MEMORANDUM

TO: **Town of Georgia Selectboard**

FROM: **Ken Minck, Georgia Conservation Commission**
& Dan Albrecht, Northern Lake Champlain Clean Service Provider (CWSP)

DATE: **August 5, 2024**

RE: **Recommendation, Selection of Construction Management Firm for Falls Road Trail Gully Repair**

In early July, Ken distributed the attached RFP to four firms as follows: Fitzgerald Environmental, Dubois & King, Stone Environmental and Watershed Consulting Associates.

Only Watershed Consulting Associates submitted a Proposal (see attached). The Technical Proposal is fully responsive in terms of qualifications and experience. The Cost Proposal is $14,756, which is slightly lower than the budgeted estimate of $15,000.

This cost of $14,756 is fully covered by the Implementation/Construction Grant awarded to the Town of Georgia by the Northern Lake Champlain Clean Water Service Provider at its July 18th meeting. No match funds are required.

We ask that you approve the retention of Watershed Consulting Associates for Construction Management services.

Please contact us if you have any questions. Thank you! Sincerely:

Ken Minck
Georgia Conservation Commission
kcmink@gmail.com
802-370-0765

Dan Albrecht, Manager
Northern Lake Champlain CWSP
dalbrecht@ccrpcvt.org
802-324-4642

GEORGIA
VERMONT

REQUEST FOR PROPOSALS
Falls Road Trail Stormwater Improvements (Georgia):
Construction Management Services

Issued by Town of Georgia 47 Town Common Road North St. Albans, VT 05478

Proposals Due: Friday, July 19, 2024, at 5:00 PM.

Contacts:

Ken Minck, Town of Georgia Conservation Commission, (802) 373-0765, kcmink@gmail.com

Dan Albrecht, Basin 5 Clean Water Service Provider, (802) 324-4642, dalbrecht@ccrpcvt.org

All questions related to this request for proposal shall be addressed to **both** of these individuals no later than 7 business days prior to the Date Due above.

I. GENERAL INFORMATION

The Town of Georgia (Town) is requesting proposals for Construction Management Services to aid the Town in implementing a potential grant to assure successful construction of an infiltration basin, a culvert, a plunge pool and two gabion check dams, two water bars and gully stabilization to treat stormwater runoff in the area of a private property and Falls Road trail, a town-owned trail. The project location is located due east of Cline Road and Fox Haven Lane and due south of the Mill River in the Town of Georgia. Additional details on the project and project location can be found in the attachments to this RFP.

The Town is seeking funding from a Basin 5 Water Quality Restoration Formula Subgrant available from the Chittenden County RPC in its capacity as the Basin 5 Clean Water Service Provider (CWSP). The project is identified in the Vermont Watershed Projects Database as follows: #11965, Falls Road Trail Gully Stabilization – Stormwater Implementation – Georgia. The Town hopes to secure a grant in July or August to fund both the requested Construction Management Services specified herein as well as the Construction itself. With that assumption, the Town hopes to issue an Invitation to Bid for Construction no later than September 15, 2024, an award of a construction contract within 5 weeks of advertisement and to see that construction is completed by December 31, 2024.

II. PROJECT BACKGROUND

A Final Design was recently completed on the project. The following attachments provide details on the project.

- Excerpts from Final Design Report, dated 6-20-24, 31 pages
- Draft Bid Documents prepared by Watershed Consulting Associates, 48 pages

This RFP seeks proposals to address the following Scope of Work.

III. SCOPE OF WORK

The consultant hired to perform these services should be qualified to perform a variety of inspection, record keeping and construction engineering activities including, but not limited to:

Task 1: Administration

a) Act as the primary contact person representing the Town of Georgia on the project. The consultant will be responsible for contacting Mr. Minck and Mr. Albrecht to resolve any issues that may arise during construction.

b) Review and have a thorough understanding of contract plans, specifications, estimates and contract special provisions.

c) Within two weeks after the start of this contract with the Town, complete a review and propose final edits of the draft Invitations for Bid contained with the attachments. As part of this process meet with Town representatives and landowner hosting the project to assure any concerns they have are addressed before issuance of the Invitation for Bid for Construction.

d) Assist the Town with the distribution, advertising and notice of the final version of the Falls Road Trail Stormwater Improvements Invitation for Bid.

