**Vermont Agency of Transportation**
March 2020

# At-the-Ready Consultant Engineering

## Design Services

March 9, 2020

Ms. Nydia Lugo
Technical Development Engineer
Vermont Agency of Transportation
One National Life Drive
Montpelier, VT 05633-5001

**Re: Vermont Agency of Transportation –**
**At-the-Ready Consultant Engineering Services for Municipalities**
**Design Services**

Dear Nydia and members of the Selection Committee:

VHB is pleased to present our proposal in response to the Agency's Request for Qualifications for At-the-Ready Engineering **Design Services** for Municipalities. Our proven dedication to VTrans and its municipal transportation partners spans over 30 years. We understand the challenges facing Vermont and its communities and are firmly committed to helping achieve the vision of a safer, more efficient, and more connected transportation network. We believe in making meaningful contributions to our communities and our state by providing a balanced relationship between economic growth and environmental stewardship. We are committed to quality and at 1,600-strong, we provide both the local connection and depth of resources to meet the full needs of the VTrans Municipal Assistance Bureau (MAB) program.

**Our team is dedicated to our clients and the projects that improve mobility, enhance communities, and make Vermont a better place to live.**

Our team members' expertise and previous experience planning, permitting, and designing a wide range of roadway, bicycle, pedestrian, and mulitimodal projects across Vermont and New England has provided us with insights into innovations and potential issues that may arise during the course of these projects. We enjoy working cooperatively with municipalities and VTrans to identify and implement creative, effective, and constructible designs that local communities can be proud of for many years to come.

For this proposal, we have carefully chosen our team to meet the full range of municipal needs to successfully implement their projects. Our personnel are dedicated professionals who strive to provide the best services available. They are smart, genuine, and easy to work with, and sincerely care about doing projects the right way to provide the best end product possible. VHB staff are very familiar with the requirements of projects in the MAB process, and we look at projects from every angle to ensure that we see the big picture, avoid surprises and set-backs, and meet or exceed expectations every time.

Engineers | Scientists | Planners | Designers

40 IDX Drive, Building 100
Suite 200
South Burlington, Vermont 05403
P 802.497.6100
F 802.495.5130

We are extremely pleased to have the opportunity to present our proposal and we look forward to continuing collaborating with Vermont municipalities and VTrans on projects that make our communities even better places to live.

Sincerely,

Evan Detrick, PE
***Program Manager***
Director of Transportation Engineering
edetrick@vhb.com

David Saladino, PE, AICP
***Principal-in-Charge***
Managing Director
dsaladino@vhb.com

# General Firm Information

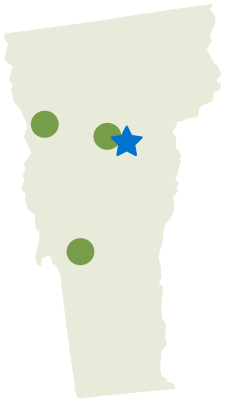
# Overview

The Vermont Agency of Transportation (VTrans) Municipal Assistance Bureau (MAB) was initially established in the 1990s as the Local Transportation Facilities section of the Program Development Division. Since its inception, the mission of the unit has been to work with and support municipalities and other organizations (the project sponsors) to implement transportation projects to improve their communities. These projects include a wide variety of projects, including bicycle and pedestrian facilities, roadway and intersection improvements, bridge and culvert replacements, stormwater improvements, and municipal park and ride facilities.

Projects through the MAB are funded using a variety of sources, often including federal monies such as Transportation Alternatives grants, along with local matching funds, and occasionally state funds such as the Town Highway and Town Structures Grant Programs. With the use of federal and state funds, the projects are administered through VTrans and must be developed following the VTrans project development process outlined in the MAB's Local Projects Guidebook for Locally Managed Projects. Under this process, the municipality manages and develops the project, and VTrans administers the funding and verifies the established process is being followed. Although VTrans helps the municipality with many aspects of the project development, it is ultimately the municipality's responsibility to advance the project. To do so, municipalities rely on the help of consultants. Consultants can assist the municipalities in three different ways:

- Manage the project on behalf of the municipality by serving as the Municipal Project Manager (MPM);
- Serve as the designer responsible for developing plans and specifications or preparing scoping reports;
- Provide construction administration and inspection services.

To retain the services of a consultant, municipalities have traditionally solicited proposals or statements of qualifications to identify which consultants are interested in helping them with their project, and to determine the best qualified firm to do so. This process has been burdensome on some municipalities, especially those with small staffs that are not familiar with the solicitation process. In order to streamline and simplify the process, the VTrans MAB developed a request for qualifications to identify a list of consultants that can provide services to municipalities on an "At the Ready" basis. VTrans then develops three lists of consultants—one for Municipal Project Management, one for Design, and one for Construction Inspection that would essentially pre-qualify firms to provide these services to municipalities. Once the lists of consultants are established, municipalities are able to pick the firm they feel is most qualified to assist them (after reviewing the qualifications of at least three consultants) and directly negotiate a reasonable scope and fee. Municipalities also still have the option to issue their own solicitations if they prefer. However, by pre-qualifying a pool of consultants, the MAB aims to make the process easier for the municipalities, and condense overall project schedules by eliminating the solicitation effort from the process.



**3**
**offices**
in Vermont

with close to

**100**
**employees**

VTrans Barre Office

VHB Office

VHB has a long history of delivering multi-faceted transportation services to municipalities throughout Vermont. Through our extensive experience on numerous MAB projects, we are ideally suited to provide a broad array of design and scoping services under this retainer. Our Vermont team is the right size to provide caring and responsive services, and with the support of nearly 100 individuals in Vermont, we have the resources to tackle the most challenging or unique assignments. We look forward to working with VTrans and municipalities across the State for the betterment of Vermont's transportation infrastructure.

# General Firm Information

Since 1979, VHB has partnered with public and private sector clients to provide high-quality transportation engineering services through an integrated team approach to collaboration. VHB has continued to grow and hone a diverse workforce that delivers personalized service and brings value, responsiveness, and excellence to municipalities. We pride ourselves on our ability to guide our clients from initiation to completion of multi-disciplined, challenging, and important transportation projects of all sizes.

Collaboration is a focal point of our approach to projects: VHB professionals routinely work together across practice areas to provide holistic project solutions. We emphasize truly listening to and understanding our client's unique needs while working collaboratively in a partnership. We also routinely incorporate input from stakeholders into our proposed solutions early in each project's development. This approach has helped us develop our strong track record of delivering comprehensive, forward-thinking, and well-supported projects in a timely and cost-effective manner. Evidence of this success can be found in the industry recognition VHB projects receive—and the number of repeat clients we are happy to serve.

## The VHB Difference

VHB is different from other firms and uniquely prepared and suited to assist municipalities with At the Ready services for all of their local transportation improvement needs. VHB offers a broad range of services through our in-house staff, and we are fully capable to provide design services to municipalities and other local sponsors. We have provided similar services on dozens of projects for municipalities across Vermont.

### Local Presence and Knowledge, Regional Expertise and Additional Resources

VHB's services under this retainer will be provided out of our Vermont offices in South Burlington, Montpelier and Rutland. With nearly 100 professional civil and structural engineers, planners, landscape architects, construction inspectors, and environmental specialists, our Vermont office provides the full range of services anticipated under this contract. We live here, we play here and we consistently hire Vermonters. We understand what makes our State special. We take great pride in helping VTrans and municipalities improve the already great quality of life in Vermont. Our Vermont staff will be supported by the resources and relationships of over 1,600 professional designers, engineers, scientists and planners throughout VHB's 30 locations whenever needed. Our local presence, knowledge of VTrans' practices and expectations, and depth of resources allows us to provide personal service, value, and responsiveness every time.

We've put together a team in this proposal that reflects VHB's continued commitment to improve mobility, enhance Vermont communities, and balance development and infrastructure needs with environmental stewardship. While every project does not require this deep pool of talent, the resources are there when needed and our Vermont team can continue to call upon these key people as they have in the past.

### Integrated Services Approach

VHB's staff collaborate to integrate our service offerings and strive to meet our ultimate goal of delivering a project that reflects the municipality's vision and benefits the local community.

VHB continues to hone a diverse workforce that delivers personal service, value, responsiveness, and excellence. The VHB Vermont staff has a wide range of skills, experience, and expertise to cover the complete range of services needed under this retainer. Our integrated planning, design, and engineering services include:

- Sidewalk, multi-use path, and pathway scoping and design
- Integrated and protected bicycle lane scoping and design
- Complete Street evaluation, scoping, and design
- Roadway engineering
- Bridge and structural engineering
- Landscape architecture and streetscape design
- Design and implementation of traffic calming elements
- Park and Ride facility design
- Stormwater improvement projects
- Construction observation, inspection, and resident engineering services

Through our diverse in-house staff, VHB offers support services that include:

- Topographic and boundary survey
- Utility identification and coordination
- Right-of-way investigations and documentation
- Site design
- Community outreach and engagement
- Historic assessments
- Funding assistance
- Traffic engineering
- GIS mapping and database development
- Environmental investigations, permitting and NEPA compliance
- Pavement condition assessment and design.

As projects are assigned, VHB's Project Manager will ensure that each relevant discipline is engaged and can provide feedback that further informs the overall project strategy. This ensures that nothing is lost in translation between the client and project team members so that the best design ideas advance and the final product meets the project goals.

## Team Accessibility

Our local presence throughout Vermont allows us to take a hands-on approach with attendance at regular work sessions during development of the design documents. In addition to our South Burlington, Montpelier and Rutland offices, VHB has staff located around Vermont to be able to meet with a client on short notice. VHB also offers professionals across New England to assist and provide guidance with all aspects of transportation projects. Additionally, we maintain a diverse network of subconsultant teaming for specialty services, geotechnical investigations and analysis, archeological services, and interactive public outreach. These subconsultants will be called upon as needed depending on individual project requirements. Opportunities for teaming with DBE and WBE firms will be considered based upon the best fit for services required.

**When providing services on behalf of clients, our goal is to be as accessible as possible. Our team members pride themselves in being accessible for a client's needs day and night.**

## Previous Experience

VHB's Vermont staff was built around our relationships with local municipalities and VTrans. We are excited to continue our partnerships throughout the state and look forward to the opportunity to provide innovative, high quality transportation infrastructure projects in the future.

### Current Municipal On-Call Engineering Services Contracts

- City of Burlington
- City of South Burlington
- Town of Middlebury

### Current Chittenden County Regional Planning Commission (CCRPC) On-Call Contracts

- Transportation Project Development & Scoping
- Planning & Technical Services

*St. Albans Downtown Streetscape Project*

### Current Vermont Agency of Transportation On-Call Retainers and Contracts

- At the Ready (ATR) Consultant Engineering Services for Municipalities
- Roadway, Traffic, & Safety Engineering
- Structures Engineering
- Railroad Engineering
- Park & Ride Management and Engineering
- General Environmental Services
- Natural Resource Services
- Environmental Resource Services
- Planning & Policy Services
- Design-Build Engineering & Construction Support
- Asset Management
- Highway Resurfacing
- Survey Services
- Vermont Freight Plan
- Vermont Rail Plan

The table on the following page represents a sampling of VHB's experience with MAB and similar municipal projects.

Providing consulting services to municipalities, and to state and federal agencies, is a core purpose of our company and a key focus of our Vermont staff. Our overall approach to the management of this contract is informed by our successful experience on a wide range of similar on-call assignments.

