



OTTER CREEK ENGINEERING

July 11, 2019

Mr. Dan Werner
Public Works Planning Director
Town of Middlebury
77 Main Street
Middlebury, VT 05753

Subject: Court Square, Court Street, & Washington Street Water Main Replacement
Proposal for Engineering Services

Dear Dan:

Thank you for the opportunity to submit this proposal for the design and permitting of the replacement of the waterlines around Court Square, Court Street, & Washington Street. We appreciate the opportunity to assist with this project and look forward to continuing our relationship with the Town.

PROJECT UNDERSTANDING

The Town is planning the replacement of the existing water mains within a core business district. The project area consists of five main segments, defined as follows:

- Segment 1: Mary Hogan Drive to the new main replaced at the Cross Street / Court Street intersection as part the Cross Street Bridge Project.
- Segment 2: Cross Street / Court Street intersection north to Court Square.
- Segment 3: Court Square from Court Street to the intersection with Merchants Row connecting in the newer water mains on both Merchants Row and South Pleasant Street.
- Segment 4: North Pleasant Street from interconnection with Merchants Row and South Pleasant Street north to the Main Street / Seymour Street intersection.
- Segment 5: Washington Street from Court Square to the "Five Corners" intersection with Seminary Street.

It is our understanding that VTrans has plans to repave Court Square and Court Street in 2021; therefore, all water main improvements must be constructed and completed in 2020. To accomplish this and take advantage of the entire 2020 construction season, design and permitting will need to be completed in 2019, so the project could be bid in the winter of 2019/2020.

While this project only consists of approximately 4,000 feet of replacement water main, the existing aged infrastructure, heavy traffic loads, and the US Route 7 Corridor create unique design

challenges. Furthermore, this area has been prone to major water main failures in the recent past. The design will need to take into account the fragile condition of the existing mains and the newer portions of the system that the Town wishes to keep in service. There are several existing utilities in the project corridor that will need to be accounted for during design. Up to date and accurate mapping will be essential for the success of this project to maintain continuous service and meet utility separation requirements.

Traffic management will be crucial to both construction and the effect on the community. Due to the high volume of traffic throughout the project area (from the schools, local businesses, and commuters), we recommend developing a traffic control plan as part of the design package. Traffic control, sequencing, and performance requirements incorporated into the Contract documents will allow the town to better anticipate the construction impacts on the community.

There are several hazardous waste sites along the project right-of-way which may conflict with the proposed water main alignment. We have experience designing water mains through and around similar sites. We will take this into account while considering pipe options and construction methods to mitigate the risk to the pipe and the environment.

Ultimately, the schedule for this project is being driven by the VTrans-scheduled repaving of Court Street during 2021. The overall need of this project is to replace aging water infrastructure, avoid costly breaks, and to consolidate and simplify the operation of the water system within the project area.

If approved, the majority of the work outlined within this proposal will be performed by Robert Clark, P.E. and Robert Harrigan. As needed they will be assisted by Brent Rakowski and Jason Larocque. As a team, we have completed multiple projects for the Town of Middlebury. For your reference, we have attached resumes of the key personnel involved. When this project moves to construction, it is our intent for Robert Harrigan to take the lead on RPR services. Robert Harrigan has performed these services for many Otter Creek Engineering projects over the past 20 years. Additionally, Harrigan was the on-site inspector for the Vermont Gas project within this project area and is familiar with both the infrastructure and the neighborhood.

SCOPE OF SERVICES

The services outlined in this proposal include the civil engineering and permitting assistance services necessary to bring this project through to completion. We are proposing a phased approach with Survey and Base mapping (task 1) being the lead phase. Upon the completion of the mapping we will start a three-tiered design phase (tasks 2-4). Each phase will build of the last, allowing for input from stakeholders on key decisions to minimize the level of rework, streamlining the process. We will schedule review meetings as each phase progresses. At each of these meetings we will present a progress update, phase appropriate plans and documents, and update the "Opinion of Probable Construction Cost." We find that bringing the stakeholders together on a regular helps reduce any last minute surprises. Additionally, it is our intent to assist the Town with the necessary outreach to the members of the community potentially impacted by this project.