e) Coordinate with the Town and site landowner and schedule and oversee the pre-construction conference at the project location. At least 3 days prior to the on-site pre-construction conference, stake and mark site pursuant to plans with special care applied to staking out of areas to be avoided by heavy equipment as well as providing details on staging of equipment and gravel, stones and other related supplies. As part of this staking process, the Consultant should again confer with the site landowner and the Town.

f) Assist the Town with answering questions related to the Invitation for Bid and with overseeing the bid opening, bid review and bid selection process and with the finalization of all required contract documents as detailed in the Invitation for Bid.

g) Assist the Town with completing the Execution of the Contract between the Town and the firm selected for Construction.

h) Maintain communication with Mr. Minck and with the landowner of the project site on a regular basis.

i) Coordinate with the Town, Mr. Minck, Mr. Albrecht and the Construction Contractor.

j) Coordinate, schedule and attend the Final Inspection. Attend all other job-related meetings.

k) Make sure contractor contacts Dig-Safe.

l) Maintain a photographic record of the progress of construction, annotating such photos to indicate their content and context including date. This photographic record must be available for reference by the Town and the CWSP.

m) Report immediately any unusual occurrences and all accidents occurring within the project limits to the Town and the site landowner.

n) Calculation and verification of the final contract quantities.

o) Review and submit to the Town and the CWSP and the landowner any suggestions or requests made by the contractor to change or modify any requirements of the Plans or Contract Documents. Review and prepare any change orders required for the project, including coordination with the contractor, municipality and design consultant if needed. Change orders will include the preparation of an independent cost analysis for items of work that were not included in the original contract unit prices.

p) Receive certificates, computations and reference materials submitted by the Contractor. Maintain files on the project site of all items submitted by the contractor and of work done on behalf of the Town.

q) Review Contractors progress payment estimates.

r) Issue a Certificate of Substantial Completion at the appropriate time.

s) Provide certification to the Town and the CWSP and the landowner that this project was constructed as designed, subject to appropriate and necessary revisions during construction, in conformance with all project specifications and that all necessary contract provisions were fully complied with.

Task 2: Construction Management

1. Visit the project site regularly when contractor and subcontractor activities are underway. This should be at least two to three times per work week and more often when key installations or project elements are being constructed/installed.

2. Check that the contractor complies with all construction contract requirements, permits and ordinances; property rights agreements; erosion and sediment control; and stormwater management plan; state permits, regulations and statutes; and federal regulations and statutes; and exercise the engineer's authority as provided in the contract documents and report immediately any deviations to the Town and the CWSP and the landowner.

3. Erosion control monitoring in accordance with applicable permits.

4. Check that completed work complies with the plans and specifications and is true to line and grade.

5. Wear personal protective equipment, including appropriate headgear, footwear and reflectorized vest when on the project site.

6. Provide and have on the project all necessary equipment, tools, and supplies needed to carry out the required duties.

7. Inspect work completed at such time as the contractor may claim substantial completion, with a contractor's representative, and issue a list of items to be corrected or completed.

8. Provide as-built drawings or red-lined 100% designs with a list of change orders describing adjustments made during construction.

Please note that a field office will not be provided.

IV. RESPONSE FORMAT

Responses to this RFP shall consist of a Technical Proposal and a Cost Proposal being submitted as two (2) separate PDFs to both Mr. Minck and Mr. Albrecht

A. A technical proposal consisting of:

1. A cover letter expressing the consultant's interest in working with the Town including an identification of the principal individual(s) that will provide oversight of the requested services.

2. A description of the general approach to be taken toward completion of the project and an explanation of any variances to the proposed scope of work as outlined in this RFP.

3. A scope of work that includes detailed steps to be taken, any products or deliverables resulting from each task and a summary of estimated labor hours by task. Please be sure to provide details on how many hours per week or per task your firm would propose to physically be on site to supervise the construction and why some tasks would need more or less oversight on your firm's part. Forty person-hours per week would obviously be over-kill but less than five hours would be inadequate.

4. A list of individuals that will be committed to this project and their professional qualifications including the names and qualifications of any sub-consultants. The individual's names, titles and expected duties should be included. Any personnel not specified in the proposal will require the approval of the Town prior to utilization or invoicing.

5. Describe experience with managing similar construction projects with similar types of project elements AND especially any prior projecst with similar access/staging concerns.