# Recent Vermont Municipal and MAB Projects

| PROJECT/CLIENT | CLIENT | YEAR | PHASE | | | PROJECT ELEMENTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Scoping | Design | Construction Services | Sidewalk | Path | Roadway | Intersection | Road Diet | Streetscape | MAB/LTF |
| **Elm Street Sidewalk** | City of Montpelier | 2017-2020 | | ● | ● | ● | | | | | ● | ● |
| **St Johnsbury Railroad Street Gateway and Bikeway Improvements** | Town of St Johnsbury | 2016-2019 | | ● | | ● | | ● | ● | ● | | ● |
| **Stormwater Treatment Retrofit** | Town of Essex | 2017-2019 | | ● | | | | | | | | ● |
| **VT Route 4A Sidewalk** | Town of Castleton | 2019-2020 | | | ● | ● | | | ● | | | ● |
| **Scrabble Hill Road Slope Stabilization** | Town of Duxbury | 2019-Present | | ● | ● | | | ● | | | | ● |
| **Crossett Hill Road Slope Stabilization** | Town of Duxbury | 2018-Present | | ● | ● | | | ● | | | | |
| **Center Road Slope Stabilization** | Town of Brownington | 2019-Present | | ● | ● | | | ● | | | | ● |
| **Beaver Pond Multi-Use Path** | Town of Proctor | 2019-Present | | ● | ● | ● | ● | | ● | | | ● |
| **Killington Road Master Plan** | Town of Killington | 2019-Present | ● | | | ● | ● | ● | ● | ● | ● | |
| **Stratton Mountain Access Road Assessment** | Town of Winhall | 2019-2020 | ● | | | | | ● | | | | |
| **Manchester Rail-Trail Scoping Study** | Town of Manchester | 2019-2020 | ● | | | | ● | | | | | ● |
| **Lee River Road Sidewalk** | Town of Jericho | 2018-Present | | ● | ● | ● | | | ● | | | ● |
| **New Town Road** | City of Rutland | 2017-2019 | ● | ● | | | | ● | ● | | | |
| **Newport Bluff Path Scoping Study** | City of Newport | 2017 | ● | | | | ● | | | | ● | |
| **Village Sidewalk & Utility Reconstruction** | Town of Stowe | 2018-Present | | ● | ● | ● | | ● | ● | | ● | |
| **Three Rivers Path Extension and Trailhead Center** | Town of St. Johnsbury | 2018-Present | | ● | | ● | ● | ● | ● | ● | | |
| **Burlington Bike Path** | City of Burlington | 2014–Present | | ● | ● | ● | ● | | ● | | ● | |
| **Lamoille Valley Rail Trail** | VAST | 2008–Present | | ● | ● | | ● | | | ● | | ● |
| **Bikeway Engineering Services** | City of Burlington | 2018-2019 | ● | ● | | ● | | ● | ● | | | |
| **City Center/Market Street** | City of South Burlington | 2012-Present | ● | ● | | ● | | ● | ● | | ● | ● |
| **East Darling Hill Road Bike/Ped Scoping and Design** | Town of East Burke | 2015-Present | ● | ● | | | ● | ● | ● | | | |
| **Blakely Road/Lakeshore Drive Intersection** | Town of Colchester | 2016–2017 | ● | | | | | | ● | | | |



| PROJECT/CLIENT | CLIENT | YEAR | PHASE | | | PROJECT ELEMENTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Scoping | Design | Construction Services | Sidewalk | Path | Roadway | Intersection | Road Diet | Streetscape | MAB/LTF |
| **West Lakeshore Drive Bike/Ped/Stormwater** | Town of Colchester | 2016–2017 | ● | ● | | ● | ● | ● | | | | |
| **VT Route 30 Gateway** | Town of Brattleboro | 2016–Present | ● | | | | | ● | | ● | ● | |
| **East Main Street Sidewalk** | Town of Wilmington | 2016–Present | | ● | ● | ● | | | | | | ● |
| **Pulp Mill Bridge Road and Seymour Street Sidewalk** | Town of Middlebury | 2016–Present | | ● | ● | ● | | | ● | | | ● |
| **Village Main Street** | Town of Warren | 2016–Present | | ● | ● | ● | | ● | ● | ● | ● | |
| **Barre-Montpelier Rd Road Diet Evaluation** | VTrans | 2015–2016 | ● | | | | | | | ● | | |
| **CCRPC Active Transportation Plan** | CCRPC | 2015–2016 | ● | | | ● | ● | | | | | |
| **Court Street** | Town of Middlebury | 2015–2016 | ● | | | ● | | ● | ● | | ● | |
| **Mountain View Sidewalk** | Town of Colchester | 2015–2018 | | ● | ● | ● | | | | | | ● |
| **Three Corners Intersection** | Town of Hartland | 2015–Present | | ● | | ● | | ● | ● | | ● | |
| **Kingman Street Streetscape** | City of St. Albans | 2015–Present | | ● | | ● | | ● | | | ● | ● |
| **Gateway Improvements** | City of Rutland | 2015–Present | | ● | | ● | | ● | | | ● | |
| **Village Sidewalk** | Town of Shelburne | 2015–2018 | | ● | ● | ● | | | | | | ● |
| **Railtrail Multi-use Path** | Town of Bennington | 2014–Present | | ● | | | ● | | ● | | | ● |
| **Lake Street Streetscape** | City of St. Albans | 2014–2016 | | ● | | ● | | ● | | | ● | ● |
| **VT Route 78 Sidewalk** | Town of Highgate | 2014–2015 | ● | | | ● | | ● | | | | ● |
| **Multi-use Path** | Village of Essex Junction | 2013–2016 | | ● | ● | | ● | | | | | ● |
| **Burlington Bike Path Intersection Study** | City of Burlington | 2013–2014 | ● | | | | ● | | ● | | | |
| **Streetscape/Main Street** | City of St. Albans | 2010–2016 | | ● | ● | ● | | ● | ● | | ● | ● |
| **Federal Street Improvements** | City of St. Albans | 2010–Present | | ● | ● | ● | | ● | ● | | ● | ● |

## Commitment to Quality

Since the firm's inception, VHB has practiced a Quality Control process that was not only based on checking a product but a review by senior technical engineers to ensure its conformance with the design requirements of the client. Today this process has evolved into a formal QA/QC program. It is an integral part of the client-focused service element of VHB. QA/QC is a planned program of continual improvement of VHB's work processes and project management techniques. The goal of VHB's QA/QC program is to provide continuously improving service to our clients, faster production, better ideas, and more cost-effective ways in which to produce the work. This translates into client benefits including saving money, accelerated schedules, and reduced problems during construction.

Through the QA/QC program, quality is improved not by more checking, but by doing it right the first time and eliminating the sources of these errors. By the time the design gets to the review stage, it has fewer errors, thereby reducing the time required for reviews and corrections.

VHB Vermont has developed a detailed Quality Control Plan (QCP) that provides protocols which our staff are trained to execute for each individual project. Because every project is different, the QCP is revisited at the beginning of each project and made more specific when the assignments are begun.

Additionally, project Quality Audits are conducted by senior leadership team members on a selection of projects three times a year. These audits serve as an opportunity for senior staff members to review the QCP's of randomly selected projects, and discuss what quality practices have been implemented, what worked well, and where improvements can be made.

## The Project Team

The Organizational Chart on the following page shows the core team and key support staff that will work on this retainer contract. VHB's Project Manager, **Evan Detrick, PE**, has worked continuously on MAB/LTF projects over the last 15 years. His experience includes managing over 60 projects through the program for municipalities across the State. Evan has been the Municipal Project Manager on significant roadway design projects in Hartford and South Hero, and has managed the design of a wide range projects including sidewalks, pathways, bridge replacements, rehabilitation of covered bridges, roadway and intersection improvements, roadway resurfacing, and Park & Ride expansions.

Under this retainer, Evan will be the initial point of contact for VTrans and municipalities for all assignments. Depending on the specific project, Evan will either manage the project himself, or may assign another VHB Project Manager in consultation with the municipality and VTrans MAB Project Supervisor. The VHB Project Manager will be determined based on the best interests of the municipality, and will not be finalized until the municipality and VTrans are in agreement. For every assignment, Evan will conduct project reviews on a routine basis to verify the project is moving along as expected and VHB's services are meeting the expectations of VTrans and the client.

Through the QA/QC program, quality is improved not by more checking, but by doing it right the first time and eliminating the sources of these errors. By the time the design gets to the review stage, it has fewer errors, thereby reducing the time required for reviews and corrections.

# Organizational Chart

**Project Sponsor**

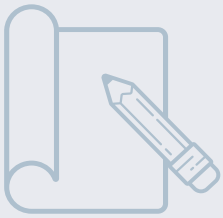
| Principal-in-Charge | Contract Manager | Technical Advisor |
|---|---|---|
| David Saldino, PE | Evan Detrick, PE | Bill DeSantis, PE |

## DESIGN SERVICES

**Project Mangers**
Evan Detrick, PE
Jenn Conley, PE
David Saladino, PE
Dan Peck, PE

**Project Engineers**
Jeff Bachiochi, PE
Drew Gingras, PE

**Project Designers**
Branden Roberts, EIT
Cierra Ford, EIT
Karen Sentoff, EIT
Ian Maerki, EIT



## TECHNICAL ENGINEERING SERVICES TASK LEADERS

**Permitting**
Brad Ketterling

**Survey/ROW**
Ryan Cloutier, LS

**Landscape Architecture**
Mark Hamelin, CLA

**Historic/Cultural Resources**
Kaitlin O'Shea

**Park & Ride Facilities, Bridges & Structures**
Scott Burbank, PE

**Hydrologic & Hydraulic Studies**
Robert Wildey, PE, CPESC

New personnel added after March 2020 can be found in the Resumes section.

# Availability Chart

## The importance of this contract to VHB cannot be underestimated. Within VHB, this contract is high-profile, and central to our corporate mission to be the consultant of choice for VTrans and Vermont Municipalities. As such, delivering excellence on ever assignment is our highest priority.

The VHB Team is comprised of professionals with diverse levels of experience and skill sets required to address each of the service areas that may be called upon under this contract. Each person on the VHB Team will be ready and available to begin work as soon as the notice-to-proceed for a task is assigned. Individual availability is identified here based on current projects in various stages of competition. We strive to maintain a healthy and manageable workload for all staff and understand that certain personnel may be more desirable to you for a particular assignment based on experience. The VHB team is prepared to dedicate core individuals based on your needs, which includes redistributing assignments from other clients to alternative staff if the need arises.

| NAME | ROLE | AVAILABILITY FOR THIS CONTRACT |
|---|---|---|
| **Evan Detrick, PE** | Contract Manager | 50% |
| **David Saladino, PE** | Principal-in-Charge | 15% |
| **Bill DeSantis, PE** | Technical Advisor | 15% |
| **Jenn Conley, PE** | Project Manager | 30% |
| **Dan Peck, PE** | Project Manager | 40% |
| **Jeff Bachiochi, PE** | Project Engineer | 50% |
| **Drew Gingras, PE** | Project Engineer | 60% |
| **Branden Roberts, EIT** | Project Designer | 60% |
| **Cierra Ford, EIT** | Project Designer | 60% |
| **Karen Sentoff, EIT** | Project Designer | 60% |
| **Brad Ketterling** | Permitting | 20% |
| **Ryan Cloutier, LS** | Survey/ROW | 20% |
| **Mark Hamelin, CLA** | Landscape Architecture | 20% |
| **Kaitlin O'Shea** | Historic/Cultural Resources | 20% |
| **Scott Burbank, PE** | Park & Ride Facilities, Bridges & Structures | 15% |
| **Robert Wildey, PE, CPESC** | Hydrologic & Hydraulic Studies | 20% |

# Design Services

# Understanding

Design activities include the development of scoping reports, preparation of engineering drawings, and preparation of specifications and contract documents so that projects can be brought to construction.

Scoping is commonly referred to as "Phase A—Project Definition" and is undertaken to identify a range of alternatives to address an identified need. A Local Concerns meeting is held early in the process to engage the public and other stakeholders in a discussion about issues and concerns, and what goals should be met as a result of the project. Investigations are conducted to identify existing resources such as natural and cultural resources, utilities, rights of way and property ownership. Alternatives are investigated in sufficient detail to determine what impacts each will have on the existing resources, determine opportunities and constraints, estimate costs, and determine how effective each alternative will be at meeting the project's purpose and need. Conceptual plans are prepared and the alternatives are summarized and presented at one or more public meetings to arrive at a consensus on a preferred alternative. Once the preferred alternative is endorsed by the project sponsor and VTrans, the project can move forward into "Phase B—Project Design".

During Project Design, detailed engineering drawings and contract documents are prepared so construction bids can be solicited from qualified contractors and the project can be advanced through construction. A topographic survey is conducted and base plans prepared, and the project is advanced through the design and permitting process. The preferred alternative from scoping is refined and conceptual plans are developed based on the survey. Although not technically required under the MAB project development process, preliminary plans are often prepared to refine the conceptual plans and more closely look into impacts, especially for more complicated projects. Resource impacts are assessed and National Environmental Policy Act (NEPA) documentation is prepared to summarize the expected impacts on environmental resources.

Once the NEPA document (normally a Categorical Exclusion) is approved by VTrans and FHWA, the project advances through final design. Permit applications are prepared and submitted to the appropriate agencies for approval. Right of way impacts are precisely determined, right of way plans are prepared to indicate the rights that are needed to construct and maintain the project, and the required rights are formally secured from affected owners. Utility owners are contacted to determine if any

utilities will require relocation or adjustment. Once the right of way has been "cleared", permits are obtained, and utility relocation routes are determined, the final plans and contract documents are prepared. VTrans MAB has prepared boilerplate contract documents that have been developed through years of experience on local projects.

These documents have been crafted to make it clear to prospective bidders what the requirements and expectations are for each project, and to protect the interests of the municipality and State. Using the MAB's boilerplate template simplifies the preparation of contract documents and saves the sponsor money.

Because the documents are used consistently on MAB projects, bidders have become familiar with them and are clear on the requirements.

Upon the MAB's approval of the contract plans and documents, construction bids are solicited. The design consultant normally assists the sponsor with this process, by preparing an advertisement for bids, answering questions during the bid process, attending the bid opening, conducting a bid analysis, and making a recommendation for award of a construction contract. The design consultant is also expected to be available during construction to review shop drawings, answer questions and provide clarifications related to the design, and attend a final inspection of the completed project.

# Relevant Skills

## Scoping Studies and Reports

VHB works closely with communities to understand their concerns and needs for addressing safety and mobility issues for all modes of travel. VHB has undertaken a wide variety of scoping projects for numerous Vermont municipalities, including the Town of Manchester Rail Trail Scoping Study, the Darling Hill Road Scoping Study in East Burke, the Williston Road Corridor Scoping Study for South Burlington, and Colchester's Malletts Bay Bike/ Ped Scoping Study. We routinely prepare thoughtful and comprehensive scoping reports because we are well versed in engaging stakeholders at the Local Concerns meeting, and we work with the project sponsor to develop and evaluate alternatives to meet the goals of the project.

