traffic projections, micro-simulation of traffic flow for several complex design alternative that were used to garner public consensus, and preparation of preliminary designs for intersections, roadways, on and off-street parking areas, and various access management alternatives.

Downtown Streetscape and Public Signage Improvements Program – Concord, New Hampshire

Subconsultant to Gates, Leighton & Associates, Inc. that provided the City with a plan to improve the character of the streetscape along Main Street, including: the re-design of neckdowns and crosswalks, the development of a coordinated signage system, a conceptual plan to change Main Street four lanes to three lanes to improve pedestrian safety and circulation, the installation of a new traffic signal on Main Street.

Regional Planning, Southern New Hampshire Regional Planning Commission

Consultant for travel-demand forecasting for the Manchester Airport Access Feasibility Study and for several highway corridor studies including US Route 3 in Bedford, NH Route 101 in Bedford, NH Route 102 in Londonderry, Crystal Avenue in Derry, and NH Routes 114 and 114A in Goffstown.

Municipal Consultant Services, Salem, New Hampshire

Assists planning board and staff with the technical reviews of submitted traffic studies and site plans. Developed preliminary corridor improvement plans for use in updating the town Master Plan. Calculated impact fees for off-site transportation improvement projects based upon the present cost allocation system, and on a case-by-case basis for special traffic generators.

APPENDIX
Applicable Work Experience

Applicable Work Experience

HSI has provided preliminary and final design, project management support, planning, survey, acquisition plan preparation, support in acquisitions of easements and property, hydraulic and hydrologic studies and permitting on a wide range of relevant projects.

Broad Street Parkway, Nashua, NH (LPA Project)

HSI developed the design for the reconstruction of Pine and Palm Street. These densely developed two-way roadways were converted into a one-way couplet to better distribute the traffic impacts in this environmental justice neighborhood.

The project included new bicycle lanes, traffic calming elements, ADA enhancements, signalization and drainage improvements.

This was the first construction contract on the Parkway project. Public involvement and outreach were important to help build continued consensus.

Hayner/Swanson prepared estimates to establish the program budget and timelines for the design process, permitting requirements and eventual construction that established the implementation schedule. We worked closely with NHDOT to establish a timeline for property acquisition consistent with the implementation timeline.

In addition to the design work we performed in-house, we managed considerable engineering performed by other consulting firms in the structural, environmental, geotechnical and mechanical disciplines on behalf of the City.

We coordinated with the ongoing work of historians and the project archeologist to assure that mitigation requirements would be addressed. We participated in coordination with the City, NHDOT, NHDHR and FHWA.

We also coordinated with the ongoing effort to secure necessary permits and approvals. In this effort, we worked with other consulting engineers, the City, NHDOT, NHDES and FHWA.

We led the very extensive utility coordination effort which was necessary to minimize the likelihood that delays might occur during construction. This proactive effort commenced with the start of survey and ran through the entire design phase and into construction.

Throughout the project, Hayner/Swanson provided public outreach and information. Through much of the project development this included monthly briefings delivered in person to the Nashua Board of Public Works and the Nashua Board of Aldermen. We also provided public presentations and neighborhood meetings at several milestones during project development.

During the project, Hayner/Swanson advised the City on the appropriate LPA process to follow in procuring services of other consultants as well as contractors. We drafted QBS requests for qualification statements, assisted in reviewing the eventual cost proposals received from consultants who the City selected and documented negotiations all in compliance with LPA requirements.

Innovative contracting was considered for several elements of the project. Hayner/Swanson worked closely with the City to evaluate whether it was advisable to use a design/build solicitation for the highway and bridge components of the project. Following this evaluation, we recommended that this work be procured through a traditional design-bid-build solicitation. Key reasons for our recommendation were the desire to encourage more competition with smaller contracts, as well as the City's desire to be able to add enhancements with the City funded portion of the budget in the event that bids came in favorably. The City accepted our recommendation.

Hayner/Swanson recommended that design/build procurement be used for the required rehabilitation of the Millyard Chimney. We prepared the bid documents, working closely with City engineering and legal staff, as well as NHDOT and FHWA. Two bids were received with very different approaches to the needed structural reinforcement. The work was successfully completed at a considerable savings to the City over expectations.

Notably, the consulting team effort which HSI managed was awarded the overall 2017 Engineering Excellence Award by ACEC-NH.

Federally Funded Paving Program (LPA Project)

Hayner/Swanson has supported the City of Nashua in their project to pave Amherst Street, Somerset Parkway, Broad Street and Kinsley Street. This project is funded by repurposed earmark funding remaining from the Broad Street Parkway project.

The project involved an integrated effort by the City Engineering Department and Hayner/Swanson staff. Key concerns which Hayner/Swanson led included reviewing bid documents drafted by the City for LPA compliance and determining a strategy for reconstructing sidewalk ramps for ADA compliance.

The ramps along Kinsley Street presented particular challenges. Right-of-way constraints coupled with grading issues led to our development of a series of details to construct new ramps working in from the back of sidewalk.

More recently, Hayner/Swanson has prepared sketches and, in some cases, detailed grading plans to reconstruct the pedestrian ramps at the F.E. Everett Turnpike (Exit 6) and Amherst Street (Exit 7).

Intersection Safety Improvements, Lincoln Road and MA Route 117, Lincoln, MA

Following up on our participation in public workshops establishing a Town Complete Street Policy, Hayner/Swanson developed a concept detail to address a condition that had been identified as a highest Complete Street priority.

Residential neighborhoods along Lincoln Road are divided by Route 117. Commuter and cut through traffic along Route 117 made residents wary of crossing even though there was a crosswalk.