6. Demonstration of success on at least two (2) similar projects, including a brief project description and a contact name, phone and email address for reference.

7. The Technical proposal shall be clear and concise, not exceeding twenty-five, 8.5" x 11" pages within the PDF file.

A. A separate cost proposal consisting of:

1. A composite schedule by task of direct labor hours, direct labor cost per class of labor, overhead rate, and fee for the project. If the use of sub-consultants is proposed, a separate schedule must be provided for each. Please note that the Town and CWSP estimate that the services requested herein should cost less than $15,000.
2. The Cost proposal shall be clear and concise, not exceeding three, 8.5" x 11" pages within the PDF file.

V. CONSULTANT SELECTION

The Selection Committee includes *Mr. Minck and Mr. Albrecht.* The Selection Committee will make a recommendation to the Town Selectboard to award a contract. The selection committee will review and evaluate all proposals based on the following criteria on a 100-point scale:

Review Criteria	Weight	Maximum Points	Weighted Points
Understanding of the Scope of Work	3	5	15
Familiarity with Construction Project Elements	5	5	25

Qualifications/Experience of Proposed Staff	3	5	15
Proven Record of Successful Management of Similar Projects	4	5	20
Cost Proposal	5	5	25
TOTAL			100

The selection committee may elect to interview consultants prior to final selection. The Town and the CWSP reserve the right to seek clarification of any proposal submitted. The proposals will be evaluated based upon the scoring criteria above. The committee will make a recommendation on consultant selection to perform the services outlined in the scope of work ideally within two weeks of the close of this RFP. The rates that are proposed will be in effect for the complete term of the contract. Also, at that time, a notice of intent to issue the contract to the selected proposer will be emailed to all parties who submitted a proposal.

Please note that the Selectboard will not be asked to formally award a contract until funding has been secured by the Town for both the Construction Management and the Construction itself. It is hoped that the Town will receive notice that it has secured the necessary funding by July 18th or at the latest by August 15th.

VI. SUBMISSION

Submissions in response to this RFP are due by **Friday, July 19, 2024, at 5:00 PM, EDT**. Please submit the Cost and Technical Proposal via PDFs as electronic submissions to BOTH:

Ken Minck, Town of Georgia Conservation Commission, kcminck@gmail.com
Dan Albrecht, Basin 5 CWSP, dalbrecht@ccrpcvt.org

The expense of preparing and submitting this proposal is the sole responsibility of the Consultant. The Town reserves the right to negotiate the scope of work and/or costs associated with the Consultant's proposal, or to cancel in part or in its entirety this RFP if it is in the best interest of the Town. This solicitation in no way obliges the Town to award a contract.

Mr. Albrecht and/or Mr. Minck will confirm receipt of the submissions. If you do not receive confirmation of your submission within 24 hours, please contact Mr. Albrecht at 802-861-0133.

VII. CONTRACTING

The Consultant, prior to being awarded a contract, shall apply for registration with the Vermont Secretary of State's Office to do business in the State of Vermont, if not already so registered. The registration form may be obtained from the Vermont Secretary of State, 128 State Street Montpelier, VT 05633-1101, PH: 802-828-2363, Toll-free: 800-439-8683; Vermont Relay Service – 711; web site: https: https://www.vtsosonline.com/online.

The contract will not be executed until the Consultant is registered with the Secretary of State's Office. The successful Consultant will be expected to execute sub-agreements for each sub-consultant named in the proposal upon award of this contract.

If the award of the contract aggrieves any firms, they may appeal in writing to the Town of Georgia Selectboard, 47 Town Common Road North St. Albans, VT 05478. The appeal must be post-marked within seven (7) calendar days following the date of written notice to award the contract. Any decision of the Town Selectboard is final.

Prior to beginning any work, the Consultant shall obtain Insurance Coverage in accordance with the attached *State of Vermont's Standard State Provisions for Contracts and Grants*, aka Attachment C.