In addition, we fully understand how to design bicycle/ pedestrian, roadway, intersection and complete street infrastructure projects following the VTrans MAB process which enables us to focus on developing practical and constructible alternatives, reducing time spent on alternatives that would ultimately not become projects. We understand the importance of connectivity to local communities, and work to identify feasible, cost-effective alternatives that meet the project needs and enhance all modes of transportation.

## Bicycle and Pedestrian Planning & Design Services

VHB has a proud history of working with state, regional, and municipal clients across Vermont to help them envision, plan, design, and construct a wide range of bicycle and pedestrian facilities. VHB's bicycle and pedestrian experts deliver innovative, creative, and cost-effective solutions that integrate safe and efficient multimodal facilities into the built environment. We work closely with our clients and project stakeholders to determine the best use of limited funds to design environmentally sensitive and sustainable projects. We also understand the importance of broad community outreach and involving stakeholders early on in the process to establish community consensus around the project elements.

VHB's bicycle and pedestrian projects span the State, and include sidewalks, urban and rural pathways, multimodal transportation networks, pedestrian streetscape enhancements, greenways, rail trails, bike lanes on roadways, and riverwalks. The experience gained from designing a robust portfolio of constructed projects provides valuable feedback to projects that are in their planning stages where creativity must be balanced with real world realities. Our South Burlington office includes a Bicycle Technical Committee member from the National Committee on Uniform Traffic Devices. This Committee reviews bicycle accommodation around the country and is creating the national policy for bicycle pavement markings and signage. Our local experience ranges from adding on-road bicycle lanes in the Northeast Kingdom, to designing separated shared use paths in Bennington and Burlington, to innovative solutions to accommodate cyclists at intersections in Burlington. Our planners and engineers use their bicycles for basic transportation, recreation and sport, and this helps them comprehend and appreciate the factors that make multimodal facilities more welcoming, enjoyable and safe for a broad spectrum of users.

*Shelburne Village Sidewalk*

*Burlington Bike Path*

## Roadway and Intersections

VHB designs roadway and intersection projects of all sizes for state transportation agencies, municipalities, and private developers. Projects range in size from isolated rural intersections to the redesign of interchanges along I-89, to the reconstruction of arterials, collectors, and local roads.

**Services encompass the full design process, including:**

- Preliminary planning and conceptual design
- Identification of resource constraints and mitigation measures
- Public involvement
- Preparation of contract plans, specifications and estimates
- Right-of-way
- Construction sequencing and scheduling
- Traffic management during construction
- Value engineering
- Contract documents and bidding services

Our engineers are well versed in the many aspects of roadway design including pavement, signs and pavement markings, drainage, guardrail length of need and end treatments, horizontal and vertical alignments, superelevation, clear zone determinations, and incorporation of bike lanes and buffers. We routinely apply the principles from the AASHTO "Green Book" and Roadside Design Guide: FHWA's Manual on Uniform Traffic Control Devices and Standard Highway Signs

and Markings Book; and the VTrans Roadway Design Manual; the Standard Drawings; and the Specifications for Construction. Under the MAB program, we've developed designs for the reconstruction of 1.2 miles of Federal Street in St. Albans; for dropping a through lane and adding bike lanes on US 5/Railroad Street in St. Johnsbury; and for slope stabilization projects to preserve roadway corridors in Duxbury and Brownington. Outside of the MAB program, we have developed many similar roadway projects that include developing the design of a new town road in Rutland and completely reconstructing nearly a mile of Main Street in Winooski.

As a partner with VTrans we have helped them develop some of their guidance materials. VHB was the primary author of VTrans' Hydraulics Design Manual which provides design guidance and requirements for the design of bridges, culverts, closed drainage systems, and open channels. Because we work extensively directly with VTrans, we have an in-depth understand of their requirements and design practices.

Given our on-going work with VTrans on a variety of roadway and intersection projects, municipalities can be confident that VHB will manage and design their projects using the latest standards, thereby eliminating the need for "redesigns" and making the best use of their resources. However, we understand that not VTrans requirements must be followed on all projects and can scale the approach appropriately.

## Traffic

VHB's Traffic group is very well versed and knowledgeable in providing traffic analysis, traffic signal design, signing and pavement marking designs, ITS, speed studies, and road safety audits. These local traffic professionals balance the needs of all users to create a design that operates both safely and efficiently. Over the years, the traffic group has developed specific skill sets and high-quality working relationships with their peers at VTrans. This combined experience provides VTrans and municipalities with professionals that can perform routine design elements such as pavement markings and signing to complex coordinated signal systems, traffic control plans, and technically challenging ITS support.

## Landscape Architecture and Placemaking

VHB's Landscape Architecture services include landscaping design, gateway markers, hardscaping such as benches and informational kiosks, and the planning and design of public spaces that make communities special. Our approach is to work closely with our clients to deliver solutions that reinforce a community's sense of place and identity through thoughtful design. We use VHB's integrated services approach, drawing upon our in-house technical skills to plan and design each of our projects, resulting in high-quality, enduring landscapes. Our landscape architectural project experience is diverse, including

Our work on MAB projects has provided us with the understanding that plans and bid documents for municipal projects can be scaled back somewhat and need not strictly follow typical VTrans requirements. No project is too big or small for us since we understand how to tailor our approach and our product appropriately. We are sensitive to the fact that funding to municipalities is limited, and strive to economize our engineering effort so that more funding can be allocated to construction.

the planning and design of parks, recreational facilities, town centers, residential communities, and urban streetscapes. Founded on the recognition that we are civic and environmental stewards for generations to come, we strive to integrate principles of sustainability into the context of each project. Further, we make it our goal to implement creative planning and design solutions to help shape more livable community environments on projects of all scales.

## Park and Ride Engineering

Park & Ride facilities are important to our roadway network to reduce the number of vehicles on the road, reduce total vehicle miles travelled, and reduce greenhouse gas emissions.

VHB has established ourselves as leaders in the design and construction of Park & Ride facilities.

For nearly ten years, VHB has been supporting VTrans' Park & Ride projects throughout Vermont including facilities in Colchester, Springfield, Bradford, Pittsford, Barton, Berlin, Williston, Williamstown/Northfield, and Randolph—the first Park & Ride in the state with permeable bituminous pavement. VHB currently holds the VTrans Park & Ride retainer contract and we have provided Project Administration services for 6 Park & Ride projects. Our experience providing Project Administration services on VTrans' recent Park & Ride projects has given us an in-depth understanding of Park & Ride projects from scoping to construction.

*Randolph Park & Ride*

# Vermont Project Experience

## Municipal Project Experience

Our ability to help our clients initiate and complete intricate, challenging, and important projects has given rise to an impressive portfolio of success, demonstrated by a high percentage of VHB's clients becoming repeat customers. Our experience in Vermont includes such high-profile projects as the design of the Lamoille Valley Rail Trail, which spans the northern tier of the State and once completed will provide year-round recreational opportunities on over 93 miles of trail. This project has been a collaborative partnership between the Vermont Association of Snow Travels (VAST), VTrans and the many communities through which the trail passes. VHB has also partnered with the City of Burlington for the rehabilitation of the Burlington Bike Path. Often referred to as the "crown jewel" of Burlington's recreational facilities, each year the path services tens of thousands of visitors and residents alike. VHB has designed multiple phases of the Bike Path totaling over six miles in length and is currently working on the design of the final segments.

VHB worked with the City of St. Albans to reimagine Main Street for their streetscape project, developing a vision for what Main Street could be, developed the design, and brought the project to construction. Main Street's appearance and functionality has been greatly enhanced, and the transformation has been the impetus to revitalize the downtown area. VHB is currently working with the Town of Burke to provide a safe cyclist connection from the Village of East Burke to a large percentage of the Kingdom Trails network. This connection will improve safety and mobility and enhance this recreation amenity which serves as a great economic generator in the Northeast Kingdom.

The following pages represent a sampling of VHB's municipal project experience in Vermont.

# Example Projects

## Lamoille Valley Rail Trail (LVRT) St. Johnsbury to Swanton Ongoing

- Environmental and Engineering Services were provided for a 93-mile trail through 17 communities and 3 counties, encountering over 88 bridges, 500 culverts, 22 state highways, 69 town roads and 97 private crossings
- Compiled base plans that documented existing conditions, including natural and cultural resources, using qualified staff and innovative field data collection techniques
- Assisted with public involvement process and developed conceptual plans and NEPA documentation in Phase A
- Developing final trail and bridge plans and permit applications for approximately 44 miles of trail to date.

**Contact:**
Ken Brown
ken@vtvast.org | 802-229-0005

## Middlebury Pulp Mill Bridge Road/Seymour Street Sidewalk

- Working with the Towns of Middlebury, Weybridge and the Addison County Regional Planning Commission, VHB provided engineering services for plan development and bid documents for a new section of sidewalk approximately 2,700 feet in length along Seymour Street in Middlebury and along the length of Pulp Mill Road in Weybridge and Middlebury.
- This project included a rectangular rapid flash beacon at one of the crosswalks, and the planting of numerous trees to address property owner concerns. The project also included a redi-rock retaining wall with custom cap and railing to minimize impacts to a property owner's driveway.

**Contact:**
Adam Lougee
alougee@acrpc.org | 802-388-3141

## Montpelier Elm Street Sidewalk

- Under the current At-The-Ready contract, the CIty of Montpelier selected VHB to provide design and permitting services associated with the construction of new concrete sidewalk along Elm Street (VT Route 12) in Montpelier, Vermont (the "Project")
- The Project areas extend 1,300 feet along the east side of Elm Street from North Park Drive to the Vermont Community College
- VHB worked closely with City staff to ensure that an optimal alignment was selected for the sidewalk to minimize overall utility or right-of-way impacts while maximizing the opportunity for additional green space and future landscaping and streetscape amenities along the corridor

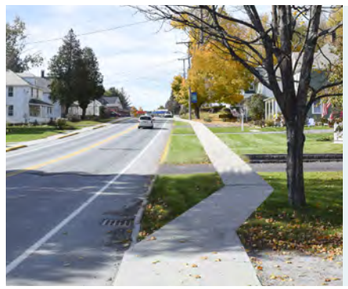
**Contact:**
Corey Line
cline@montpelier-vt.org | 802-262-6272

## Burke East Darling Hill Road Scoping and Design

- Performed Scoping Study for development and evaluation of potential alternatives, with a recommendation for a preferred alternative for enhanced bicycle and pedestrian accommodations and safety improvements along the length (approximately 0.7 miles) of East Darling Hill Road
- Due to the significant numbers of bicyclists along the route, the study focused on improving conditions for the mobility of bicyclists and encourage the safe passage of non-motorized transportation along this corridor
- Also selected to provide engineering design and project management services for the project in preparation for road reconstruction and drainage improvements

**Contact:**
Chris Emmons
cricevt@hotmail.com | 802-535-7595

## Wilmington East Main Street Sidewalk



- For the Town of Wilmington, VHB is providing design engineering and permitting services associated with the replacement of approximately 1,450 linear feet of existing concrete sidewalk along East Main Street between Beaver Street and its current terminus just east of the bridge over Beaver Brook. The improvements also include construction of nearly 300 feet of fieldstone retaining walls and the replpacement of 400 feet of sewer main.
- VHB's scope of work includes survey, permitting, conceptual plans, preliminary plans, ROW plans, Final & Contract plans, and construction engineering support

**Contact:**
Gretchen Havreluk
ghavreluk@wilmingtonvt.us | 802-464-8591

## Stowe Sidewalk Construction & Utility Relocation

- Town of Stowe selected VHB to provide engineering and design services for the reconstruction of approximately 1.5 miles of existing sidewalks adjacent to its Class 1 Town Highways, including Main Street, the historic commercial corridor of the old Stowe Village
- Project includes new and reset granite curbing, new concrete and concrete with paver accent sidewalks, ADA compliant crosswalks and ramps, interfaces with abutting sidewalks/patio's and driveway entrances and miscellaneous stormwater and streetscape improvements
- The project also implements certain utility relocations to eliminate existing overhead wired utilities along Main Street

**Contact:**
Harry Shepard, PE
hshepard@stowevt.gov | 802-253-8770

## Manchester Rail Trail Scoping Study

- VHB is currently finalizing the Manchester Rail Trail Scoping Study as part of a collaborative effort between the Town of Manchester, Old Bed Railroad LLC, and the residents of Manchester
- Followed the scoping study process of existing condition identification, improvement alternative analysis, and the selection of a preferred alternative for the future multi-use trail along the former Manchester- Dorset and Granville (MD&G) Railroad corridor
- Conversion of the rail corridor into a formal trail would provide an additional 1.6- miles of public access trails for use by locals and visitors of the Town of Manchester

**Contact:**
John O'Keefer
j.okeefe@manchester-vt.gov | 802-362-1313

## Duxbury Crossett Hill Road Slope Stabilization

- Town of Duxbury engaged with the team of VHB and Golder Associates, utilizing FEMA disaster funds, to design a repair for the failed embankment supporting Crossett Hill Road above the Crossett Brook streambank
- VHB designed the new roadway embankment including the layout of stone fill slopes, ditches, curtain drains, and guardrail for approximately 300' of gravel roadway, and temporary construction access
- Included permitting(DEC Stream Alteration, USACE), calculating permanent and temporary impacts and preparing all necessary application materials. VHB assisted the town in negotiating with private landowners, prepared Contract Documents (construction plans, specifications, and an estimate), and will perform inspection services during construction

**Contact:**
Jonathan DeLaBruere
duxbury.sb.assistant@gmail.com | 802-323-2772

## Innovation & Emerging Designs

The planning and design for transportation infrastructure has evolved significantly in the past decade and VHB has been actively involved in leading this innovation. VHB has led the way with development of Complete Streets, protected bicycle lanes, bicycle signals, signing and striping treatments at intersections, and other emerging design trends in urban, suburban, and rural settings across Vermont and the east coast. South Burlington's own Drew Gingras is a member of the Bicycle Technical Committee of the national committee that develops the MUTCD, and is actively participating in developing the new standards and guidance for numerous bicycle and pedestrian design treatments. VHB is committed to leading emerging trends, not simply following them.