Upon receiving regulatory review comments, we will address the necessary changes to the design and prepare the documents in preparation of Bid Phase for this project. It is our understanding that at this point the town is looking to authorize this project through Final Design and Permitting.

We have included tasks and estimated costs for both Bid and Construction for informational purposes only.

The following scope is based upon our experience with similar municipal utility projects, understanding of the project requirements, and familiarity with Local, State, and Federal permitting processes.

1. **Topographic Survey and Base mapping** - We will establish a semi-permanent survey control system for both horizontal and vertical control within the project area. The control system will include traverse points and temporary bench marks and will be based on Vermont State Plane Coordinate System. A topographic survey of the project area will be completed and a base map generated that will include appropriate site features including streets, driveways, building corners, trees, and utilities. In general, the mapping limits will be right of way to right of way plus 10 feet. The base maps will be prepared at a scale of one inch equals twenty-feet (1"=20') with one-foot contour intervals. This will not be a boundary or right-of-way survey. Otter Creek Engineering will review existing conditions and available drawings and surveys of the project area provided by the Town. Where necessary we will conduct house visits to verify utilities that may be in conflict with the proposed design.
2. **Conceptual Design (30% Design Development)** - We will prepare conceptual (30% design) drawings, perform a desktop environmental review of the project area, prepare a conceptual level Opinion of Probable Cost, and meet with the Town and other project stakeholders (to be determined by the Town). Conceptual design will consist of the horizontal location of the proposed water main, proposed pipe sizing and type, and proposed construction method. Major utility conflicts will be identified and the Town will be presented with design options.
3. **Preliminary Design (60% Design Development)** – We will prepare preliminary (60% design) drawings, draft contract documents, traffic control plans, coordinate ledge probes and soil testing of potentially contaminated areas, and prepare a preliminary level Opinion of Probable Cost. Preliminary design will consist of the finalized horizontal location of the proposed water main, proposed pipe sizing and type, and proposed construction method.

The contract documents will be in the same format as similar projects that Otter Creek Engineering has completed for the Town and will include an Advertisement for Bid, Information for Bidders, Bid Schedule, General Conditions, Special Conditions, and Technical Specifications for the project

We will develop special conditions and/or performance specifications within the contract documents to address the traffic control concerns. We will coordinate traffic control issues, concerns, and requirements with the Town and other project stakeholders to better prepare for the proposed construction.

At the conclusion of this phase of the design, we will once again meet with the Town and other project stakeholders (to be determined by the Town). Two copies of the contract documents and contract drawings will be submitted to the Town for review. Upon completion of the Town's review, comments will be addressed and incorporated into the contract documents and design drawings.

4. **Final Design (90% Design Development)** – Building on the previous design phase we will prepare contract documents and contract drawings suitable for permitting, a revised Opinion of Probable Cost.

We will once again meet with the Town and other Project Stakeholders (to be determined by the Town). Two copies of the contract documents and contract drawings will be submitted to the Town for review. Upon completion of the Town’s review, comments will be addressed and incorporated into the contract documents and design drawings to be submitted for permitting.

5. **Permitting and Construction Documents** – We will prepare the permit applications and supporting technical data to submit on the Town’s behalf to the State of Vermont. At this time, we only anticipate the need for a Water Supply Division, Permit to Construct and Construction General Permit (erosion control). All permit application fees will be paid directly by the Town. Based on the Project Understanding, we do not anticipate the need for the following permits: VTrans Work in the Right-of-Way, Wetlands Conditional Use Determination (CUD), and Stormwater Discharge. Following State review, we will address review comments and prepare Construction Documents for Bid Phase.
6. **Bid Phase Services** – During the bid phase, Otter Creek Engineering will assist the Town with the advertisement to bid, conduct a pre-bid meeting, answer questions posed by contractors, issue addenda, and attend the bid opening. After the bid opening we will prepare a bid tabulation and a letter of recommendation for award to the Town. Upon selection of a Contractor by the Town, Otter Creek Engineering will provide five (5) copies of conformed contract documents and drawings for execution by the Town and the successful contractor. Advertising fees will be paid directly by the Town.
7. **Construction Phase Services** – Construction Phase services would consist of three main components as follows:

- 7.1 **Construction Administrative Services** - Construction administration will include:
 - Coordinating and attending a preconstruction meeting.
 - Review of shop drawings and submittals
 - Review contractor’s applications for payment (pay requests)
 - Issue change orders when appropriate
 - Coordinate and attend project meetings, document meetings, and issue notes

At this time, based on a single construction window, we anticipate that the duration of the construction contract will be 120 calendar days to final completion and have budgeted for five applications for payment, ten contract meetings, and two change orders.

- 7.2 **Construction Review** - Construction review services will be provided for the duration of the project, through final completion. Based on our experience with similar projects,

we have budgeted an appropriate number of hours to allow for both full-time and part-time construction inspection, for a construction duration of 120 calendar days.

Our field representative will prepare written reports during each site visit, and participate in project meetings. In addition, they will maintain contact with adjacent property owners during construction, prepare punch lists of work to be addressed, and participate in reviewing the project at both substantial and final completion. Our budget for field services is based on a 120 day construction duration and presumes that all of the proposed improvements are completed under a single contract.

- 7.2 **Record Drawings** - Upon completion of the project, we will prepare record drawings, in part, based on information provided by the contractor. We anticipate providing two paper copies of the drawings, and a PDF for the Town. The Submittal and Shop Drawing binders will be in PDF format only and provided on a USB flash drive for the Town's use.

PROJECT SCHEDULE

Otter Creek Engineering can begin our services outlined above upon receipt of your authorization to proceed. The table below illustrates our intended schedule for this project:

Task	2019					2020				
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr thru Dec	
1. Topographic Survey and Base Mapping	■	■	■							
2. Conceptual (30% Design Development)		■	■	■						
3. Preliminary (60% Design Development)			■	■	■					
4. Final Design (90% Design Development)				■	■	■	■			
5. Permitting and Construction Documents					■	■	■	■	■	■
6. Bidding Services							■	■	■	
7. Construction Phase										■

This proposed project schedule, while expedited, will allow for multiple levels of review as the project progresses. It is important to note that while we have allotted 10 weeks for permitting and construction documents, we have no control over the permitting process once permits are submitted.

COST PROPOSAL

We propose to provide services outlined in this proposal on an hourly basis according to the following estimates:

Task Description	
1. Topographic Survey and Base Mapping	\$20,300
2. Conceptual (30% Design Development)	\$8,740
3. Preliminary (60% Design Development)	\$26,710
4. Final Design (90% Design Development)	\$18,010
5. Permitting and Construction Documents	\$8,340
Subtotal Tasks 1-5	\$82,100
6. Bidding Services	\$7,650
7. Construction Phase	\$155,820
Total Tasks 1-7	\$245,570

A detailed breakdown of the hours and labor class by task has been included for your information. Tasks 6 and 7 are included for informational use only. It is our understanding that if approved, this contract will include only tasks 1-5.

We will invoice monthly based upon the percentage of work completed at the end of each month. As the project progresses, we will keep you informed of the budget status and discuss any changes from the anticipated scope.

AUTHORIZATION

If this proposal and the attached Standard Terms and Conditions meet with your approval, this document can serve as a Professional Engineering Services Agreement with your signature and date in the space provided below.

The schedule and cost proposal provided are valid for a period of forty-five (45) days. If authorization is given beyond this period, we reserve the right to modify these items prior to agreement execution.

We appreciate the opportunity to submit this proposal. If you have any questions regarding its content, or you wish to meet to discuss the proposal, please do not hesitate to call me.