VIII. ATTACHMENTS

Excerpts from Final Design Report, dated 6-20-24, 31 pages

Draft Bid Documents prepared by Watershed Consulting Associates, 48 pages

State of Vermont's Standard State Provisions for Contracts and Grants, 5 pages

July 19, 2024

Ken Minck
Town of Georgia Conservation Commission
802-373-0765
kcmink@gmail.com

Dan Albrecht
Basin 5 Clean Water Service Provider
802-324-4642
dalbrecht@ccrpcvt.org

RE: Falls Road Trail Stormwater Improvements (Georgia): Construction Management Services

Dear Ken and Dan:

Watershed Consulting is pleased to submit this proposal for construction management services for implementation of the gully restoration project along Falls Road Trail in Georgia, Vermont. We are pleased to include in the project team Lakeside Environmental Group (LEG) and Trafton Engineering Associates, LLC (Trafton Engineering).

Our team will be an excellent partner in this project. Watershed Consulting, having completed the initial scoping, planning, and 30% designs as well as the final 100% designs with LEG and Trafton Engineering for the site well understands the site-specific conditions and the intricacies of the design, the site, and the construction access. We are excited to continue the forward momentum established during the prior design phases of the project. Our project team has a wealth of experience in diverse stormwater-related projects and strives to efficiently and effectively provide the necessary engineering support to successfully and smoothly support the implementation of this impactful water quality improvement project.

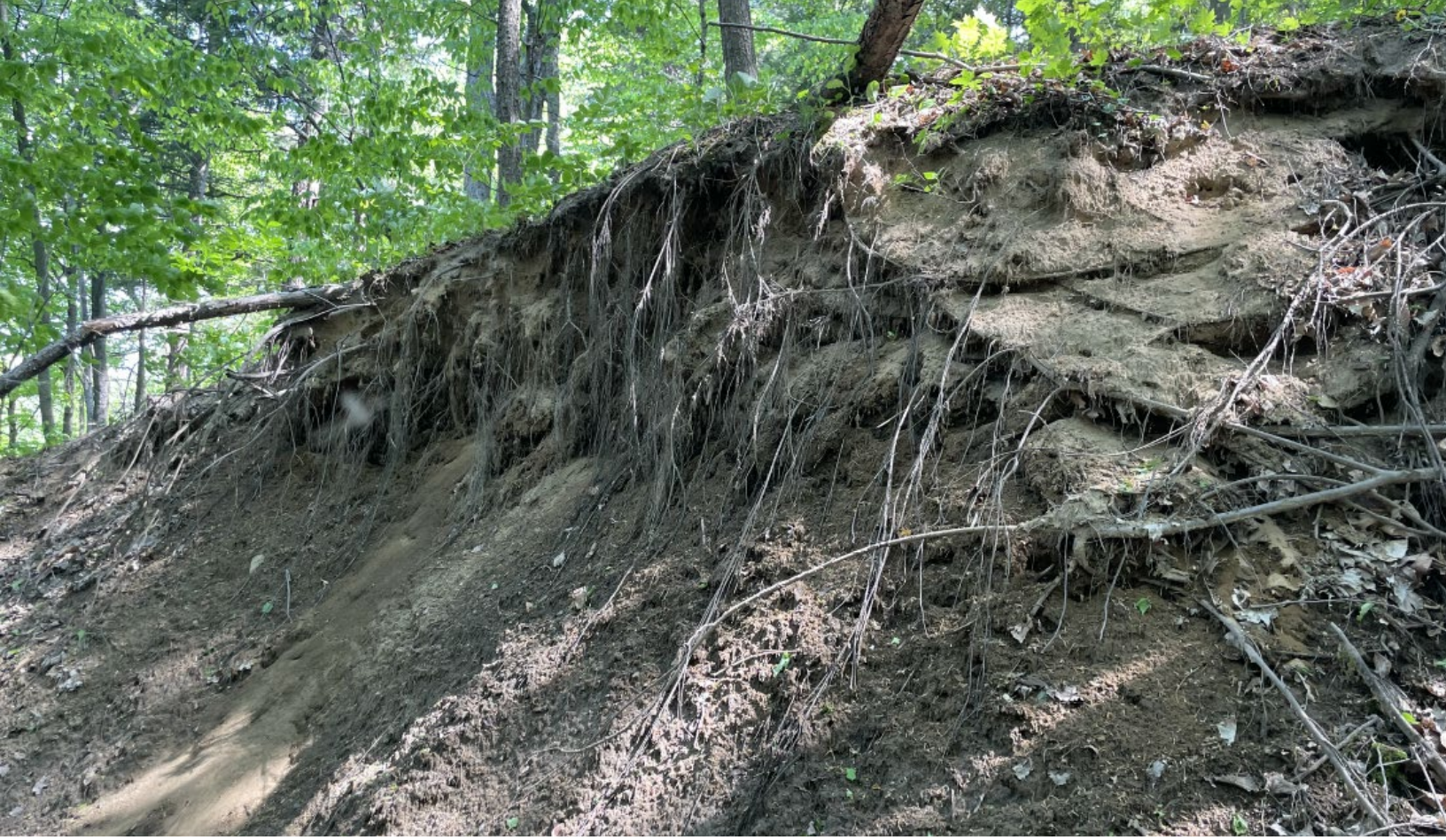
We have considerable past project experience working with earthwork contractors to ensure projects are constructed in accordance with engineering designs. The project team is very familiar with the entire construction process from the bid document finalization, pre-bid conference, and selection of the contractor to construction oversight and final reporting. Due to the short timeframe for implementation (December 30, 2024), we will ensure that the initial stages of the project including the kickoff meeting and finalization and issuance of the bid documents occurs as soon as possible once the contract has been signed. This will ensure that the selected contractor has the maximum amount of time possible to complete the construction. Our project team also recognizes the importance of regular and open communication with the project stakeholders including the private landowner to ensure that all parties are informed about progress on the project and are aware of any issues encountered and the manner in which they were resolved.