VHB has been an industry leader in the development of tools that communities can use to evaluate and select the most effective and cost-efficient treatments for their projects. Working with the FHWA Office of Safety, VHB developed the Pedestrian & Cyclist Road Safety Audit Guidelines and Prompt Lists, A Resident's Guide for Creating Safe and Walkable Communities, and the Non-Motorized User Safety—A Manual for Local Rural Road Owners. These publications formalize safety examinations of future roadway projects or built roadways and help communities identify specific pedestrian and cyclist safety concerns. VHB also conducted the first formal Road Diet evaluation for the Vermont Agency of Transportation on the Barre-Montpelier Road in Berlin, which resulted in the development of an objective scoring system for evaluating the effectiveness of Road Diets.

VHB uses data collectors and GIS to gather field information. Wetland boundary, sign, guardrail, culvert and other data sets can be collected and then georeferenced into our survey files to supplement original field or drone surveys. This provides accurately located data points that can also contain unlimited information such as sizes, types, condition, photos, and any other desired information. Additionally, the data collectors and GIS enable our engineers and scientists to visit the field after surveys are complete to verify wetland boundaries with VT ANR, and pick up information that has changed since the original survey. Use of this technology is more efficient than fully mobilizing a survey crew, and gives our designers an additional opportunity to see conditions first-hand in the field.

## Key Personnel

### Evan Detrick, PE

Project Manager
35 years of professional experience

Evan is a Civil Engineer with over 35 years of experience supporting federal, state, municipal, and private sector projects. Evan's responsibilities include project scoping and budgeting, personnel and work assignment scheduling, project management, public engagement, and quality control. He has completed the planning and design of over 60 MAB/LTF projects and numerous projects directly for VTrans. His experience has included a variety of sidewalks, pathways, and trails; intersection and traffic signal upgrades; roadway resurfacing and reconstruction; property and topographic surveys; bridge rehabilitation and replacement; streetscape and lighting enhancements; stormwater improvement projects; and many projects involving public outreach.

### Jenn Conley, PE, PTOE

Director of Transportation Systems
25 years of professional experience

Jenn is the Director of VHB's Transportation Systems practice and has over 25 years of project management, transportation engineering and planning. Her experience has focused on creating Complete Streets by finding ways to accommodate cyclists and pedestrians while maintaining safe and efficient vehicular travel. She understands the tradeoffs associated with these projects

and the real impacts that can occur to parking or roadway capacity. In addition, Jenn understands that the success of a project requires proper communication to ensure that everyone understands the benefits and impacts of alternatives and she excels at then gathering input from officials, stakeholders and the public. Jenn is currently working on projects to better accommodate pedestrians and cyclists in along Colchester Avenue in Burlington, on East Darling Hill Road in Burke, along the Killington Road in Killington, and at the intersection of Kimball Avenue and Community Drive and South Burlington.

### Dan Peck, PE

Senior Project Engineer
20 years of professional experience

Dan has extensive experience in roadway and traffic design projects and is well versed in sidewalk and streetscape design. Some of his completed projects include the Mill Street Intersection reconfiguration and sidewalk in East Barre, the Seymour Street/Pulp Mill Bridge Road sidewalk in Middlebury, and the Main Street Improvements in St. Albans. Dan is currently working on numerous VTrans and municipal projects across Vermont, including the Bennington Rail-Trail, Manchester Rail-Trail, and Park & Ride projects in Williamstown/Northfield and Berlin.

### Drew Gingras, PE

Project Engineer
8 years of professional experience

Drew is a Project Engineer, and his experience to date has been predominantly focused on the design of non-motorized transportation infrastructure. His broader experience includes planning and scoping studies, bicycle/pedestrian facility planning and design, traffic calming design, and complete street design. Drew has designed over 30 miles of on-street bicycle facilities, and has served as the design engineer on such local projects as the NBRC grant funded Three Rivers Path Extension project for the Town of St. Johnsbury, multiple phases of the rehabilitation of the Burlington Bike Path, and the Lamoille Valley Rail Trail.

### Jeff Bachiochi, PE

Project Engineer
8 years of professional experience

Jeff is a Civil Engineer with 8 years of experience working on transportation and infrastructure projects, including urban roadways, highways, bridge approaches, rail & intermodal stations, traffic signals, and pedestrian/bicycle facilities. He has performed construction administration services for various types of contract delivery methods, including Design-Build, CM/GC, and Public-Private-Partnership projects. Jeff is currently managing the design of the Beaver Pond Shared-Use Path in Proctor, and is working with VTrans on the design to improve Quarry Street in Barre and the reconfiguration of Exit 17 on I-89. Jeff is also working on the roadway components for a VHB scoping study that is examining options to improve the entire length of the Killington Road for the Town.

### Branden Roberts, EIT

Transportation Designer
6 years of professional experience

Branden is a Transportation Designer, with experience in roadway and bicycle/pedestrian path design, as well as field inspection experience with construction materials like concrete, soil and asphalt. He provides horizontal and vertical alignment design, roadway modeling and cross section development, guardrail design, open flow and closed drainage, and quantities. Branden was the lead designer for Phases 2 and 3a of the Burlington Bike Path and was heavily involved in almost every aspect of the design. Branden has also developed plans for the restriping of Railroad Street in St. Johnsbury to eliminate

an unnecessary through lane, and repurposing of the lane as a bike buffer and bike lane. This project will also add bike lanes on a narrower section of Railroad Street, and add destination signing to connect the downtown area to the existing trailhead for the Three Rivers Path.

## Karen Sentoff, EIT

Transportation Planner
8 years of professional experience

Karen has the unique experience of having worked as a transportation researcher and analyst at the University of Vermont Transportation Research Center prior to joining VHB. Her recent work includes alternatives analysis to accommodate alternate modes for the East Allen Scoping Study and more recently working with Jenn on the Colchester Avenue scoping study in Burlington which seeks to better accommodate cyclists along a busy corridor with competing demands in the form of on street parking. She has prepared numerous Traffic Management Plans for Park & Ride facilities. She was a critical contributor for a scoping study that VHB prepared for VTrans of the US 7 and Old Hollow Road intersection in Ferrisburgh, collecting existing conditions data, preparing base mapping, developing alternatives, meeting with stakeholders, and presenting the alternatives at the Alternatives Presentation Meeting. The Selectboard unanimously supported Karen's recommendations.

## Cierra Ford, EIT

Transportation Designer
2 years of professional experience

Cierra has worked on a variety of projects within the transportation engineering and planning fields. She has worked on numerous studies to better accommodate all roadway users throughout Vermont, including the Winooski Main Street Reconstruction project, the Burlington Quick Build projects, and the Burke East Darling Hill Road project. Cierra's recent work includes innovative culvert design for an intersection project in the Town of Hinesburg and construction inspection services for a sidewalk project in Castleton. She has also played key roles on the engineering design of major projects such as Phase 3 of the Burlington Bike Path and the Three Rivers Path project for the Town of St. Johnsbury.

## Ian Maerki, EIT

Transportation Designer
1 year of professional experience

Ian is a Transportation Designer on the Transportation Engineering team in VHB's South Burlington office. He has experience in traffic data acquisition and analysis, as well as inspection of existing roadway facilities such as pavement and stormwater infrastructure. His work in these areas is achieved through his use of Microstation, ArcGIS, AutoCAD, and Civil3D.

## Brad Ketterling

Permitting
24 years of professional experience

Brad has worked as an environmental scientist for over 20 years, specifically in the fields of wetland mitigation site feasibility and design, watershed and stream assessment, and Section 404 permitting. He has managed projects for a variety of public sector clients including VTrans, the City of Burlington, and the National Park Service. He is currently working with VTrans for permitting support on several projects, the City of Burlington on both the Bike Path Rehabilitation Project and proposed improvements at Waterfront Park. He also worked with the City of South Burlington on the Market Street Roadway Improvement project.

## Kaitlin O'Shea

Historical/Cultural Resources
13 years of professional experience

Kaitlin is a Preservation Planner a strong background in and understanding of preservation principles and practices. With ten years of professional preservation

experience, Kaitlin provides expertise in regulatory processes and compliance, particularly Section 106 review and Section 4(f) evaluations, as well as historic documentation, historic resource identification, and project management in the government framework. From national and statewide conference presentations to public meetings, she is skilled in stakeholder interaction and communication. Kaitlin meets the Secretary of the Interior's Professional Qualification Standards for Architectural Historian and Historian (36 CFR 61).

## Ryan Cloutier, LS

Survey/ROW Team

Ryan is the Director of Geomatics in VHB's South Burlington office. With close to 20 years of professional experience, he provides overall program management for the Vermont office's survey team and manages the suite of survey services offered to state, municipal, and private sector clients. Ryan serves clients' survey needs through the full project lifecycle from initial planning and research, to right of way, utility and boundary survey, through final design, construction, as built and ALTA survey. He has in-depth experience on both the public and private sectors having held senior positions at the Vermont Agency of Transportation and with private consulting firms throughout New England.

## Mark Hamlin

Director Landscape Architecture

Mark is the Director of Land Planning & Landscape Architecture in the South Burlington, VT office. He brings more than 35 years of professional landscape architecture, land planning, and urban design experience on a wide range of public and private sector projects across Vermont and throughout the country. Mark's work has been recognized by his peers with 19 professional design/planning awards. Mark's work has included the redesign of Burlington's Waterfront Park, and the development of concepts for Williston Road in South Burlington, Main Street in Stowe Village, and the Killington Road in Killington.

## Scott Burbank, PE

Bridges and Structures, Park and Ride Facilities

Scott is Director of Structures for VHB's Vermont offices with extensive experience in planning, design and construction of both highway and railroad bridges and roadway reconstruction projects. His qualifications also include services for quality control and quality assurance, construction cost estimating, accelerated bridge construction (ABC), and structural inspections of both railroad and highway bridges.

Scott has also been VHB's primary point of contact with VTrans for the management and design of numerous Park & Ride projects. Scott sits in the MAB offices one day per week to assist the MAB Park & Ride managers develop projects, including managing the work of other consultants.

## Robert Wildey, PE

Hydrologic and Hydraulic Studies

Robert is an environmental engineer focusing on water resource engineering, surface hydrology, and stormwater management. He has served as a project engineer for a diverse set of responsibilities and tasks including hydrologic & hydraulic modeling, and coordinating and conducting field programs, and he is one of the co-authors of VTrans' Hydraulics Manual. His experience includes projects focusing on low impact development, flood mitigation, innovative stormwater designs and developing best management practices for both private and public sector clients.

# Resumes

# Evan P. Detrick, PE

Project Manager

**Education**

BA, Liberal Arts, East Stroudsburg University, 1984

BS, Civil Engineering, Pennsylvania State University, 1984

**Registrations/Certifications**

Professional Engineer (Civil) VT

**Affiliations/Memberships**

Vermont Society of Engineers

Institute of Transportation Engineers, Vermont

**Evan is a Civil Engineer with over 30 years of experience supporting federal, state, municipal, and private sector projects. Evan's responsibilities include scoping and budgeting, personnel and work assignment scheduling, project management, and quality control. He has completed the planning and design of projects, including a variety of sidewalks, pathways, and trails; highway projects on new alignments; roadway widening and rehabilitation; bridge construction and replacement; environmental assessments in accordance with NEPA; traffic signal improvements; property and topographic surveys; stormwater treatment projects; and over 60 locally managed projects through the Vermont Agency of Transportation's Municipal Assistance Bureau.**

*4 years with VHB and 35 years of professional experience*

**Stowe Sidewalk Construction and Utility Relocation Project**

Project Manager for the reconstruction of approximately 1.5 miles of existing sidewalks adjacent to its Class 1 Town Highways, including Main Street, the historic commercial corridor of the old Stowe Village. This project includes new and reset granite curbing, new concrete and concrete with paver accent sidewalks, ADA compliant crosswalks and ramps, interfaces with abutting sidewalks/patio's and driveway entrances and miscellaneous stormwater and streetscape improvements. The project also implements utility relocations to eliminate existing overhead wired utilities along Main Street.

**VT 116 Village South Sidewalk Extension, Hinesburg, VT**

Evan is the Project Manager for the design of a 1,500 linear feet of new 5-foot wide concrete sidewalk along the south side of VT 116 in Hinesburg. The sidewalk will extend the existing village sidewalk system from its current terminus at the Hinesburg Community School to the new Meadow Mist development. VHB design includes conceptual, preliminary and final plans, utility coordination, avoidance of wetlands and historic resources, minimizing property owner impacts, adjustments to drainage swales and the State's stormwater drainage system and contract document preparation. Project has been developed through the VTrans Municipal Assistance Bureau.