Sincerely,



Jason Larocque
President

AUTHORIZATION TO PROCEED

Signature: _____

Name: _____

Date: _____



SCHEDULE OF RATES AND FEES

ENGINEERING SERVICES:

- Managing Engineer.....\$135.00 per hour
- Senior Project Engineer.....\$110.00 per hour
- Project Engineer.....\$95.00 per hour
- Staff Engineer.....\$85.00 per hour
- Land Surveyor.....\$110.00 per hour
- Senior Environmental Engineer.....\$110.00 per hour
- Hydrogeologist.....\$100.00 per hour
- Senior Environmental Scientist.....\$90.00 per hour
- Environmental Scientist.....\$75.00 per hour
- Senior Engineering Technician.....\$95.00 per hour
- Engineering Technician.....\$80.00 per hour
- Senior Resident Project Representative.....\$95.00 per hour
- Resident Project Representative.....\$85.00 per hour
- Administrative Assistant.....\$60.00 per hour

EXPENSES:

Subcontracted Services (as required):

- Special consultants
- Material testing
- Equipment charges
- Outside reproduction services.....At Cost Plus 10%

Mileage.....Current IRS Rate
 Lodging, Meals.....At Cost
 Per Diem (lodging, meals).....\$125 per night

Photocopies:

	<u>Bond</u>	<u>Mylar</u>
▪ 8 ½" x 11" (Black and White)	\$0.10 each	
▪ 8 ½" x 11" (Color)	\$0.50 each	
▪ 24" x 36" (Standard Size)	\$3.00 each	\$15.00 each
▪ Other Large Scale Copies	\$0.50 / sf	\$ 2.50 /sf

Other Charges.....By Special Mutual Agreement

TERMS:

Please refer to terms set forth in the Agreement.

October 2018



STANDARD TERMS AND CONDITIONS

**OTTER CREEK ENGINEERING, INC. (OCE)
AND TOWN OF MIDDLEBURY (CLIENT)
COURT SQUARE, COURT STREET, & WASHINGTON STREET WATER MAIN REPLACEMENT
JULY 11, 2019**

Standard of Care: Services provided by OCE under this agreement will be performed in a manner consistent with the degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

Applicable Law: This agreement shall be subject to the applicable laws of the State of Vermont.

Compensation for Services: Invoices will be submitted monthly and payable within thirty (30) days. A service charge of 1.5% per month will be assessed on overdue balances. In the event any portion of an account remains unpaid for 90 days, the Client shall pay applicable service charges and all costs of collection, including reasonable attorney fees.

Additional Services: In the event the Client requests services outside those outlined in the Agreement, OCE may provide those services at an additional fee at established rates or other basis agreed upon with the Client. At the request of the client, an amendment to the original agreement will be prepared to document these additional services.

Ownership of Instruments of Service: All documents, including those on electronic media, prepared by OCE as instruments of service shall remain the property of OCE. Any reuse or change without written approval by OCE is prohibited.

Information Provided by Others: OCE shall indicate to the Client the information needed for rendering of services. The Client shall provide the necessary information as is available. OCE shall be entitled to rely on its accuracy, completeness, and authority to furnish it to OCE. The Client recognizes that OCE cannot assure the accuracy, completeness and sufficiency of such information and therefore, indemnifies OCE from all claims arising from its use.

Buried Utilities: The Client shall provide OCE with any available information on the location, size, and type of all underground improvements. OCE shall rely on this information in the preparation of plans and drawings and for subsurface penetrations. The Client agrees to hold OCE harmless from any damage, liability, or costs resulting from inaccuracy of this information, except for damages caused by the sole negligence of OCE in the use of Client furnished information.

Opinions of Probable Cost: In providing opinions of probable cost, the Client understands that OCE has no control over the contractor's method of pricing, or the cost of materials and labor, and that such opinions are provided on the basis of OCE's experience and qualifications. OCE makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Permits and Approvals: OCE shall assist the Client in applying for those permits and approvals as listed in the Agreement. OCE does not guarantee receipt of permits or approval by regulatory agencies.

