



Bristol STP BP20(7) Munsill Avenue Scoping Study for New Sidewalk

Technical Proposal
October 20, 2021



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October 20, 2021

Ms. Valerie Capels
1 South Street
P.O. Box 249
Bristol, VT 05443

via email

Subject: Bristol STP BP20(7)
Munsill Avenue Scoping Study for New Sidewalk
Technical Proposal

Dear Ms. Capels,

Otter Creek Engineering (OCE) appreciates the opportunity to submit this technical proposal for engineering services for the planned sidewalk scoping study in Bristol. We are very interested in the possibility of working with the Town and VTrans on this project. Included in this packet are digital copies of the Technical Proposal and Cost Proposal as separate files.

In addition to the site development and municipal water and wastewater work we do around the state, our firm also manages projects through the Vermont Agency of Transportation's Municipal Assistance Program (MAP) and is currently assisting other communities with projects developed through this process.

If selected, OCE's efforts will be managed by Brent F. Rakowski, P.E. Brent has designed and managed a number of VTrans funded projects and is actively managing three MAP projects for municipal clients throughout Vermont. Brent will be assisted by Robert M. Clark, P.E. who has worked with the Town of Bristol on the recent Firehouse Drive crosswalk project. Both Brent and Robert will be further supported by our dedicated staff of professionals.

We are confident that we have the technical capacity, experience, and communication skills necessary to assist the Town with this project and see it through to fruition.

Should there be any questions or clarifications needed on the enclosed technical proposal, please feel free to contact me to discuss.

Sincerely,

A handwritten signature in blue ink that reads 'Brent F. Rakowski'.

Brent F. Rakowski, P.E.
Vice President

Qualifications of the Consultation Firm

Established in 1998, our firm has specialized in the evaluation, planning, design, permitting and construction administration of municipal infrastructure projects. In fact, this is the largest segment of our work, and accounts for nearly 70% of the total volume of work we complete on an annual basis. Our staff of twenty provides a diverse background and wide range of technical skills and experiences. This diversity allows us to tailor our project team to each client and project's specific needs. We are licensed civil and environmental engineers with six licensed Professional Engineers and a Certified Professional Hydrogeologist and Natural Resources Ecologist on staff.

With offices in East Middlebury and Rutland, OCE has designed and administered the construction of hundreds of municipal infrastructure projects throughout the State, and over the past year, we have worked on projects in each corner of the State. We are confident that we can provide efficient and cost-effective service to the Town.

Our firm's approach can be summarized into the following key components:

Collaborative Relationships – We pride ourselves on working with our clients to help assess their needs and develop solutions that meet their requirements from a technical, financial, and operational perspective. No one knows your community, its needs and challenges, better than you. Our rule is to compile this information to help develop solutions that will work for you.

Practical Approach and Attentive Design – A practical approach to projects with an attentiveness toward simple and effective design solutions is the foundation of what we do. The collaborative process we develop with our clients, combined with our practical sensibility, result in projects that are constructible, maintainable, and effective.

Capacity – With a staff of twenty, OCE is considered a “medium sized” consulting firm by Vermont standards. With over twenty years in operation, we have learned efficiencies and developed long standing professional partnerships with specialized consultants. These relationships allow us to provide comprehensive and coordinated project scopes and to efficiently work on a large number and wide variety of projects. We are available to assist you in a timely manner and with the appropriate levels of staffing to meet the schedule.

Funding, Regulations and the Small Community – Vermont is full of small communities, which come in different sizes and organizational structures. Village centers, rural towns, and mobile home communities all face the same challenge of providing services at an affordable cost. Small communities are regulated in the same manner as the large municipalities, and must follow the same rules and processes. Often these communities do not have the staffing to support and manage such improvement projects. Our experience, relationships with local regulators, understanding of the rules, and familiarity with this funding source will be an asset to the project.

Scope of Work

The scope of services is adequately detailed in the Request for Proposals. We have generally repeated that scope below with some additions and/or clarifications.

Task 1: Project Kick-off Meeting

We will coordinate and schedule a project kick-off meeting to define the project development process and the desired goals and deliverables for the project. We will prepare an agenda for the meeting. The VTrans project supervisor or VTrans bicycle and pedestrian staff will participate in the meeting. We intend to review with project stakeholders our schedule, included with this proposal, and discuss any revisions. We will take notes to document discussions and decisions made. We will also take the opportunity to collect information relevant to the project, including underground utility information, tax maps of the project area, etc. Copies of the meeting minutes will be distributed to the project team and parties of interest.