**Burlington Bike Path Rehabilitation, Phases 2 and 3, Burlington, VT**

Project Manager for the rehabilitation of bike path located along Burlington's waterfront that has extraordinary views of Lake Champlain and the Adirondack Mountains. The 30-year-old bike path is a multi-use facility that supports alternative transportation, recreation, and active lifestyles; attracts visitors to the City of Burlington and stimulates the local economy; and enhances the overall quality of life. Evan managed the design of Phases 2 and 3 of the path's rehabilitation (totaling 5 miles in length) which included path widening, replacement of the pavement and subbase, intersection improvements, the addition of Pause Places, and the addition of stormwater treatment facilities.

**VTrans Municipal Assistance Bureau, At-the-Ready Retainer Contract**

With Evan as Contract Manager, VHB was selected by VTrans for the MAB "At-the-Ready" list of transportation engineering consultants that are pre-qualified to perform consultant services to state municipalities. VHB was selected under all three categories, including Project Management, Design, and Construction services.

# David Saladino, PE, AICP

Principal-in-Charge

**Education**

BS, Civil & Environmental Engineering, University of Delaware, 1998

**Registrations/ Certifications**

Professional Engineer (Civil) VT, 2006

Professional Engineer (Civil) NH, 2005

American Institute of Certified Planners, 2015

**Affiliations/ Memberships**

Institute of Transportation Engineers, New Hampshire, President (2014-15), 2006

Institute of Transportation Engineers, Vermont, Board Member (2016-), 2015

American Council of Engineering Companies of Vermont (ACEC/VT), Secretary, 2016-

Town of Williston Development Review Board, 2016-

American Planning Association, 2015-

**Dave is the Managing Director of VHB's South Burlington. He has over twenty years of project management, transportation engineering, traffic engineering and transportation planning related experience in both the public and private sectors. Dave's recent project experience includes transportation corridor planning, traffic impact studies, parking studies, transportation microsimulation modeling, and design of intersections, roundabouts, roads, sidewalks, and traffic signals.**

*5 years with VHB and 23 years of professional experience*

**Burlington Town Center Traffic Impact Study, Burlington, VT**
Served as Project Manager for the Traffic Impact Study for the Burlington Town Center project in Burlington, Vermont. The Burlington Town Center project is a mixed-use town center in downtown Burlington that includes nearly 1 million square feet of parking, office, residential, and retail uses. Managed development of the Traffic Impact study, City and stakeholder coordination, permitting representation, parking and circulation review, and traffic signal design.

**Williston Road Network Transportation Study, South Burlington, VT**
Served as Project Manager for the Williston Road (US 2) Network Transportation Study which examined a twenty-year growth horizon for the Williston Road corridor in South Burlington to identify a package of transportation and land use recommendations that would encourage a more vibrant, walkable, and safe corridor in the future. The project involved significant outreach to abutting landowners and members of the public.

**South End City Market Traffic Impact Study, Burlington, VT**
Served as Project Manager for the Traffic Impact Study for the South End City Market project in Burlington, Vermont. The South End City Market is a new, 30,000 square foot grocery store proposed in the growing south end of Burlington, Vermont. Managed the development of the Traffic Impact study, City and stakeholder coordination, permitting representation, parking and circulation review, and traffic signal evaluation.

**Lake Champlain Marketplace, South Burlington, VT**
Served as Project Manager for the Traffic Impact Study for the redevelopment of the former Burlington Plaza on Shelburne Road in South Burlington. Managed the development of the Traffic Impact study, City and stakeholder coordination, permitting representation, and parking and circulation review.

**Winooski Transportation Master Plan, Winooski, VT**
Served as Project Manager for the development of a Transportation Master Plan for the City of Winooski, Vermont. The Master Plan was the culmination of significant, stakeholder outreach, planning and technical analysis, and coordination with City staff to develop an Action Plan for Winooski's transportation infrastructure.

**Retreat Farm Traffic Impact Study, Brattleboro, VT**
Served as Project Manager for the Traffic Impact Study for the Retreat Farm project in Brattleboro, Vermont, which includes a wide range of eco-tourist related uses on a campus setting along Vermont Route 30 in Brattleboro, Vermont Services provided

# William J. DeSantis, PE

Technical Advisor

**Education**

BS, Civil Engineering, Northeastern University, 1976

**Registrations/Certifications**

Professional Engineer, RI, 2019

League Cycling Instructor

OSHA 10-Hour Construction Safety and Health Certificate

**Affiliations/Memberships**

Florida Greenways & Trails Foundation, 2018

Institute of Transportation Engineers, 2012

League of American Bicyclists, 2006

National Committee on Uniform Traffic Control Devices, 2009

National Committee on Uniform Traffic Control Devices, 2009

National Committee on Uniform Traffic Control Devices, 2009

**Bill is VHB's Corporate Director of Bicycle Transportation Planning & Design and has overall technical responsibility for non-motorized and safety improvement projects ranging from local on-road bicycle networks to regional bicycle and pedestrian trails. He is also the corporate leader of VHB's Bicycle/Pedestrian and Transportation Enhancement practice. As technical advisor on numerous bicycle/pedestrian and enhancement projects in the eastern United States, he has an active role in the planning, design and construction of shared-use paths in 13 states. Bill is the Chair of the NCUTCD Bicycle Technical Committee, a member of the League of American Bicyclists, a League Cycling Instructor, a member of the Blackstone River Bikeway Patrol, and a bicycle commuter.**

*33 years with VHB and 43 years of professional experience*

### Burlington Bike Path Rehabilitation, Burlington, VT

Bill is providing technical assistance for the rehabilitation of a bike path located along Burlington's waterfront that has extraordinary views of Lake Champlain and the Adirondack Mountains. The 30-year-old bike path is a multi-use facility that is showing its age in terms of overall conditions and functionality. VHB is addressing primary areas of design concern, including path width, geometry, shoulder conditions, and sight distance. The rehabilitation also involves replacing worn or inadequate signs, fences, railings, road crossings, drainage features, and pavement.

### Binney Street Project, Cambridge, MA

Bill provided technical assistance for the planning, engineering, and permitting services for a 1.8 million-square-foot mixed-use development being constructed on six sites along a busy street in Cambridge that will be composed of 1,513,200 square feet of research and development space, 20,000 square feet of retail space, and 220 residential units. As part of this project VHB developed several street cross-sections, and these concepts evolved into a "complete street" design, defining the relationship between the planned land uses, sidewalks, off-street cycle track, buffer zones, landscaping, on-street parking, and roadway geometry to balance the mobility needs of pedestrians, bicycles, and vehicles. VHB was also involved in the planning process for individual buildings and worked closely with the individual building architects to provide guidance on site access, bicycle parking facilities, and loading locations to enhance mobility along the corridor.

### DDOT Bicycle Facilities Design and Traffic Analysis, Washington, DC

Bill is supporting the District Department of Transportation with the design, analysis, and implementation of bicycle facilities across the District. The team has completed conceptual traffic analysis for Pennsylvania Avenue NW and the final design of several miles of bicycle lanes. In addition to standard bike lanes, treatments designed for these facilities include buffered bike lanes, separated bike lanes, enhanced crossing treatments, bicycle signals, contra-flow bike lanes and associated signage, bike boxes, and two-stage turn boxes.

# Jennifer Conley, PE, PTOE

Project Manager

**Education**

BS, Civil Engineering, Rensselaer Polytechnic Institute, 1993

**Registrations/Certifications**

Professional Engineer VT

Professional Engineer MA

Professional Engineer NH

Professional Traffic Operations Engineer

**Affiliations/Memberships**

WTS International, Board Member, 1995 - present

**Jennifer is VHB's Director of Transportation Systems for Vermont. She has extensive transportation engineering experience having managed engineering design tasks for projects throughout New England including preparation of construction phasing and traffic management plans, traffic operational studies and design, and engineering design for traffic control devices and signalization. Incorporating all roadway users, Jennifer has designed Complete Streets throughout New England. She has also managed transportation master plans for municipalities and institutions and conducted corridor studies, including traffic engineering peer review services for municipalities throughout Massachusetts.**

*1 year with VHB and 25 years of professional experience*

**Scoping Study VT 67A at Silk Road, Rice Road and College Drive, Bennington, VT**
Jennifer served as Project Manager for this Scoping Study. In addition to development of concepts and typical engineering tasks, Jennifer was the face of the project to the public including coordination with Bennington College, a major stakeholder, and engaging the regional planning commission as well as area residents who were not pleased with recent modifications to the roadway network.

**Dudley Square Complete Streets Project, Boston, MA**
Jennifer was Project Manager for a team of professionals developing new plans for the renewal of this important business district. This work included an assessment of alternative circulation changes, particularly with regards to the 20 bus lines serving Dudley Station. Bicycle accommodation in the form of on-street bike lanes or a cycle track has been developed on all major streets within the Square. In addition, through the reallocation of right of way, pedestrian facilities were improved, and pedestrian crossing distances were shortened. A thorough traffic engineering evaluation was undertaken to ensure that the plan could accommodate the millions of square feet of growth anticipated in the district. This work was done prior to VHB.

**Shelburne Street (US 7) Corridor Study and Signal Retiming, Burlington, VT**
Working with CCRPC and the City of Burlington, Prior to joining VHB, Jennifer conducted a corridor study and prepared traffic signal timing plans for the Shelburne St corridor. In addition to developing optimal plans for progression in the corridor under existing conditions, she evaluated and developed plans for conditions with the Champlain Parkway in place. Work done prior to VHB.

**Adaptive Traffic Control System along Route 1, Wells, ME**
Prior to joining VHB, Jennifer was Project Manager for the fine tuning of the adaptive traffic signal system that included field inventory and inspection, revision of timing, before and after travel time studies, conducting Synchro analysis, review and analyze testing and verification results completed by the contractor, and preparing a technical report to summarize the system performance. The project's goal was to achieve improved mobility, achieve dynamic timing parameters (Cycle/Splits/Offsets) that address seasonal traffic fluctuations, and evaluate key performance measures (travel time, stops, and delay) because of traffic adaptive system implementation.

# Daniel M. Peck, PE

Senior Project Engineer

**Education**

BS, Civil Engineering, University of New Hampshire, 2000

**Registrations/Certifications**

Professional Engineer (Civil) VT, 2009

Professional Engineer (Civil) NH, 2008

**Dan, a civil engineer in VHB's Highway Department in South Burlington, Vermont, has experience in highway design projects involving hydrology, hydraulics, highway design, and sound wall design. He has a working knowledge of Microstation, as well as the hydraulic analysis programs HydroCad and StormCad.**

*19 years with VHB and 19 years of professional experience*

**Manchester Rail Trail, Manchester, VT**

Dan is the Project Manager for a feasibility study to evaluate alternatives for the conversion of approximately 1.5 miles of an abandoned railroad corridor to a multi-use path in Manchester, VT. The path would be an extension of the Town's existing multi-modal trail network and potentially provide an off-road connection between the Manchester schools and the neighboring Dorset schools. The study evaluated construction costs, potential phasing, resource impacts and permitting requirements.

**Bennington Pathway, Bennington, VT**

Dan is the Project Manager for the design of a multi-modal path connecting downtown Bennington to a park and elementary school. The path will be constructed within a railroad right-of-way and will include the rehabilitation of two existing railroad bridges.

**St. Albans Federal Street Multimodal Connector Project, St. Albans, VT**

Dan is the Senior Roadway Designer/Task Manager on this project for the City of St. Albans to provide permitting, design and construction services for a multimodal connector on Federal Street. This project includes 1.75 miles of roadway reconstruction, roadway widening, new roadway alignment, bridge replacement, utility relocations, new signalized intersections, railroad grade crossings, and extensive permitting and environmental analysis. Dan is providing roadway design, development of the plans, right-of-way coordination, utility coordination, quantities, and estimate.

**South Burlington City Center Urban Planning and Permitting, South Burlington, VT**

Dan was a project engineer for this project to create a pedestrian-oriented city center that will serve as a focal point of transportation and economic activity as well as provides a new identity for this municipality previously characterized by low density development. The project encompasses a new roadway system and a mixed program of commercial and residential use, Dan provided roadway design, development of plans, right-of-way coordination, and developed quantities and estimates.

**US 5/ VT 12 Hartland Three Corners Intersection Improvements, Hartland, VT**

Dan is the Project Manager for the final design of this intersection reconfiguration project in Hartland village. The project includes the development of alternatives and conceptual plans through the production of right-of-way plans, contract plans and construction engineering support. The project involves realignment of the Three Corners Intersection (Route 5, Route 12 Quechee Road). Dan is providing roadway design, public outreach, and utility coordination.