Construction Observation: OCE will provide persons qualified to observe and report on construction and determine whether the work is in general conformance with the Contract Documents. The Client recognizes that Construction Review is intended to minimize the risk of problems arising during construction; that it is not insurance, and does not constitute a warranty or guarantee of any type. The Contractor shall retain responsibility for the quality of their work and for adhering to the plans and specifications. OCE shall not be required to make exhaustive or continuous on-site observations to check the quality or quantity of the work, and shall not be responsible for scheduling, construction means or methods, coordination of the work with other trades or construction safety precautions, all of which are the

responsibilities of the Contractor.

Shop Drawing Review: OCE will review Contractor submittals for conformance with the design concept and the contract documents. The review shall not include an evaluation of the accuracy or completeness of details, such as quantities, dimensions, and fabrication processes.

Jobsite Safety: The Contractor is solely responsible for jobsite safety. OCE, through its professional activities, or presence at the site, has no authority to exercise control over any contractor in connection with its means, methods, sequences, or any health or safety precautions.

Hazardous Materials: OCE's scope of services does not include any work related to asbestos, or hazardous or toxic materials. In the event it becomes known that such materials are present at the job site, OCE may suspend work on the project, without any liability for damages, until the Client retains a qualified specialist to abate the situation and warrant that the job site is safe and in full compliance with applicable laws.

Mediation: The Client and OCE agree that all disputes between them and arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

Indemnification: OCE and the Client agree, to the fullest extent permitted by law, to indemnify and hold harmless each other from any damage, liability or cost, including reasonable attorney's fees and costs of defense, to the extent caused by their own, negligent acts, errors or omissions arising from the Project.

Limitation of Liability: In recognition of the relative risks and benefits of the project, the Client agrees to the fullest extent permitted by law, to limit the liability of OCE to the Client and to all Contractors on the project, so that the total aggregate liability shall not exceed \$50,000 or OCE's total fee for services, whichever is greater.

Defects in Service: The Client will promptly report to OCE any defects or suspected defects in service or work so that OCE may take measures to minimize the consequences of such a defect.

Termination: Either the Client or OCE may terminate this agreement at any time with or without cause upon giving the other party seven calendar day's notice. In the event of termination, the Client shall pay OCE for all services rendered and expenses to the date of termination, including work in progress.

Taxes: The amount of any Federal, State, or local excise, value added tax, or gross receipts tax which may be imposed on the Engineer's fees under this agreement, shall be added to the fees under this agreement as accrued, and paid to the Engineer by the Client. This does not apply to Federal or State income or payroll taxes.



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



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

Robert joined Otter Creek Engineering in 2015 as a project engineer, moving into a senior project engineer position in January 2018. Prior to Otter Creek Engineering, Robert worked for a consulting firm in Middlebury and a general contractor specializing in the construction of municipal water, wastewater, stormwater and highway projects.

Professional Experience

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 Spring, 2018.

Town of Waitsfield - Design, permitting and construction of new municipal water system including source, storage and distribution system.

Town of Sheldon - Design, permitting and construction oversight for three water system improvements contracts, including the design and construction of a new, half mile long access road to the water storage tank site.

Killington Gateway I Condominiums - Design and permitting for water system improvements, including a new radium removal system in Mendon

Smith Haven Center Water System - Preliminary evaluation, design and permitting of corrosion control improvements to the water system in South Londonderry.

Telemark Village - Design and permitting of water system improvements, including water softening, radium removal, and optimization of corrosion control in Killington.

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.

Town of Middlebury - Design and construction review of utility relocation project as part of a design-build project for a new bridge in downtown Middlebury, which required night work to reduce impacts to restaurants and businesses.

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.

Bob Harrigan *Senior Resident Project Representative*

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. Over the course of his career, 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.

Professional Experience

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

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.