Deliverable: Meeting Minutes and Notes

Task 2: Compile Base Map/Document Existing Conditions

We will work with the Town and review available roadway plans, land records, property deeds and tax maps for properties within the project area to establish a plan depicting the approximate limits of the existing right-of-way. The plan will be used to document the property lines and owners within the project area. We plan to utilize all available information, and compile a functional (ArcView compatible) basemap consisting of existing conditions such as roadway widths, pedestrian/ bicycle facilities, drainage features, natural resources constraints, utilities, historic and archaeological sensitive areas. Additionally, we will collect Average Daily Traffic (ADT), pedestrian and bicycle counts for the area, and have allotted survey time to conduct site specific measurements for critical areas of the site.

The road right-of-way limits and property line boundaries will be based on information obtained above. At this time, a boundary survey is not included in our scope of work; however, we do anticipate field verifying the existing roadway widths. An existing conditions base plan will be developed and provided to the Town in both PDF and AutoCAD format, and will also be displayed in an ArcView compatible format.

Deliverable: Basemapping





Task 3: Local Concerns Meeting

Otter Creek Engineering will organize and moderate a local concerns meeting, with the Town, VTtrans and Project Stakeholders. The purpose of the public meeting will be to develop a clear understanding of project goals, objectives and concerns. Based on feedback received from the project kickoff and local concerns meeting, OCE will prepare a Project Purpose and Need Statement for the proposed improvements.

Deliverable: Meeting Minutes, Purpose and Need Statement

Task 4: Identify Land Use Context

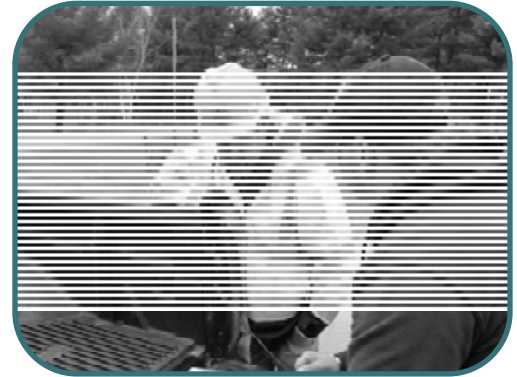
OCE will identify the existing and proposed land uses in the project area as well as the overall context of the area where the project is proposed (e.g. rural, suburban, village area, etc.) Based on existing land use patterns and potential connections to planned or existing pedestrian and/or bicycle facilities, we will document predicted and existing pedestrian/bicycle travel patterns to gain an understanding of the best location for new sidewalks. We will discuss how the proposed project fits in with the overall bicycle or pedestrian network in the community.

Task 5: Develop Conceptual Alternatives

Building off the base map, we will develop conceptual design alternatives of the proposed pedestrian facilities. The conceptual design plans will be developed in accordance with the Vermont Pedestrian and Bicycle Facility Planning and Design Manual, 2018 VTtrans Standard Specifications for Construction, the current editions of the Vermont State Standards, the Public Rights of Way Accessibility Guidance issued by the US Access Board, the most recent edition of the Manual on Uniform Traffic Control Devices and other State and Federal guidance documents.

The alternatives will highlight rights-of-way, utilities, natural and cultural resources, and other features affecting the design.

Options will consider walks on the East and West sides of Munsill Avenue and consider roadway crossing needs. OCE will develop typical sections for the different alternatives that show basic dimensions and, if applicable, where the walk is located within existing road rights of way and in relation to travel lanes, shoulders, existing building faces and other features.



As part of developing alternatives, OCE will assess the impact of the project construction on existing vehicle, pedestrian and bicycle traffic. The assessment should be made by referencing the VTrans Work Zone Safety and Mobility Guidance document and its appendix. An initial determination should be made as to what level of impact is likely to result from project construction; significant, moderate or minor. The study shall include a section on traffic management that discusses the possible impacts, what stakeholders may be impacted and what measures are likely to be needed to address work zone impacts during construction. If traffic control measures, including any needed temporary pedestrian facilities, are needed, their cost shall be identified in the overall costs for each alternative.

For this project, we do not anticipate working in the State of Vermont right-of-way.

Deliverable: Conceptual Alternatives

Task 6: Identify Right-of-Way Issues

We will provide assistance to the Town and work closely to document ROW and property ownership along the proposed project. Public/private ownership and any existing easements or restrictions will be shown on the overall mapping.

Deliverable: Property Ownership Listing and Easement Restrictions

Task 7: Identify Utility Conflicts

We will contact local utility companies to verify the presence of utilities within the project area. For utilities within the project area, we will represent these graphically on the project base map. Based on our understanding of the project area, and visit to the project site, we observed overhead utility lines which may require additional precautions during construction. We will include an assessment of whether utility relocations will be necessary and whether the relocations will need to extend beyond the existing ROW. Affected owners, if any, will be documented and provided to the project team.