# Drew Gingras, PE

Bicycle/Pedestrian Engineering

**Education**

BS, Civil Engineering, The University of Vermont, 2011

**Registrations/Certifications**

Professional Engineer DC, 2017

**Affiliations/Memberships**

National Committee on Uniform Traffic Control Devices (NCUTCD), Bicycle Technical Committee Member

**Drew is a Project Engineer in VHB's South Burlington, VT office. As a Professional Engineer, he has experience in transportation projects that include bike/pedestrian planning and design, shared-use path design, planning and scoping studies, traffic operations analysis, traffic calming design, and PS&E streetscape design. His experience has involved work on projects predominantly focused on non-motorized transportation infrastructure.**

*9 years with VHB and 9 years of professional experience*

**Burlington Bike Path Rehabilitation Phases 1a and 1b, Burlington, VT**
As the Project/Resident Engineer, Drew provided conceptual design for the rehabilitation of the eight-mile-long Burlington Greenway, and final design for Phases 1a and 1b (totaling 1.5 miles in length), as well as the construction inspection services for project construction in a high-profile downtown area. The project involved incorporating urban and rural placemaking and planning, civil and structural engineering, geotechnical expertise, and environmental remediation, as well as innovative and intentional landscape architectural design. The goal of the project was to integrate conservation, sustainability, connectivity and accessibility along its entire eight miles; through neighborhoods, parks, urban wilds, and.

**Village of Essex Junction, Multiuse Path, Essex Junction, VT**
VHB was the engineer for the design and permitting of an approximately 1,200-foot-long "rail with trail" multi-use path through the Village of Essex Junction. Drew was the Project Engineer for this project with tasks that have included multi-use path design, intersection and signing/striping improvements, permitting, and right-of-way acquisition.

**Three Rivers Path Extension & Trailhead Center, St. Johnsbury, VT**
Drew served as the Project Engineer for this key trail project in the Town of St. Johnsbury. The Three Rivers Path will provide a crucial connection between the Lamoille Valley Rail Trail and the town center of St. Johnsbury through the construction of a 10-foot-wide shared use trail, and implementation of on-street "advisory bike lanes" along Bay Street. In the role of Project Engineer, Drew assisted with preliminary and final design phases for the drainage, signing and striping plans for on-street bike lanes, pathway drainage design, and contract document preparation.

**Burlington Bikeway Engineering Services, Burlington, VT**
Drew was the Project Engineer for a bicycle facility retrofit project in downtown Burlington, VT. The project expanded the network of permanent on-street bike facilities within the City and provided crucial connections between existing bike facilities and the Burlington Greenway. The proposed bicycle retrofit projects include innovative design elements including one-way and two-way separated bicycle lanes, cross-bikes, mixing zones, bicycle detection, and bicycle signalization.

**Lamoille Valley Rail Trail, Lamoille County, VT**
VHB provided the Vermont Association of Snow Travelers (VAST) environmental and engineering services on this Local Transportation Facilities project for a 93-mile trail through 17 communities and 3 counties over 88 bridges, and 500 culverts. Drew assisted with conceptual trail design, intersection design, and plan development.

# Jeff Bachiochi, PE

Project Engineer

**Education**

MS, Civil Engineering, Northeastern University, 2016

BS, Civil Engineering, Northeastern University, 2012

**Registrations/Certifications**

Professional Engineer (Civil Engineer) MA, 2017

**Jeff is a Civil Engineer in VHB's South Burlington, Vermont, office with extensive experience working on transportation and infrastructure projects, including urban roadways, highways, bridge approaches, rail & intermodal stations, traffic signals, and pedestrian/bicycle facilities. He is proficient in both MicroStation (InRoads) and AutoCAD Civil 3D for roadway & utility modeling and plan production, and has experience creating specifications, estimates, and bidding documents for state, municipal, and privately funded infrastructure projects. Jeff has performed construction administration services for various types of contract delivery methods including Design-Build, CM/GC, and Public-Private-Partnership projects. As a project engineer, Jeff is responsible for producing plans and specifications that are technically sound, coordinated, and constructible.**

*3 years with VHB and 8 years of professional experience*

**Beaver Pond Shared Use Path, Proctor, VT**

Jeff is the Project Manager and lead engineer for the design of a new shared use path in Proctor, VT. The Town of Proctor has acquired a Bicycle & Pedestrian Grant, administered by the Vtrans Municipal Assistance Bureau (MAB), and has engaged VHB to design and permit the project through the MAB process. The new path, to be used by both pedestrians and bicyclists, will connect recreational areas at Beaver Pond to the town green on Main Street by utilizing an abandoned rail corridor.

**Crossett Hill Road Slope Stabilization, Duxbury, VT**

Jeff was the Project Engineer for the Crossett Hill Road Slope Stabilization project in Duxbury, VT. Utilizing FEMA disaster funds, the Town of Duxbury engaged with the team of VHB and Golder Associates to design a repair for the failed embankment supporting Crossett Hill Road above the Crossett Brook streambank. With geotechnical guidance from Golder Associates, VHB designed the new roadway embankment including the layout of stone fill slopes, ditches, curtain drains, and guardrail for approximately 300' of gravel roadway, and well as temporary construction access roads. VHB also assisted in acquiring the necessary permits (DEC Stream Alteration, USACE), assisted the town in negotiating with private landowners, prepared Contract Documents, and will perform inspection services during construction.

**Winooski Main Street Reconstruction Project, Winooski, VT**

Jeff is a Project Engineer for the reconstruction of Main Street (US-7) in Winooski, VT. This multi-disciplinary project incorporates roadway, sidewalk, bicycle, and streetscape improvements, as well as undergrounding aerial utilities, along this principal arterial and major economic corridor within the city. VHB has supported the City of Winooski to acquire various funding sources to design and construct the project. Jeff's roles on the project have included refining intersection geometry; coordinating traffic signal improvements with VTrans (for the Exit 16 DDI project) and the Winooski High School; refining pavement markings and signage for all modes (motorists, pedestrians, bicyclists, and transit users); and developing solutions for underground utility conflicts.

# Branden Roberts, EI

Transportation Designer

**Education**

BS, Civil Engineering, Wentworth Institute of Technology, 2014

**Registrations/Certifications**

Engineering Intern - VT, 2019

**Branden is a Transportation Designer, with experience in roadway design and landfill design, as well as field inspection experience with construction materials like concrete, soil and asphalt. He has performed many tasks including horizontal and vertical alignment design, roadway modeling and cross section development, guardrail design, open flow and closed drainage design including watershed delineation, and quantities. He has experience in performing the above tasks by hand and utilizing computer aided programs such as MicroStation, Inroads, AutoCAD Civil3D and StormCAD.**

*5 years with VHB and 6 years of professional experience*

**Burlington Bike Path Rehabilitation, Phases 2 and 3, Burlington, VT**
Braden was the lead designer for the rehabilitation of bike path located along Burlington's waterfront that has extraordinary views of Lake Champlain and the Adirondack Mountains. The 30-year-old bike path is a multi-use facility that supports alternative transportation, recreation, and active lifestyles; attracts visitors to the City of Burlington and stimulates the local economy; and enhances the overall quality of life. Design services included path widening, replacement of the pavement and subbase, intersection improvements, and the addition of stormwater treatment facilities.

**Lamoille Valley Rail Trail Phase 1C, Swanton to Sheldon, VT**
Branden was a design consultant for this 11.6-mile snowmobile/multi-use trail reconstruction from Swanton to Sheldon. This project on an abandoned rail road corridor involved trail widening, drainage reconstructions, major timber cutting/trimming, signing improvements, bridge improvements, private access restriction and full depth reconstruction of the entire trail. Task include design of the project from preliminary plans through full contract plans.

**Railroad Street Bike/Pedestrian Facilities, St. Johnsbury, VT**
Branden was a design consultant for this project that involved restriping with improved bike/ped facilities from the LVRT trail head to down town St. Johnsbury. Tasks included striping and signing improvements, a lane reduction on Route 5, minor median and curb reconfigurations and sidewalk improvements.

**East Main Street Sidewalk Reconstruction, Wilmington, VT**
Design consultant for this project that included sidewalk reconstruction/redesign from conceptual plans and through ROW, and most recently utility adjustments. Tasks included design of the new/reconstruction of sidewalk throughout the corridor, three new retaining walls to be constructed adjacent to the sidewalk and signing/crosswalk improvements along the corridor, as well as ROW plans and tables for this project.

**Lake Street Connection, St. Albans, VT**
Design consultant for this project to provide engineering services, streetscape design and necessary infrastructure improvements on Lake Street between Main Street and Federal Street in accordance with the City's 2009 Downtown Master Plan. Branden's duties included design modifications, work zone traffic control plans, and quantities.

# Karen Sentoff, EIT

Transportation Consultant

**Education**

MS, Civil/Environmental Eng, University of Vermont, 2012

BS, Civil/Environmental Eng, University of Vermont, 2008

**Registrations/Certifications**

Engineer in Training, VT, 2008

**Karen joined the VHB team after spending time as a transportation researcher and analyst at the University of Vermont Transportation Research Center. Her studies in civil and environmental engineering and her professional experience in transportation provide a versatile set of skills to the Transportation Systems team. Karen gets most excited about new and novel methods of multimodal transportation data collection, analysis, and modeling. She works to apply those interests to real-world problems tackled by the team at VHB.**

*1 year with VHB and 9 years of professional experience*

**CCRPC I-89 2050 Study**

The Chittenden County I-89 2050 Study is a critical undertaking for the CCRPC and VTrans, as well as a very exciting opportunity for Vermont and New England travelers. The study focuses on providing accessible, safe, efficient, resilient, and interconnected mobility choices along the I-89 corridor for our region's businesses, residents, and visitors as well as auto and freight traffic. Karen is integral to the modeling effort that will forecast the evolving needs of the transportation corridor out to 2050 and evaluate alternative projects and strategies based on the public and stakeholder vision for the corridor. This effort includes coordination with stakeholders from transportation operations management systems, emergency management and incident response, asset management, environmental and natural resources, local municipalities, freight operators, employers, and the general public.

**VTrans US-7 Old Hollow Road Scoping Study, Ferrisburgh, VT**

VHB was requested by VTrans to provide planning, stakeholder outreach, and engineering services to prepare a Scoping Study for the intersection of US 7/Old Hollow Road/Stage Road in Ferrisburgh. Karen was integral in delivering a design alternative to the state that improves accommodations and safety for all users of the intersection.

**VTrans Model Inventory**

In an effort to implement AASHTOWare's SafetyAnalyst, calibrate the Highway Safety Manual predictive models for rural two-lane highway intersections, and comply with the Highway Safety Improvement Program final rules, VTrans required a more comprehensive database of all intersections on State and Federal Aid Highways. The fundamental data elements required for these processes were extracted from existing data resources through geoprocessing techniques. Karen helped to establish the quality assurance and quality control processes for checking the geoprocessed intersection inventory data and assisted in the QA/QC effort.

**VTrans Rail Crossing Upgrades, Ferrisburgh & Charlotte, VT**

The expansion of Amtrak's Ethan Allen Express service between Rutland and Burlington requires significant upgrades along the existing rail corridor. VHB is providing design services for signal upgrades at four highway-rail crossings at Thomas Point Road, Long Point Road, Little Chicago Road, and Monkton Road. Combining the four signal upgrade projects into single design and construction contracts is viewed as a strategic cost saving measure for the Agency. Karen helped to generate the traffic management plans for the construction period at each of the four highway-rail crossings.

# Cierra Ford, EIT

Transportation Designer

**Education**

BS, Civil Engineering, Worcester Polytechnic Institute, 2018

**Registrations/Certifications**

Engineer-in-Training, 2018

**Cierra is a Transportation Designer in VHB's Vermont office, with experience in scoping and design, construction inspection, and developing plans. Cierra's services include drafting preliminary and final design plans using MicroStation and AutoCAD software and assisting senior project managers and engineers to complete design calculations for civil and structural projects.**

*2 years with VHB and 2 years of professional experience*

**Town of Stowe, Village Sidewalk and Utility Relocation Project**

Cierra worked as a designer, assisting with the development of plans, details, quantity estimates and construction cost estimates. The project includes replacing and widening 7,300 linear feet of sidewalk, replacement of street lights, addition of landscaping and plaza areas, and relocating overhead utilities to underground positions. The project also includes concrete slab removal and full-depth pavement replacement of 2,000 linear feet of South Main Street.

**Town of Castleton Route 4A Sidewalk Construction Inspection**

Cierra assisted with construction inspection services for this project that consists of approximately 3,800 linear feet of concrete sidewalk along the north side of VT Route 4A. Project also included catch basins, stormwater piping, bituminous concrete driveway ramps, topsoil placement and seeding. Duties included monitoring site safety and EPSC measures, providing engineering field support and providing clarifications to the contractor and Town, reviewing submittals, certifications, and preparing change orders, maintaining project records such as daily work reports, submittals and material certifications, material testing and inspection reports, payroll certifications and wage rate interview forms.

**Three Rivers Path, St. Johnsbury, VT**

Cierra is serving as the project engineer for the preliminary and final design of a multimodal path in St. Johnsbury, VT. The project consists of on-road bike lanes as well as an off-road aggregate path, abutting several Class III wetlands. Cierra was responsible for the project design as well as coordinating with the architect for the design of a pavilion at the path's trailhead.

**Burlington Bike Path Rehabilitation, Phase 3, Burlington, VT**

VHB is providing design and permitting services for the third phase of the Burlington Bike Path Rehabilitation from Queen City Park Road to Perkins Pier. The project involves incorporating urban and rural placemaking and planning, civil and structural engineering, geotechnical expertise, environmental remediation, and innovative and intentional landscape architectural design. The goal of this project is to integrate conservation, sustainability, connectivity, and accessibility along its route through neighborhoods, parks, urban wilds, and waterfront property. Cierra is assisting with the final design and plan development for this project.