Trafton Engineering includes Trafton Crandall, a P.E. registered in the State of Vermont, who has a wealth of engineering expertise. Watershed Consulting and our project team have a close working relationship and have partnered to complete many stormwater management projects in the past. Our joint team's interdisciplinary experience allows us to provide a unique array of skills and experience necessary to meet the needs of this project – from the engineering expertise of an experienced Professional Engineer to informed on-site construction observation and adherence to permit requirements. Trafton Crandall, Andres Torizzo, and Anna Sherman will be involved in construction oversight.

Our qualifications, experience, and drive for protecting our water resources set us apart from our competitors. I am certain that our team will provide superior services and will successfully work with Town of Georgia and the CCRPC to ensure proper implementation of the gully restoration practice at Falls Road Trail in Georgia, VT. We would be privileged to have the opportunity to work with you to support this implementation. Thank you for your time and consideration. We look forward to hearing from you.

Sincerely on behalf of the project team,

Andres Torizzo
Principal



Falls Road Trail Stormwater Improvements (Georgia): Construction Management Services

Response to Request for Proposals

SUBMITTED TO:

Ken Minck
Town of Georgia Conservation Commission
802-373-0765
kcmink@gmail.com
&
Dan Albrecht
Basin 5 Clean Water Service Provider
802-324-4642
dalbrecht@ccrpcvt.org

SUBMITTED BY:

Andres Torizzo
Watershed Consulting
208 Flynn Ave Suite 2H | PO Box 4413
Burlington, VT 05406
(802) 497-2367
www.watershedca.com

WATERSHED CONSULTING

GEORGIA VERMONT

Background and Project Summary

Falls Road Trail, located in the Town of Georgia, is a 1.1-mile trail located between Cline Road and Mill River Road. This former road was recently reclassified to trail status by the Town of Georgia. In many areas, there is a steep slope towards the northwest. The trail intersects this slope but lacks cross drainage throughout its length, so the water often collects on the trail and causes significant erosion. A significant, eroding gully has formed along the trail, located adjacent to the most impaired portion of Mill River, less than a mile from the Mill River delta in St. Albans Bay. The gully erosion is a result of unmanaged stormwater runoff that is concentrated by Falls Road Trail, exacerbated by non-cohesive soils and steep slopes.

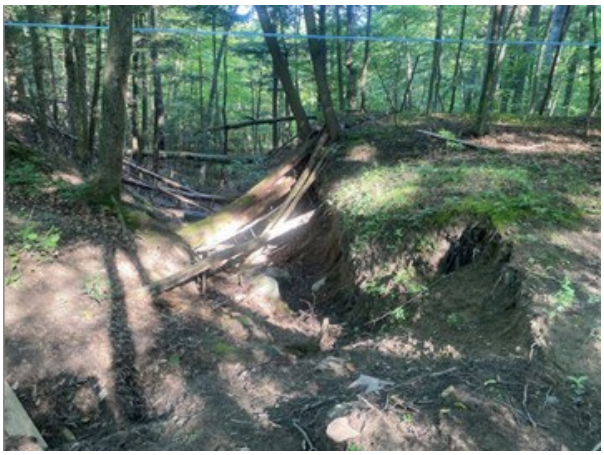


Figure 1. A significant eroding gully is contributing sediment and phosphorus to Mill River.