Task 8: Identify Natural and Cultural Resource Constraints and Permitting Requirements

Natural Resource Identification

We will confirm the presence or absence of any known natural resource in the project vicinity and will identify these resources on the plans of the project area. We will ensure that the natural resource identification process considers wetlands, surface waters, floodplains, river corridors, lake shorelands, flora/fauna, endangered species, storm water, hazardous material sites, forest land, historic, archaeological and architectural resources, 4(f) and 6(f) public lands, and agricultural lands, in an effort to identify potential impacts and permitting requirements, including Act 250 Land Use permitting, if required.

Each alternative will also consider an estimate of the amount of new, redeveloped, and existing impervious surfaces. A determination will be provided as to whether an operational stormwater permit is required. In addition, we will also assess whether a Construction General Permit (Erosion Control) is required based on anticipated construction disturbance.



During development of alternatives, we will identify opportunities to minimize discharges of untreated stormwater to surface waters, particularly during smaller storms (one year return frequency and smaller). We will identify and attempt to minimize conflicts and align project goals as practicable with Bristol's stormwater master plans, tactical basin plan, jurisdictional features associated with State stormwater permits, planned stormwater retrofits, and other related considerations which may be affected by the project.

Historical/Archeological

With assistance from Hartgen Archeological Associates, we will determine any historical or archeological impacts that may result from the project. The results of the investigation will be provided to the Town and VTrans staff for concurrence as part of completing the CE. At this stage, we anticipate completing an Archeological Resource Assessment (ARA) for archaeology.

If alternatives are provided in the scoping report, recommendations for the alternatives' effect on environmental resources must be stated in the scoping report, along with anticipated permit requirements, if any. When possible, we will provide documentation from appropriate state and federal agencies should to summarize the extent to which resources may or may not be impacted. Permits that will likely be needed for the project will be identified.

This resource work will inform the alternative selection so that the project avoids and minimizes, to the extent practicable, impacts to environmental resources. Thorough and well-documented resource

identifications will inform the selection of the Least Environmental Damaging Practicable Alternative (LEDPA) and development of future plans. Scoping reports will be made available for review by VTrans Project Delivery Bureau Environmental Section (via Resource ID work request from VTrans Project Manager).

Deliverable: Resource Documentation/Correspondence

Task 9: Alternatives Presentation

We will coordinate and schedule a public meeting to present alternatives to The Town and stakeholders. All alternatives, including a “no build” option, will be presented in an evaluation matrix to include criteria previously gathered. We will prepare an agenda for the meeting. We will meet with Town representatives to review the alternatives, discuss the benefits of each, and have community decide on the preferred alternative for further development.

Deliverable: Presentation Materials, Documentation of Preferred Alternative



Task 10. Develop Preliminary Cost Estimates

Upon approval of the preferred alternative, we will develop preliminary cost estimates for the project. The engineer’s opinion of construction cost for the improvements will be revised and broken down to individual VTrans bid items and unit prices. The cost estimate will include amounts for construction, engineering, municipal project management and construction inspection. If the project is to be completed in phases, cost estimates for each phase will be provided.

Deliverable: Preliminary Cost Estimate

Task 11. Project Timeline

OCE will provide a project development timeline that takes the project through the design, permitting and construction phases assuming the use of a combination of Federal and local funding. As necessary, OCE will develop a project phasing plan for construction of the project over a multi-year period.

Deliverable: Project Timeline

Task 12. Report Production

Using information gathered from the activities outlined above and from the meetings with the Town, OCE will submit draft and final reports outlining the findings of the scoping study. The report format will follow with the elements noted in Appendix A of the RFP. A public informational meeting will be held to review the draft report before completion of the final report. It is expected that the local legislative body will endorse or decline the proposed project at this meeting.

Deliverable: Draft and Final Reports

Proposed Schedule

While a project schedule was not explicitly referenced in the request, our schedule, outlined below, anticipates that the town would like the project completed as soon as practical.