# Ian Maerki

Design Technician

**Education**

BS, Civil Engineering, University of Vermont, 2019

**Registrations/Certifications**

Engineer-In-Training (Civil) 2019

**Affiliations/Memberships**

Vermont Society of Engineers

**Ian is a Transportation Designer on the Transportation Engineering team in VHB's South Burlington office. He has experience in traffic data acquisition and analysis, as well as inspection of existing roadway facilities such as pavement and stormwater infrastructure. His work in these areas is achieved through his use of Microstation, ArcGIS, AutoCAD, and Civil3D.**

*1 with VHB and 1 year of professional experience*

### VT 116/CVU Road Intersection Hinesburg, VT

Ian is a Transportation Designer for this project consisting of improvements to the intersection of VT Route 116 in Hinesburg, Shelburne Falls Road, and CVU Road. The project includes the rehabilitation and full depth widening of the three roads with new pavement and subbase, and other highway related improvements such as drainage, guardrail, culverts, and traffic signals.

### Main Street Revitalization, Winooski, VT

Ian is a Transportation Designer for this project to reconstruct US-2 in Winooski, Vermont. This project includes new roadway features, sewer and stormwater infrastructure, utility relocation, new signage and pavement markings, and streetscape enhancements.

### Burlington Amtrak Station, Burlington, VT

Ian is a Transportation Designer for this project to add an Amtrak siding track to the railway in Burlington, Vermont between King Street and College Street. This project includes the rehabilitation of the existing mainline track, the addition of a new rail line, and the addition of a low-level pedestrian platform. This project will also include the replacement of two existing at-level grade crossings on King Street and College Street. The crossing replacements will include associated track work, rehabilitation of existing drainage affected by the crossing, and crossing signal work.

### I-89 Exit 17 Bridge Replacement, Colchester, VT

Ian is a Transportation Designer for this major transportation infrastructure project to reconstruct Interstate 89 Exit 17 in Colchester, Vermont. The project will address current safety concerns at the interchange and replace the structurally deficient bridge over the interstate. In addition, the project includes new ramp construction, ramp relocation, roadway widening, reconstruction of three signalized intersections, bicycle and pedestrian accommodations, and stormwater treatment.

### Chittenden County Regional Planning Commission, Winooski, VT

Prior to joining VHB, Ian was an Intern with Chittenden County Regional Planning Commission. He collected and interpreted traffic-related data, using resources such as Automated Traffic Recorders and Turning Movement Counters. Ian also performed pavement inspections and managed PAVER™ inventories for towns in Chittenden County, utilizing the software's work planning tools to create maintenance and repair plans for inventoried towns.

## Ian Maerki

Design Technician

**Lindy Manpower, Lindenhurst, NY**

Prior to joining VHB, Ian was a Volunteer with Lindy Manpower, where he assisted in demolition of home interiors destroyed by Super Storm Sandy.

# Brad Ketterling

Senior Environmental Scientist

**Education**

MS, Physical Geography, University of Western Ontario, 1995

BS, Geography, Concordia University, 1992

**Brad has worked as an environmental scientist for close to two decades, specifically in the fields of wetland mitigation site feasibility and design, stream assessment, watershed planning, state and federal permitting, and NEPA compliance. Brad helps clients navigate complex regulatory requirements and achieve successful results by identifying and assessing natural and cultural resource issues and constraints and developing strategies to obtain authorizations that are in the best interest of the client and the environment. Brad has managed projects for a variety of private and public sector clients, including the National Park Service, the Department of Defense, the Vermont Agency of Transportation, the Vermont Telecommunications Authority, the Maryland Aviation Authority, Green Mountain Railroad Company, the City of Burlington, Vermont, and James City and Arlington Counties in Virginia.**

*17 years at VHB and 24 years of professional experience*

**Contract Manager, General Environmental Services and Natural Resource Services 2019 Retainer Contracts, Vermont Agency of Transportation**

Brad is the Project Manager for the General Environmental Services & Natural Resource Services 2019 retainer contracts. Responsibilities include responding to work order requests, assigning tasks to VHB's environmental staff members, reviewing work products for quality control/quality assurance, providing technical and strategic support, and ensuring VTrans goals and expectations are met. Assignments under the two contracts have ranged from comprehensive natural resource inventories for roadway improvement projects to specialized bat acoustic surveys for bridge repair or replacement projects. Brad also oversees the preparation of a variety of state and federal regulatory permit applications.

**Burlington Bike Path Rehabilitation, Burlington, VT**

Brad assisted with various permitting activities associated with the proposed rehabilitation of the Burlington Bike Path, including: coordinating the process of infiltration testing to support the use of a driveable grass pavement system in Waterfront Park; coordinating with Department of Public Works Stormwater Program Manager to discuss potential stormwater treatment approaches; permit applications for Construction and Operational Phase Permits from the DEC Stormwater Section; preparation of city permit applications (Zoning Permit and Small Project EPSC Plan); and coordination with Senior Planner at Department of Planning and Zoning. He also performed a shoreline assessment of the Urban Reserve to assess areas in potential need of stabilization to ensure resiliency of the future bike path alignment along the lakeshore.

**St. Albans Federal Street Multimodal Connector Project, St. Albans, VT**

Brad was Task Manager for National Environmental Policy Act (NEPA) compliance for the proposed Federal Street Multimodal Connector Project. He was the lead author of the Environmental Assessment (EA) and was responsible for outreach to and direct coordination with state and federal regulatory agencies, including the Federal Highway Administration's (FHWA) Environmental Program Manager and the Vermont Agency of Transportation's (VTrans) Historic Preservation and Archaeology Officers. Brad

# Kaitlin O'Shea

Historic/Cultural Resources

**Education**

MS, Historic Preservation, University of Vermont, 2011

BA, Historic Preservation, University of Mary Washington, 2006

**Affiliations/Memberships**

Advisor, National Trust for Historic Preservation

President, UVM Historic Preservation Alumni Association

**A historic preservationist by education, avocation, and profession with a strong background in and understanding of preservation principles and practices. Kaitlin provides expertise in regulatory process and compliance, particularly Section 106 review and Section 4(f) evaluations, as well as historic documentation and historic resource identification. From national and statewide conference presentations to public meetings, she is skilled in stakeholder interaction and communication. Kaitlin meets the Secretary of the Interior's Professional Qualification Standards for an Architectural Historian and a Historian (36 CFR 61).**

*5 years with VHB and 13 years of professional experience*

**Middlebury Bridge and Rail Project, Middlebury, VT**

Kaitlin assisted with the design for the proposed replacement of two 93-year-old bridges over the Vermont Railway track in Downtown Middlebury under an aggressive schedule using Vermont's first Construction Manager/General Contractor (CMGC) project delivery system. As part of Section 106 mitigation measures, Kaitlin assisted in drafting the *Guidelines for Preparing a Historic Structures Monitoring Plan*. Kaitlin worked on the Environmental Assessment, participated in public meetings, and revised the Section 106 memo and the Section 4(f) documents.

**VTrans Historic Preservation Services On-Call Authorization, Vermont**

As part of the General Environmental Services Contract #PS0448 between VTrans and VHB, an on-call authorization was established to provide various Historic Preservation Services, enabling VHB to complete work for the VTrans Historic Preservation Officer as needed. Under this authorization, Kaitlin has completed reviews and documentation for Section 106 reviews and Section 4(f) evaluations as well as mitigation projects. Kaitlin drew upon her past experience as a VTrans Historic Preservation Specialist to craft efficient yet effective documents in accordance with VTrans' expectations.

**Winooski Main Street Revitalization Project Historic Resources Survey**

On behalf of the City of Winooski, Kaitlin completed a historic resources report to satisfy the review requirements for Section 106 of the National Historic Preservation Act. The scope of work involved survey of 84 properties within the project corridor. The survey results were detailed in tabular format and included the address, a brief description of each property, approximate date of construction, evaluation of integrity and recommended determination of eligibility. Each property was photographed and keyed to the table. The report was submitted to the VDHP.

**Various Projects, University of Vermont, Burlington, VT**

Under contract with the University of Vermont, Kaitlin has completed a Historic Resource Documentation Package for 439 College Street, and has assisted UVM Campus Planning with preservation regulatory guidance and requested documentation on the Ira Allen Chapel and the Pierce-Spaulding House projects. VHB is currently under contract to complete the Determination of Effect letter for Act 250 for the UVM Music Recital Hall building.

# Ryan Cloutier, LS

Right of Way; Survey

**Education**

BS, Mathematics, Saint Michael's College, 1998

**Registrations/Certifications**

Licensed Surveyor VT, 2007

**Presentations**

'Making Right-of-Way Accessible' for FHWA's GIS in Transportation Webcast

Presenter at GIS-T and ESRI UC on Making Right of way Accessible

**Awards**

2017 State of Vermont Public Service Recognition - Team Honoree, Business Process Management/Right of way Team

**Ryan is a Survey Manager in the VHB's growing South Burlington, Vermont office, with close to 20 years of professional experience. He provides overall program management for the Vermont office's survey team and expands the suite of survey services offered to state, municipal, and private sector clients. Ryan serves clients' survey needs through the full project lifecycle from initial planning and research, to right of way, utility and boundary survey, through final design, construction, as-built and ALTA survey. He has in-depth experience on both the public and private sectors having held senior positions at the Vermont Agency of Transportation and with private consulting firms throughout New England.**

*2 years with VHB and 21 years of professional experience*

**Vermont Agency of Transportation (VTrans), Survey Services On-Call, Statewide**
Ryan is the Project Manager for the VTrans $1.5M Survey Services On-Call contract. Ryan's responsibilities include the full project management lifecycle, from initiation through project closeout. Ryan works closely with VTrans to scope projects, assign the appropriate resources, mitigate risks, and deliver the projects on schedule and within budget. For the US 7–Shelburne Road Traffic signal project, Ryan passed on traditional survey collection methods in favor of a UAV. The use of a UAV not only saved time and money, but it kept the field crew out of one of Vermont's busiest roads. Other projects utilizing remote sensing technology include Rockingham Ledge scan along I91; 3 miles of the Colchester Causeway connecting Colchester to South Hero, VT; and the Hartland, VT I91 bridge replacement project.

**Middlebury Bridge and Tunnel Project, Middlebury, VT**
Ryan is the Survey Manager for the replacement of two nearly 100-year-old rail bridges and the construction of a 360-foot tunnel in the center of Middlebury, Vermont. Ryan provided support for the development of right of way plans and title work for the acquisition of real property.

**VTrans / VT 116 / Hinesburg Highway/Roadway Design, Hinesburg VT**
Ryan is the Survey Manager for the CVU road, VT 116, and Shelburne Falls road intersection improvement project covering approximately 1 mile of roadway. Ryan provides on-going support for the development of right of way plans and titles work for the acquisition of real property.

**St. Johnsbury Railroad Street Bicycle and Pedestrian Improvements, St. Johnsbury, VT**
Ryan is the Survey Manager for the St. Johnsbury Railroad Street Bike/Ped project to construct a road diet, bicycle lanes, pedestrian crossing with RRFB's, landscaping and associated work on South Main Street and Railroad Street. Ryan's services included the research and retracement of 3000 linear feet of railroad and limited access right of way.

**Williston Stormwater Retrofits, Williston, VT**
Ryan is the survey manager for the development of storm water retrofits along two and one-half miles of the I89 corridor in Williston, VT. To meet the projects aggressive schedule and budget VHB deployed UAV to collect high resolution imagery and a

# Scott Burbank, PE

Structures

**Education**

BS, Civil Engineering, Worchester Polytechnic Institute, 1993

**Registrations/Certifications**

Professional Engineer (Structural I) VT, 2000

**Scott is Director of Structures in VHB's South Burlington office with extensive experience in planning, design and construction of both highway and railroad bridges. His qualifications also include services for accelerated bridge construction (ABC), quality assurance, construction cost estimating and engineering services, and inspections of both railroad and highway bridges.**

*10 years with VHB and 25 years of professional experience*

**VTrans Project Administrator**

Scott has been working as a Project Administrator managing design consultants for the Municipal Assistance Bureau (MAB) on multiple park and ride projects over the last six years completing two park and ride project expansions in Springfield and Bradford, and a new park and ride in Colchester. Scott is currently managing the Williston and Berlin Exit 7 Park and Ride projects for the MAB..

**Brattleboro Town Highway Bridge #7, Brattleboro, VT**

Scott was the Project Manager for the complete replacement of Town Highway Bridge No. 7 over Halladay Brook in Brattleboro VT. This project included project scoping, environmental resource documentation, regulatory permitting, hydraulics analysis, structural design and construction cost estimating throughout the development of the project.

**Guilford Town Highway Bridge #65, Guilford, VT**

Scott was the Project Manager for the complete replacement of Town Highway Bridge No. 65 over Hinesburgh Brook in Guilford, VT. This project included project scoping, environmental resource documentation, regulatory permitting, hydraulics analysis, structural design and construction cost estimating for rapid bridge construction techniques. Accelerated bridge construction elements were used to minimize the roadway closure period during construction.

**USDA, Green Mountain National Forest IDIQ, Vermont**

Scott provided structural engineering support for bridges, culverts, embankments, and other structures when the United States Department of Agriculture (USDA) Forest Service retained VHB to provide surveying and civil and structural engineering services for a multi-year Indefinite Delivery/Indefinite Quantity (IDIQ) contract to support activities in the Green Mountain and Finger Lakes National Forests in Vermont and New York. VHB's services included civil and structural engineering for bridges, culverts, embankments, roads, and other structures.