The solution included widening of Route 117 to allow for construction of a series of islands. The intention was to provide a visual sense of narrowness to encourage appropriate speeds, and with use of materials, to remind drivers that in this area Route 117 functions as a local roadway as well as a regional arterial.

With advanced signage, a rapid rectangular flashing beacon and adequate width for the island to serve as a refuge for bicyclists as well as pedestrians, the project has been recognized as a success.

Reconstruction of Lincoln Road, Lincoln, MA

Hayner/Swanson developed the design and prepared plans, specifications and bid documents for the reconstruction of Lincoln Road at Lincoln Station, an important downtown location. Commercial development, senior housing, residences and a commuter train station with associated parking are all within the project area. The challenge was to provide adequate provisions for traffic while maintaining the desirable character and enhancing access for pedestrians and bicyclists. Hayner/Swanson worked with a local committee and Town officials to develop a design which has been recognized as a success.

Municipal Paving Programs

Hayner/Swanson has provided support to several municipalities including Nashua, NH; Lincoln, MA and Concord, MA for their annual paving programs. Our work has included evaluation of existing conditions, recommendations for pavement rehabilitation specifications and resolution of existing drainage and grading concerns. In some locations where reclamation is specified, we have prepared designs for new profiles and new intersection grading. In other locations, existing grades are maintained.

Roadway and Utility Improvement Contracts, Malden, MA

Since 2016, Hayner/Swanson has prepared design and bid documents for numerous roadway and waterworks improvement contracts for the City of Malden, MA. Most roadway contracts include pavement reclamation and regrading of the roadway to improve curb reveal and drainage. Many roadways include sidewalk reconstruction as well. On particularly busy streets, traffic control and staging have been a concern.

SANBORN HEAD & ASSOCIATES

Sanborn Head has completed many relevant projects in which they provided geotechnical or environmental engineering services. Many times, the geotechnical design of a project is driven by environmental conditions at a site. The presence of contaminated soil or groundwater is a significant factor that must be considered when developing design recommendations for foundations for structures and earthwork.

Sanborn Head has provided geotechnical services to NHDOT on several projects during their on-call contract:

- US Route 2 Bridge over Connecticut River -Lancaster, NH and Guildhall, VT
- NH Route 1B Bridge – Rye/New Castle, NH
- NH Route 110 Bridge over Connecticut River – Hinsdale, NH and Brattleboro, VT; and
- US Route 302 Culvert – Bethlehem, NH

These assignments have included test borings on water from a barge in the Connecticut River, laboratory testing to obtain stress/strain properties of bedrock for bridge pier designs, plus test boring inspection and preparation of test boring logs.

They have also completed many relevant projects for MassDOT. Examples include:

- Charles River Bridge and Culvert – Milford, MA
- Hancock Street/Market Square Connector Bridge – Quincy, MA
- I-95 and University Ave Interchange, Retaining Walls and Mast Arms – Westford, MA
- Route 9 Roadway Widening, Retaining Wall and Mast Arms – Chestnut Hill, MA
- Route 119 Roadway Widening – Littleton, MA
- Ponders Hollow/Greenway Trail Bridge – Westfield, MA
- Pavement Evaluations and Traffic Signal Foundations for intersection improvements in Belchertown, Southborough, Oxford, Auburn, Grafton, Sudbury and Newton, MA

Sanborn Head worked closely with Hayner/Swanson on the Broad Street Parkway where they provided extensive environmental services. They reviewed and synthesized decades for historical environmental documentation, completed subsurface investigations to further characterize asbestos impacts, prepared an Asbestos Disposal Site (ADS) Work Plan to manage more than 27,500 cubic yards of asbestos- contaminated soil, secured several waivers from the NH Solid Waste Rules to develop consolidation cells in the project limits to mitigate significant off-site disposal costs, developed technical specification and construction cost estimates for management of contaminated soil and groundwater, and prepared Remediation General Permit (RGP) documents for contaminated construction dewatering effluent.

Sanborn Head has the in-house expertise necessary to obtain environmental permits that may be required on an LPA project. This may include wetland permits for subsurface explorations, installation of monitoring wells, groundwater sampling, or preparation of an application for an RGP for construction dewatering operations during the design phase and prior to advertising for bids.

STEPHEN G. PERNAW & COMPANY, INC.

Since 1985, Stephen G. Pernaw & Company, Inc. has completed numerous traffic impact and site access studies. Municipalities have called upon Stephen G. Pernaw's expertise to assist in their master plans, site plan review and technical review of traffic studies. Other public sector projects include long-range travel demand forecasting, corridor studies and safety studies.

Stephen G. Pernaw has performed traffic signal design at many locations. Representative examples include:

- NH13/Fruit Street – Concord, NH
- NH9/NH132/Canterbury Road – Concord, NH
- NH11 & 103/Winter Street – Claremont, NH
- US3 & NH11/Lakes Region Outlet Mall – Tilton, NH
- US3/Technology Drive/Commerce Way – Bedford, NH

They have also conducted numerous Signal Warrants Studies and Traffic Impact and Site Access Studies. A partial list includes:

- NH28/Ashleigh Drive – Derry, NH
- US4/Whitney Road/Shoe String Road – Concord, NH
- NH33/Winnicut Road – Stratham, NH
- NH28/Taylor Street – Salem, NH
- NH104/Hemlock Drive – Meredith, NH
- US3 & NH 28/Red Coat Lane – Manchester, NH

Several other highly relevant projects include:

- US Route 3/NH Route 25 Corridor – Meredith, NH
- US Route 3/NH Route 28 Corridor Study – Hooksett, NH and Allenstown, NH
- Main Street (NH Route 108) Reconstruction Project – Newmarket, NH
- Downtown Streetscape and Public Signage Improvements Program – Concord, NH