Town of Bristol
Bristol STP BP20(7)
Munsill Avenue Scoping Study for New Sidewalk

Proposed Schedule

Task	2021			2022								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	
1. Project Kickoff Meeting		■										
<i>Meeting Minutes</i>		■										
2. Compile Basemap / Document Existing Conditions												
<i>Initial Basemap Development from Previous Projects</i>			■									
<i>Right-of-Way and Deed Information</i>			■									
<i>Utility Location</i>			■									
<i>Ground Survey</i>				■								
<i>Follow up survey following critical environmental resource evals</i>						■	■					
3. Local Concerns Meeting				■								
4. Identify Land Use Context					■							
5. Develop Conceptual Alternatives					■	■	■					
6. Identify Right of Way Issues					■	■	■					
7. Identify Utility Conflicts					■	■	■					
8. Identify Natural and Cultural Resource Impacts and Permitting												
<i>Natural Resource identification</i>					■	■						
<i>Wetland Delineation</i>					■	■						
<i>Historical/Archeological</i>					■	■	■					
<i>Other permitting and investigations</i>					■	■	■					
9. Alternatives Presentation							■					
10. Preliminary Cost Estimates								■	■			
11. Project Timeline									■	■		
12. Report												
<i>Draft Report to Town</i>										■		
<i>Revisions to Report</i>										■	■	
<i>Issuance of Final Report</i>											■	

■ Active Work

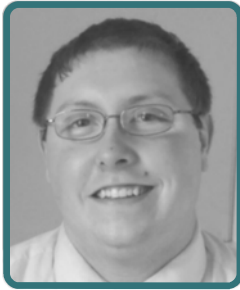
Project Organization



Brent Rakowski, P.E.

Vice President / Senior Project Engineer / Project Manager

Brent has been practicing civil engineering for over 23 years, the last 15 years which have been with OCE. During his tenure, Brent has been involved in the design, permitting, and construction management services on a wide variety of projects throughout the State. Currently, he is providing design services for three MAP projects. Efficiencies and experience gathered through those design processes will only serve to benefit the work for the Town of Bristol. In addition, Brent's professional experience has centered around site development, stormwater design / treatment and land use permitting.



Robert Clark

Senior Project Engineer / Principal

Robert is a licensed professional engineer and partner in the firm. Robert's technical experience has been centered on the municipal infrastructure, including water, wastewater, stormwater and highway improvements. Robert has taken the lead on a number of Town projects, most recently completing a Crosswalk Study at Firehouse Drive.



Bob Harrigan

Senior Project Representative / Estimator

Bob will utilize his decades of experience working for contractors and estimating projects for OCE to develop construction cost estimates for the project. Bob will also provide constructability reviews to identify construction related issues, help with proposed project phasing during construction, identification of easements required for each project, development of traffic control strategies and recommendations for any cost saving measures to be considered.

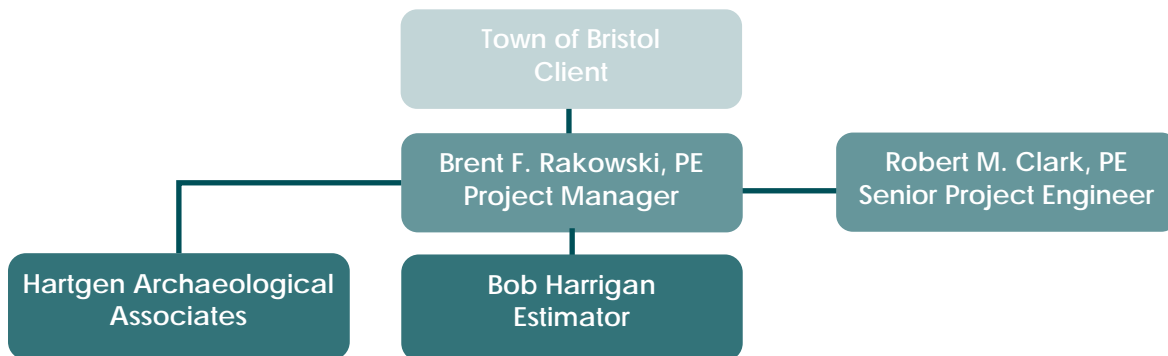


Hartgen

Archeological Associates, Inc.

Hartgen is a small business dedicated to providing responsive and effective Cultural Resource Management services to our clients. Established in 1973, Hartgen has successfully completed thousands of archeological and historical resource studies throughout the Northeast.

Organizational Chart



Related Project Experience

Below is a partial list of other recent Sidewalk/Pathway and VTrans projects that OCE has completed.

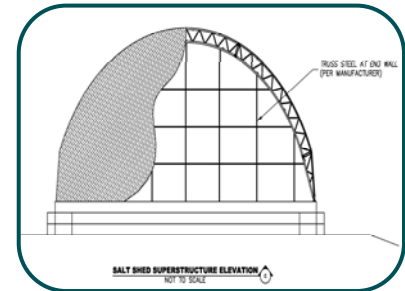
Village Core Sidewalks - STP Bike (43)S And South Feeder Path - STP EH01 (1), Town Of West Rutland, VT

Provided Civil/Site Engineering services for the design and construction administration and review of 66-inch diameter metal culvert and cast-in-place concrete headwalls and wingwalls; associated with 1,700 feet of pedestrian/bike path and parking lot.