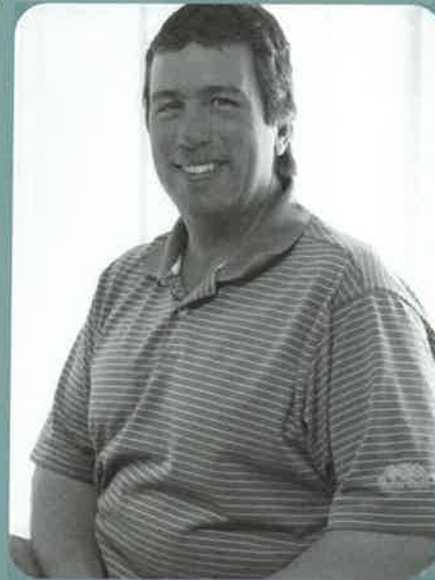
Middlebury, VT on behalf of Vermont Gas - Lead Inspector and Project Coordinator to install gas main and service distribution piping in Middlebury including public and private property.

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

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.



EDUCATION

Received an 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)



Brent F. Rakowski, P.E. *Senior Project Engineer*



EDUCATION

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

PROFESSIONAL REGISTRATIONS

- Licensed Professional Engineer in the State of Vermont.
- Licensed Professional Engineer in the State of New Hampshire
- Licensed Professional Engineer in the State of Massachusetts

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AFFILIATIONS

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

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.

Professional Experience

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

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

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

Redstone Commercial Group - Phased development of commercial business park.

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

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

Fletcher Allen Health Care/UVM - Renaissance Project - Roadway/Access and infrastructure improvements, expansion and renovation.

New Hampshire Department of Transportation - Roadway improvements.

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

Camp Dudley at Kiniya, Colchester - On-site wastewater disposal area and pump station serving 280 seat dining hall and design flows in excess of 6,500 gpd.

North Branch Nature Center, Montpelier - Expanded conference room, class room and offices served by pump station and mound wastewater disposal field.

Vermont Agency of Transportation - Ferrisburgh Park and Ride.



Jason Larocque *President / Senior Engineering Technician*

Jason is a founding partner of Otter Creek Engineering, Inc. and President since 2017. In addition to his oversight role at Otter Creek Engineering, he remains active in all aspects of operation including Project Development, Project Management, Design, and Construction Review.

Professional Experience

Management, Design, and/or Resident Project Representative Services for the following:

City of Rutland, VT - Survey, design, and plan development for a multiple street, multiple outlet stormwater treatment system. Project included water / sewer relocation and road redesign.

Village of Wells River, VT - Mapping, design and plan development for water system upgrades including water main upgrades, storage tank replacement and new filtration / treatment plant.

Brandon Fire District No. 1 - Mapping, design and plan development for water distribution and transmission main upgrades.

Town of Pittsford, VT - Mapping, design and plan development for water distribution and transmission main upgrades to connect the Pittsford and Florence water systems.

Village of Ludlow, VT - Locating, survey and plan development of existing water system infrastructure mapping.

Georgia Industrial Development Corporation - Plant mapping and plan development for complete rehabilitation of existing municipal water treatment plant.

Vergennes Pantown Water District - Plant mapping and plan development for complete rehabilitation of existing municipal water treatment plant.

Town of Middlebury, VT - Survey, design, and construction services for complete infrastructure replacement, including roadway reclamation, partial roadway reconstruction, repaving, curbing, drainage, and water distribution system for Butternut Ridge.

Town of Shrewsbury, VT - Survey, and design of multiple roadway and bridge/culvert project in Shrewsbury post Tropical Storm Irene.



EDUCATION

Associates Degree in Mechanical Engineering Technologies from Vermont Technical College, 1992.