**VTrans ER BRF 0162(18) and Rochester, ER STP 0162(19), VT**

Scott was the Project Manager for the complete replacement of two state bridges on VT 73 over Brandon Brook and the White River. Both bridges were destroyed during Tropical Storm Irene. These projects included project scoping, environmental resource documentation, regulatory permitting, hydraulics analysis, structural design and construction cost estimating for VTrans first multiple bridge replacement projects on a single corridor within one Town.

# Robert Wildey, PE, CPESC

Hydrologic and Hydraulic Studies

**Education**

MS, Civil Engineering, University of New Hampshire, 2006

BS, Environmental Sciences, University of South Florida, 1997

**Registrations/Certifications**

Professional Engineer, VT, 2020

CPESC, 2009

**Affiliations/Memberships**

American Society of Civil Engineers, 2019

American Water Resources Association, 2006

**Robert is Water Resources Engineer with VHB's Environmental Services Group where he has worked on a variety of water and stormwater-related projects for both public and private-sector clients. His key focus is the interface between natural streams and the built environment, from bridges and culverts that carry transportation infrastructure to stormwater treatment practices that manage runoff from impervious areas and convey flows to surface waters. Robert is experienced with environmental permitting related to wetlands and other water resources at the local, state, and federal levels on projects as diverse as residential developments, retail shopping centers, renewable energy facilities, highway and rail projects, and utility corridors.**

*14 years with VHB and 17 years of professional experience*

### VTrans / Colchester NH 028-1(31) Exit 17, Colchester , VT

As part of VHB's interdisciplinary team, Robert oversaw the development of the Individual Construction Stormwater (INDC) permit application for this major interchange improvement project. The project includes roadway realignment, new bridge construction, new off-ramps, and slip lanes along Interstate 89, along with state and federal wetland permitting and Act 250 coordination.

### VTrans / Georgia Culverts, Georgia, VT

Robert conducted a field investigation of existing conditions and performed hydrologic and hydraulic analysis for the proposed replacement of a perennial stream culvert crossing Interstate 89 in Georgia, Vermont.

### VTrans / Killington-Stockbridge, Killington, VT

As part of a 10.5-mile roadway improvement project, Robert was part of a team that developed a rapid hydrologic and hydraulic assessment tool to quickly evaluate over 100 culverts within the project area. This evaluation was used to identify which structures needed to be upgraded for hydraulic capacity. Once structures were identified, Robert worked with the structural design team to ensure that the new culverts met the VT DEC criteria for passing perennial streams.

### Middlebury Main Street and Merchants Row Bridges, Middlebury, Vermont

As part of a major bridge replacement project for the Town of Middlebury, VHB designed a tunnel that will replace two sub-standard bridges, reconnect town parks, and ultimately allow for double-stack rail clearance. Because a portion of the project is adjacent to Otter Creek, potential floodplain and river corridor impacts were required to be evaluated. Of particular interest was the temporary road that will be constructed partially within the Otter Creek floodplain to provide access to the work area and buildings during the construction process. Robert developed the responses to the regulatory criteria and coordinated with Vermont DEC River Management Engineers and Floodplain Coordinators to ensure that the Project could be permitted and constructed.

# Mark Hamelin, PLA, CLARB Certified

Director of Landscape Architecture/Land Planning

**Education**

MLA, Master in Landscape Architecture, Harvard University Graduate School of Design, 1981

BS, Recreation Resource Management, University of Vermont, 1978

**Registrations**

PLA - VT, NH, ME, NY, PA, CO

CLARB - Council of Landscape Architectural Registration Boards - Certification #33827

**Affiliations/Memberships**

American Society of Landscape Architects

American Planning Association

**Deriving inspiration from the physical and contextual nature of the site, Mark has the ability to quickly grasp a projects vision to create simple, yet elegant solutions to highly complex land planning problems. He brings more than 35 years of professional landscape architecture, land planning, and urban design experience on a wide range of public and private sector projects across Vermont, throughout the country and internationally. Mark's work has been recognized by his peers with 20 professional design/planning awards. Notable accomplishments include Burlington's Waterfront Park, the recently completed Waterbury State Office Complex, and the Spruce Peak Master Plan at Stowe Mountain Resort.**

*4 years with VHB and 39 years of professional experience*

**Warren Village Main Street Improvement Project - Warren, Vermont**

The VHB Team is proud to have been to contracted to assist the Town of Warren with the transformation of its Village Center into a pedestrian friendly space for all users. A first of its kind project in a small Vermont village, the plan features efficient use of vehicular space to create pedestrian nodes and safe circulation, reduces vehicular traffic speed and integrates state of the art storm water practices into the village streetscape. As project manager and lead designer Mark is instrumental in bringing together the divergent interests, both public and private, to achieve a successful design embraced by the community.

**Downtown Core Master Plan, St. Albans, VT**

As lead designer Mark was an integral member of the design team and visioning process for the Downtown Core Master Plan for the historic city block in St. Albans. The master plan included prioritizing development sites within the underutilized core block that would eventually see these priority sites turn into a new VT State Office Building, Downtown Hotel and new multi-level parking garage. With previous employer.

**Burlington Waterfront Park and Promenade, Burlington, Vermont**

Located on the shore of Lake Champlain with views of the high peaks of the Adirondacks in the background, the former railroad yard and brown field site now serves host to Burlington's community wide events. As Lead Designer, Mark was responsible for public participation, lead design and permitting of Burlington's premiere urban waterfront park. With previous employer.

**North Beach Campground Master Plan - Burlington, Vermont**

Working with the City of Burlington Parks, Recreation, and Waterfront (BPRW), Mark was lead designer for the North Beach Campground Master Plan. The Campground is integrally connected to the Burlington Bike Path and North Beach, the largest beach in the BPRW system and is an iconic part of Burlington and the Lake Champlain shoreline. The master planning effort seeks to provide integrated storm water solutions, a diversity of camping opportunities: ranging from full hook up RV sites to tent sites and the separation of day use beach traffic from camping areas.

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# Michael Willard, LEED AP, ASLA

Landscape Architect/Streetscape Design

**Education**

Architecture, Vermont Technical College, 1992

**Registrations**

Registered Landscape Architect: State of Vermont #125-0077688

LEED Accredited Professional

**Affiliations/Memberships**

American Society of Landscape Architects, Vermont Chapter

Vermont Green Infrastructure Roundtable

**Design Awards**

2017 Vermont ASLA Public Space Award – Honor Award: Spruce Peak Village Center

2014 Vermont ASLA Public Space Award – Merit Award: South Burlington City Center - Market Street

2013 Vermont ASLA Public Space Award – Honor Award: St. Albans Main Street Streetscape

2013 Vermont ASLA Public Space Award – Merit Award: University of Vermont – James M. Jeffords Hall Plant and Soil Science Building Landscape

2013 Vermont ASLA Public Space Award – Honorable Mention: Norwich University Outdoor Recreation Center

**With over two decades of professional experience, Mike has an extensive portfolio of landscape architectural projects which includes master planning, commercial development, multifamily housing, residential projects, government facilities, streetscapes, parks, transportation, healthcare, institutional, innovative storm water, hotels and resorts. In addition to Mike's strong design capabilities, he has a broad range of technical skills on all aspects of construction and implementation and in-depth knowledge of construction materials and methods.**

*24 years of professional experience*

### St Albans Main Street, Lake Street, Hudson-to-Hoyt, and Kingman Streetscape Projects, St. Albans, VT

Michael was responsible for designing and managing the landscape architecture project elements, helping to create a new streetscape for the City. Michael helped facilitate an extensive public review process, working with city staff, local residents and business owners to develop a streetscape design that has consensus for the future vision for the City's downtown. These projects were centered around the heart of downtown St. Albans. Design program elements included innovative urban storm water techniques, outdoor gathering areas, gateways, street trees, and ornamental street lighting. Highly successful, these streetscape projects are regarded as a key to the revitalization of the downtown.

### South Burlington City Center/Market Street, South Burlington, VT

As project manager, Michael worked closely with the City and design team to develop an award-winning streetscape design. Market Street was designed as one continuous "Main Street" with three distinct design styles that seamlessly link together. These design styles respond to the City's new Form Based Code zoning. The streetscape design incorporated innovative stormwater design, pedestrian connectivity to neighboring recreation assets, a multi-use path, and outdoor café and sitting areas.

### College Street Waterfront Access, Burlington, VT

Michael assisted the City of Burlington to help strengthen the City's most valued asset, its waterfront. This project consisted of redesigning lower College Street to incorporate innovative storm water gardens, transit stops, public parking and public bathroom facilities, outdoor gathering spaces, street trees and street lighting. This streetscape serves as the entrance to the Waterfront Park and Echo Center.

### Waterfront North Access: Streetscape/Bike Path/Skate Park, Burlington, VT

As project manager, he worked with the City of Burlington to create a vision for the vacant Moran Power Generating facility, turning it into a vibrant, mixed-use activity center. Amenities for the project included a new bike path and pedestrian promenade, skate park and integrated Community Sailing Center. In consideration of the project's environmentally sensitive waterfront location and past industrial use, extra care was given to integrate environmental remediation and innovate storm water design. This project includes a series of gravel wetlands to help significantly reduce nutrient levels in the storm water that enters Lake Champlain. Through anaerobic process and natural update of phosphorus by the native plant material this innovative design significantly improves the storm water treatment beyond State requirements.

**Newport Waterfront and Downtown Master Plan, Newport, VT**

As project manager, Michael was an integral member of the design team and visioning process for the Waterfront and Downtown Master Plan for the historic City of Newport. The master plan developed by VHB identifies opportunities, public facilities, infrastructure improvements, land uses, and other physical enhancements that will generate increased activity, excitement, and economic vitality in downtown Newport.

**Downtown Core Master Plan, St. Albans, VT**

As project manager, Michael was an integral member of the design team and visioning process for the Downtown Core Master Plan for the historic city block in St. Albans. The master plan included prioritizing development sites within the underutilized core block that would eventually see these priority sites turn into a new VT State Office Building, Downtown Hotel and new multi-level parking garage.

**Church Street Marketplace-Block One, Burlington, VT**

As project manager, Michael was responsible for leading the design team to develop the site design, permitting and construction documentation. Phase One of this project was to provide design direction on streetscape improvements for the existing three pedestrian mall blocks. Some of these improvements included handicap access to merchants, installing new street trees, fixing general repairs and removing trip hazards. This project also included creating a new venue space in front of the downtown mall by developing a paving pattern to define the space. Phase Two of this project will extend the Marketplace one city block by eliminating vehicular traffic and continuing the pedestrian mall. Upon completion, this project will enhance and strengthen the famous "Outdoor Pedestrian Mall" that was originally created in 1981.

**Spruce Peak at Stowe - Stowe Mountain Resort: Adventure Center/Stowe Mountain Lodge and Spa/Performing Arts Center/Spruce Camp Base Lodge/Spruce Peak Village Center, Stowe, VT**

As the project's lead landscape architect, Michael has been an integral part of this development since the inception of Spruce Peak at Stowe in 2003, providing site planning, design and construction administration, as well as primary coordination between all members of this complex project's design and implementation team.

The Spruce Peak at Stowe development marks the renaissance of Stowe Mountain Resort, providing long anticipated mountain and facility upgrades, on-mountain accommodations and four-season attractions to the well-known ski destination.

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# Rose O'Brien

**Rose is a recent Civil Engineering graduate with experience including field surveying and assessments, assisting in developing quantity and cost estimates, developing construction plan sets, performing traffic counts, and developing roadway designs. She has experience in performing the above tasks by hand and utilizing computer aided programs such as MicroStation, Inroads, AutoCAD, Civil3D and Excel.**

**Education**

BS, Environmental Engineering, University of Vermont, 2021

*Civil Engineering Designer*

**Lamoille Valley Rail Trail, Swanton to St. Johnsbury, VT**
Rose assisted in conducting field surveys to assess the existing condition of culverts, crossings, and other trail features along the Lamoille Valley Rail Trail from Swanton, VT to St. Johnsbury, VT. She assisted in generating construction quantities and developing a construction plan set, including traffic sign summaries, structural details, right-of-way plans and roadway crossing details.

**Williamstown-Northfield Park & Ride, VT**
Rose assisted with editing construction plans and quantities for the preliminary plans of this park & ride project in Williamstown and Northfield, VT. All plan edits were completed in MicroStation V8i.

**Killington Road Master Plan, Killington, VT**
Rose generated a plan set and quantities for a pedestrian and bike grant application for a section of the Killington Road Master Plan. She assisted in creating a presentation for a public meeting of the Killington Road Master Plan.

**Beaver Pond Path, Proctor, VT**
Rose assisted in developing graphics for a public meeting for a multiuse path from Beaver Pond to the Town Green in Proctor, VT. All graphics were created using MicroStation V8i.

**I-89 Exit 17 Final Design, Colchester, VT**
Rose developed 502 Hearing colored graphics for the redesign of the I-89 Exit 17 interchange in Colchester, VT. All graphics were developed in MicroStation V8i.

**Winooski Main Street Revitalization, Winooski, VT**
Rose is editing drainage infrastructure details and developing right-of-way plans for the project.

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