Salt and Sand Shed Project (STP MM18 (13)), Town of Pittsford

Otter Creek Engineering provided civil/site engineering services for the development of a salt/sand storage facility in accordance with VTrans Municipal Assistance Program (MAP) guidelines. The project is one of the first non-highway type projects being developed through the MAP program and is in part, helping to define the framework for similar projects funded under this program. The project is currently under Conceptual Plan and Environmental Review by VTrans.



West Branch Dead Creek Culvert STP MM 18(6), Bridport, VT

Provided early concept sketches and cost estimating for the Town's use in securing a grant for the replacement of a failed culvert. Town later retained Otter Creek Engineering to provide engineering services for the development of the project in accordance with the Vermont Agency of Transportation (VTrans) Municipal Assistance Program (MAP) guidelines. Project is currently active and is undergoing environmental review through VTrans. Summer 2019 construction is planned.



Infrastructure Improvements, Town of Middlebury, VT

Our firm provided design, permitting, bid and construction phase services along Buttolph Drive, Charles Avenue, and Merchants Row, including new water mains, sewer, stormwater, roadway and sidewalk improvements.



Municipal Building Demolition & Park

Demolition and Site Design, Middlebury, VT



The now-demolished municipal offices

Otter Creek Engineering worked with the Town and Middlebury College to redevelop the site of the Municipal Offices into a new public park on this prominent piece of property in the heart of Middlebury's downtown. OCE worked to develop plans for the demolition of the municipal offices and coordinated decommissioning of utilities and the testing and remediation of hazardous materials. On completion of the demolition OCE worked with the project team to implement a vision which serves as an inviting space for residents and a focal point and transition space between the Town and College campus. The park incorporates accessible walkways, parking, lighting, seasonal water service, and lighting. Stormwater from the site is directed to a linear bioretention area along the lower area of the park.



The park post-construction



Excavation in the park



Sidewalk construction and the beginning of site restoration

Water Distribution & Sidewalk Improvements

Water, Curb & Sidewalk Replacement, City of Rutland, VT

Highlights

- ◆ Federal Funded project through Drinking Water State Revolving Loan Fund
- ◆ 6,000 lineal ft. of water distribution mains
- ◆ 1,300 lineal feet of curb and sidewalk replacement
- ◆ Project was completed on time, under budget and with additional water main work added to the project.

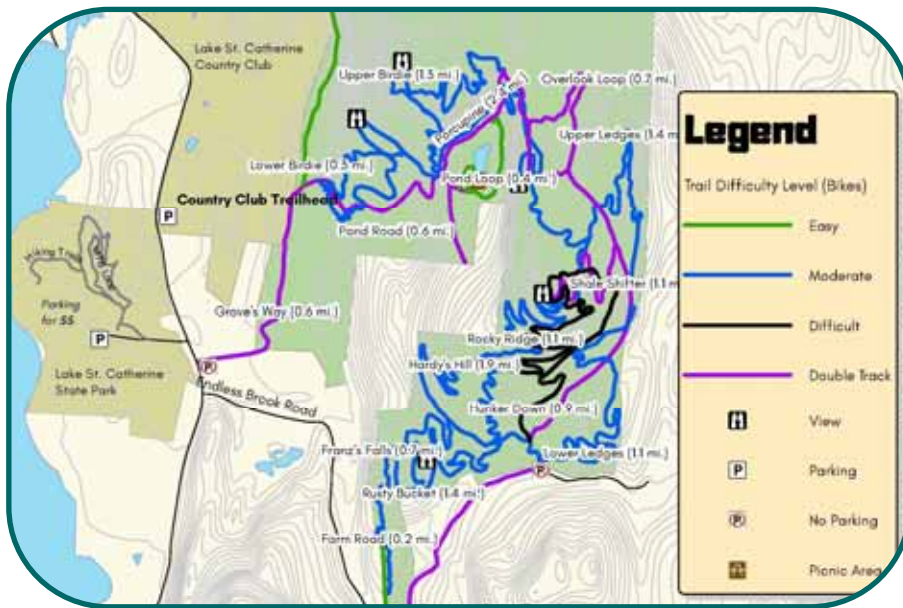


As part of the ongoing process of upgrading the City's aging water system, portions of which go back to the Civil War, OCE was hired to design the replacement of water mains throughout the southern portion of their system. The project was spread out along six streets including portions of Route 7. In addition to design services OCE provide services for permitting, bidding, construction review and administration and funding assistance.