COMMUNITY ROLES

- Prudential Committee Chair, East Middlebury Fire District #1

Estimated Level of Service

Project : Court Square, Court Street, & Washington Street Water Main Replacement

Date: 7/11/2019

Task Number	Task Description	Senior Project Engineer	Staff Engineer	Hydro-geologist	Senior Eng'g Tech.	Senior RPR	RPR	Eng'g Tech.	Admin. Asst.	Expenses	Cost Per Task
1	Topographic Survey and Base mapping										
	Data Collection and Review of Existing Utilities	2			8						\$980
	Utility locates/tracing/structures	2			16			16		\$20	\$3,040
	Obtain VT Gas information	0.5			4						\$435
	Property Investigations (Interior Plumbing)	2			32					\$20	\$3,280
	Coordination meeting with Town Wtr/Swr	2			8						\$980
	Establish Survey Control				3			3		\$40	\$565
	Topo Survey				8			80		\$100	\$7,260
	Base Plan	4			8			32			\$3,760
	SUBTOTAL										\$20,300
2	Conceptual (30% Design Development)										
	Environmental Review (UST, Perc, etc.)	4		16							\$2,040
	Conceptual Design and Plan Development	12			16			32			\$5,400
	Conceptual Design review meeting with Town	4			4						\$820
	Public Works Committee Meeting	4								\$40	\$480
	SUBTOTAL										\$8,740
3	Preliminary (60% Design Development)										
	Traffic Control Plans	2			6			20			\$2,390
	Preliminary Design and Plan Development	24			24			32			\$7,480
	Estimate of Probable Construction Costs	6			16						\$2,180
	Preliminary Design review meeting with Town	4			4						\$820
	Public Works Committee Meeting	4			4					\$40	\$860
	Ledge probes and soil sampling	2			24			6		\$10,000	\$12,980
	SUBTOTAL										\$26,710
4	Final Design (90% Design Development)										
	Technical specs	12	12		12				16	\$50	\$4,490
	Details	12	12		12			24			\$5,520
	Final Design and Plan Development	24	12		12			40			\$8,000
	SUBTOTAL										\$18,010
5	Permitting and Construction Documents										
	Preparation and Submission of permits	4			6				12		\$1,730
	Address Regulatory Review comments	6			8			12			\$2,380
	Construction Documents	12			6			10	12		\$3,410
	Conduction Document review meeting with Town	4			4						\$820
	SUBTOTAL										\$8,340
6	Bidding Phase Services										
	Advertisement	2							4		\$460
	Pre-Bid Meeting (RPR, Admin, Sr. PE @ meeting)	4				4			4	\$40	\$1,100
	Addenda/Questions (Assume 2 Addenda)	8			8			8	8		\$2,760
	Bid opening and recommendation of award	2				4			4		\$840
	Conformed Documents	4						8	8		\$1,560
	Contract Signing	4				2			4	\$60	\$930
	SUBTOTAL										\$7,650
7	Construction Phase										
7.1	Construction Administration										
	Preconstruction Meeting	4				4			4	\$60	\$1,120
	Shop drawing review	4				8			4	\$40	\$1,480
	Pay request review (5 requests)	10				20			5		\$3,300
	Change Orders	8				16			12		\$3,120
	Project Meetings (2/month, 10 total)	20				20			20		\$5,300
	Substantial / Final Completion	8				8			4	\$60	\$1,940
	SUBTOTAL										\$16,260
7.2	Construction Review Services										
	Onsite Observations (4 months of active construction)					900	180		20	\$1,200	\$103,200
	Testing	4								\$15,000	\$15,440
	RFI / ESI	16				16					\$3,280
	Field reports					80			12		\$8,320
	Quantity request for payment	8				16					\$2,400
	Punch lists	4				16				\$60	\$2,020
	SUBTOTAL										\$134,660
7.3	Post Construction Services										
	Record Drawings	8						40			\$4,080
	Eleven Month Walk Through	4				4					\$820
	SUBTOTAL										\$4,900
Total Hours		274.5	36	16	253	1118	180	363	153	\$26,830	
Percent of Total Hours		11%	2%	1%	11%	47%	8%	15%	6%		
Hourly Rate		\$110.00	\$85.00	\$100.00	\$95.00	\$95.00	\$85.00	\$80.00	\$60.00		
Subtotals		\$30,195	\$3,060	\$1,600	\$24,035	\$106,210	\$15,300	\$29,040	\$9,180	\$26,830	

TOTAL \$245,450