Endless Brook Bike Trails

Regulatory Compliance, Poultney, VT



Endless Brook Trails Map

Highlights

- ◆ Coordination with more than 10 regulatory agencies and programs to obtain permits/authorizations/signoffs necessary for the project
- ◆ Lead Consultant & Presenter for Public Hearing
- ◆ Permit Issued and Trails Currently Under Construction

OCE assisted Sustainable Trail Works and Endless Brook LLC with the development and Act 250 permitting for 25+/- miles of new mountain biking and recreation trails over a 1,414 acre tract of land.

OCE coordinated with more than ten regulatory agencies and programs to obtain permits/authorizations/signoffs necessary for the project and acted as the lead presenter and consultant for the public hearing. The Permit has been issued, and additional trails are currently under construction.



Trailhead



Aerial view



Cyclists enjoying the trails

A Word from our Clients and References

Our firm has longstanding relationships with municipalities across Vermont. Here are what some of those clients have to say.

"I would welcome any opportunity to work again with such an outstanding firm and would recommend OCE to other towns without hesitation."

- John Haverstock, Town Manager, Town of Pittsford, VT

"The entire staff at Otter Creek Engineering is a pleasure to work with..." "Everyone is always very pleasant, professional and more than willing to go out of their way to help us! The next time we upgrade our system, or have to make any changes, our 1st phone call will be to Otter Creek Engineering to help us."

- Bridget Simmons, Bradford Water & Sewer Commission

"Brent and his team at OCE offer a responsive, reliable, and practical team that contributed to the Town's successful project."

- Bryan Nolan, Road Commissioner, Town of Addison, VT

Town of Pittsford
Mr. John Haverstock
Town Manager
(802) 483-6500

Town of Middlebury
Mr. Dan Werner
Public Works Planning Director
(802) 388-4045

Bellwether Architects
Mr. Chris Huston
Principal
(802) 503-2638

Town of Shoreham
Mr. Jason Paquette
Road Foreman
(802) 897-5451

City of Rutland
Mr. James Rotondo, P.E.
City Engineer
(802) 773-1813

Jeffrey D. Glassberg Real Estate
Development Services
Mr. Jeffrey Glassberg
(802) 877-0019

Town of Addison
Mr. Bryan Nolan
Road Commissioner
(802) 759-2570

Middlebury College
Mr. Norman Cushman
Associate VP for Operations
(802) 443-5003

J.P. Carrara/VT Industrial Parks
Mr. Bill Townsend
(802) 388-6363

Brent Rakowski, P.E. *Vice President / Senior Project Engineer*



Brent has been a senior project engineer for Otter Creek Engineering, Inc. since 2004. His professional career, since 1995, has focused on the design, permitting and construction of site development projects. Prior to his work with Otter Creek Engineering, Brent worked for design firms in Burlington, Vermont; Minneapolis, Minnesota; and Aspen, Colorado, where land development, infrastructure rehabilitation, and stormwater improvement projects were his primary focus.

EDUCATION

Received a Bachelor of Science Degree in Civil Engineering from Clarkson University, Potsdam, New York, 1995.

PROFESSIONAL REGISTRATIONS

- Licensed Professional Engineer in the States of Vermont, New Hampshire, and Massachusetts

AFFILIATIONS

- Chair - City of Vergennes Development Review Board
- Vice Chair - Addison County Regional Planning Transportation Advisory Committee

Professional Experience

Design, Management and/or Construction Review Services for the following:

Middlebury South Village - Acquired permitting and designed site infrastructure including water supply, wastewater disposal, and six stormwater treatment practices for a 32-acre mixed-use subdivision.

Catamount Business Park - Site and stormwater treatment design for multi-lot commercial/office park in Middlebury, VT.

Marbleworks Residencies - Redeveloped under-utilized parking area to make way for high end residential condominiums. Stormwater treatment incorporated buried pre-treatment vault and a proprietary canister treatment system.

Echo - Leahy Center - Prepared final design drawings, construction specifications, contract documents, and bid-phase services for driveway, dumpster pad and enclosure, parking and sidewalk design and site grading, stormwater conveyance, and erosion control.

Assist with roadway assessments to reduce stormwater-related erosion with Municipal Roads General Permit in the following towns:

Addison	Bridport	Shoreham	Panton
Vergennes	Lincoln	Starksboro	

Rutland Natural Resource Conservation District - Design, estimating, and construction oversight of sand filter to control and treat runoff within Moon Brook watershed. Project funded, in part, through Ecosystem Restoration Program grant.

Middlebury Industrial Park - Stormwater master planning for industrial park in Middlebury.

Middlebury College - South Campus Stormwater Master Planning identified retrofit, improvement sites and consolidated stormwater permits and developed centralized treatment area.

Poultney Mettowee Natural Resources Conservation District - Retrofit project which created bioretention areas within existing parking area,. Project partially funded through Ecosystem Restoration Program.

Calvin Coolidge Historic Site - Bioretention system providing treatment to expanded and existing impervious surfaces.

Health Care & Rehabilitation Services - Designed stormwater treatment practices to treat runoff from a 33,000 sf facility, including associated parking and drives.

City of Rutland - Moon Brook stormwater offsets within 303(d) listed waterway.

Redstone Commercial Group - Catamount Business Park - Centralized stormwater treatment design.

City of Burlington - Engleby Brook Stormwater Retrofits.

State of Vermont - Contracted to develop design examples using State of Vermont Stormwater Management Manual (2017).

Rutland City Schools - Performed stormwater compliance assistance and annual inspections.

Fletcher Allen Health Care/UVM - Renaissance Project - \$250 million infrastructure improvements, expansion and renovation project.

Burlington International Airport - Terminal Road and Parking Project, stormwater treatment upgrades complying with State and FAA regulations.

Middlebury South Village - Mixed use residential/commercial infill development.

The Woods at Spring Pond - Clustered 68 lot residential subdivision, site design and permitting.

Marbleworks Residences, Middlebury, VT - Condominium development on redeveloped land. Design, permitting and construction oversight of proprietary canister treatment system with flow dispersion trench outfall.

Weybridge St. Subdivision, Middlebury - Six lot residential subdivision, served by private roadway and municipal utilities.

Town Office and Recreation Facility, Town of Middlebury, VT - Site design and permitting of a design/build for the new municipal offices and gymnasium.

City of Vergennes, VT - Municipal Police Station.

Town of Hinesburg, VT Public Safety Facility - New Police Station and addition/renovations to existing fire station.

Town of Antrim, NH - Site design of a new municipal Police Station on a redeveloped parcel with municipal and sewer utilities, parking and drives, site grading and drainage.

Vermont Agency of Transportation - Ferrisburgh Park and Ride.

Weybridge St. Subdivision, Middlebury - Six lot residential subdivision, served by private roadway and municipal utilities.

Middlebury College - Student Residences - Stormwater design, permitting and construction oversight of two bioretention practices sized to accommodate runoff from four new student dormitories.

Middlebury College - Site design, permitting, and construction review of Forest Hall Renovations, FIC, Gamut room, Solar House, Storage Barns, Mumford House, Voter Hall, Kohn Field.

Bennington College - Civil/site design and permitting of improvements to campus Biomass Facility and the CAPA/VAPA expansion projects.

Hampstead Central School, NH - Design of a public school building expansion and interior retrofits resulting in modifications to existing sanitary sewer collection and triplex pumping systems pumping to independent disposal fields.

Vermont Hard Cider Co., Middlebury, VT - Site design and permitting for a new 100,000 sf, \$30 million Facility on 27 acres.

Christ Redeemer Church, Hanover, NH - Site design and permitting of a 11,000 sf church with parking, municipal water/sewer connections, site grading and stormwater treatment and control.

Town of Middlebury, VT - Fire Stations No. 1 and 2. Addition to existing Station No. 1 and demolition and new construction of Fire Station No. 2.

City of Burlington - Champlain Parkway/Southern Connector Limited Access roadway extension through urban area.

New Hampshire, Department of Transportation - Roadway improvements.

City of Burlington - Champlain Parkway/Southern Connector Limited Access roadway extension through urban area.

Vermont Agency of Transportation - U.S. Route 7 improvements.

New Hampshire Department of Transportation - Roadway improvements.

Robert Clark, P.E. *Senior Project Engineer*



Robert grew up in a utility and site construction family, installing pipe and operating heavy equipment as he pursued his engineering career. With this background, Robert has a practical and experienced eye for design, development of contract documents, cost estimating and project management during construction. An outstanding engineer, Robert prepares in-depth and cost-efficient preliminary engineering studies and has designed many large municipal utility projects. His technical and management skills are a strong asset to our firm.

EDUCATION

Bachelor of Science Degree in Civil Engineering, University of Maine, Orono, 2009

PROFESSIONAL REGISTRATIONS

Licensed Professional Engineer in the State of Vermont.

AFFILIATIONS AND CERTIFICATIONS

- Compliant with ANR Designer License Program
- 40-Hour OSHA HAZWOPER Certified
- Member of the Vermont Chapter of the American Society of Civil Engineers (ASCE)

Robert has wide array of experience as the project manager in water distribution, water system and roadway improvement projects, providing design, permitting, and construction review for the following projects:

Town of Bristol - Design and permitting of crosswalk from Stony Hill Road to Firehouse Drive.

Town of Rutland - Design and permitting of a nearby, 1600-foot long, 8-foot wide shared used path in Northwood Park to Connect to the existing residential development with public facilities.

Town of Rutland - Design of sidewalk improvement project along Cold River Road, from the intersection of Cold River Road and Route 7 to the Adele Stanley Apartment Complex.

Town of Rutland - Randbury Road Water Main. Design, permitting, bid and construction phase engineering for 1,250-foot water main extension.

Town of Rutland - Townline Road Culvert. Design and permitting for a replacement structure (box culvert) on Moon Brook.

City of Rutland - Design and permitting of approximately 2 miles of new water main., including a directional bore beneath the Otter Creek. Construction set to begin Summer, 2018.

Town of Winhall - Stratton Mountain Access Road subsurface investigation. Project included the review and analysis of a failing portion of this critical roadway, soils borings, and recommendations for drainage improvements.

Town of Winhall - Taylor Road Intersection Study. Review of traffic patterns and roadway alignments to improve safety.

Town of New Haven - Design, permitting and construction of large culvert replacement projects, including precast box and aluminum arch culverts.

Addison County Community Trust - Design, permitting and construction oversight for new roadway, parking, stormwater, and utility components of the McKnight Lane affordable housing development in Waltham. The project involved a new gravity sewer main and an aerial sewer crossing of a drainage ravine.

Bob Harrigan *Senior Resident Project Representative / Estimator*

Design, Cost Estimating, Construction Review and/ Management of the following:

Addison County on behalf of Vermont Gas - Lead Inspector and Project Coordinator to install gas main and service distribution piping in Middlebury including public and private property.

Town of Middlebury, VT - Construction RPR for the Seymour Street water system replacement and Halpin Road rehabilitation projects.

City of Rutland, VT - Construction RPR for the Woodstock Avenue Water System Replacement

Tri-Town Water District - Construction RPR for 750,000 gallon precast concrete water storage tank and transmission piping.

Town of Shoreham, VT - Construction Assistant RPR for Municipal Wastewater Facilities project. Observed 12,000 linear feet of sanitary sewer and pump station installation, tracked payment quantities, gathered and transcribed record drawing information. Assisted with Treatment Facility construction review.

Middlebury South Village - Construction RPR for new subdivision road and infrastructure for 30 single family house sites, one low income apartment building, a financial institution and other commercial lots.

Town of Bethel, VT - Construction RPR for 5.2 mile long Camp Brook Road Reconstruction Project that was VTrans LTF funded, including drainage, slope stabilization, total road base replacement and reclaimed stabilized base.

Town of Essex, VT - Construction RPR for 1/3 mile long Kellogg Road Reconstruction Project that was VTrans LTF funded, including drainage, water, curb, sidewalk, traffic signals, total road base reconstruction and pavement replacement.

City of Rutland, VT - Construction Resident Project Representative (RPR) for the West Street Bridge Replacement project over East Creek and RPR for Crescent Street/West Street Sanitary and Storm Sewer Replacement Project with 3,900 feet of sanitary sewer main and services and 3,500 feet of storm drain.

Village of Johnson, VT - Construction RPR for Stormwater and Streetscape Improvements (VTrans LTF funded) including stormwater improvements, curbing, sidewalks, retaining wall, brick pavers, sculpture bases, tree plantings and lighting.



Bob has a long employment history with Otter Creek Engineering starting in 1999. While employed at Otter Creek Engineering, he has worked as a Senior Engineering Technician responsible for survey and design plan development, as well as a Senior Resident Project Representative responsible for construction observation and reporting on numerous publicly and privately funded projects. Additionally during this time period, Bob has worked in a variety of other positions: Owner of his own small construction company, Construction Superintendent, Construction Project Manager, and as Lead Inspector / Project Manager for Vermont Gas. Bob's diverse experiences make him uniquely qualified for the role as Construction Inspection Consultant.

EDUCATION

- Associate's Degree in Civil Engineering Technology from the State of New York at Canton, 1992.

PROFESSIONAL REGISTRATIONS

- OSHA Certification (29 CFR 1910.120)
- MSHA Hazard Training (2001 through 2008)
- Underground Damage Prevention (2011)
- OSHA Certification - Construction Safety & Health
- MSHA Part 46