This site was initially investigated by Watershed Consulting with Friends of Northern Lake Champlain. This gully was identified as a high priority for mitigation during this scoping study (Figure 1). Then, Watershed Consulting worked with the Town of Georgia to develop a final 100% engineering design for stabilization of the gully, management of the contributing drainage area, and to prevent future erosion to Mill River. The design included two water bars, an infiltration basin, a plunge pool with two rock gabion walls, and stabilized stone channel within the gully itself. The implementation will include property owned by the Town of Georgia (the trail right-of-way) and a private landowner.

The Town of Georgia, working with the Chittenden County Regional Planning Commission (CCRPC) in their role as the Basin 5 Clean Water Service Provider (CWSP), received approval for implementation funding for this important project, which will reduce Phosphorus loading to Lake Champlain by more than 24 kg/yr. In order to successfully construct the practice, the project stakeholders are now seeking to contract with a qualified firm to provide construction management services. Watershed Consulting, with subcontractors Lakeside Environmental Group (LEG) and Trafton Engineering, is pleased to provide the attached proposal and detailed scope of work for completion of this important project.

Under this scope of work, Watershed Consulting, LEG, and Trafton Engineering (the project team) will provide construction engineering and oversight for the implementation of the gully mitigation project. The project team will coordinate with all stakeholders for the project and ensure that the project is implemented according to the 100% design plans, bid documents, and contract with the construction firm. The team will provide construction coordination support, perform site inspections throughout the construction process, and stay abreast of all permitting and reporting needs. In order to ensure that the selected contractor is able to begin construction as soon as possible to complete the project by the end of 2024, finalization of the bid documents will be prioritized immediately upon the signing of the contract for these services.

Scope of Work

Phase 1: Administration

Task 1. Kickoff Meeting

1.A. – Attend Kickoff Meeting

A kickoff meeting will be held with the private landowners and project stakeholders (CCRPC and Town of Georgia) to address any concerns and discuss the project including a review of the 100% design plans, draft bid documents, bidding and construction timing, permit requirements, division of labor, a review of the operations and maintenance plan, and any other questions or discussion topics that may arise. Watershed Consulting will catalog any comments on the proposed schedule and any other remarks or concerns.

It is expected that the project stakeholders will provide input to the project team on construction timeline, division of labor, and any other project details deemed pertinent.

1.B. – Prepare and Distribute Meeting Minutes

Meting minutes will be taken during the kickoff meeting and finalized and distributed to project stakeholders following the kickoff.

Deliverable: Meeting attendance and meeting minutes

Task 2. Finalize and Issue Bid Documents

Within two weeks of the signing of the contract for this project, construction bid documents will be updated and issued to the project stakeholders for review to being distributed via the Vermont Bid Registry and direct contact to potential contractors for consideration. The bid documents will be finalized with specific information such as the proposed project schedule, mandatory pre-bid conference, and any other additional required elements. Any final revisions to the bid documents will be completed based on feedback from the project stakeholders and the final bid document package will be distributed. Assistance will be provided in advertising and distributing the final Invitation for Bid. As the project team developed the design plans for this project, only a brief review of completed work is necessary and will be completed at this time, leaving additional hours for construction oversight during construction.

Deliverable: Draft updated bid documents, final construction bid documents

Task 3. Facilitate Pre-Bid Conference

A mandatory pre-bid conference will be held on-site. All contractors who intend to bid on the project will be required to attend for their bid to be considered. The project team will walk the site with the contractors and provide an overview of the project. All questions from the contractors will be answered and recorded in a Q&A document, which will be distributed to all contractors and the project stakeholders after completion of the conference. The project team will keep a record of all contractors who attend the meeting as well as their contact information. This record will be provided to the project stakeholders along with the conference notes. The project team will assist the project stakeholders in answering any questions related to the Bid. It will be confirmed that the bids will be accepted only as lump sum bid packages and that contractor payment will be provided based on implementation of the design not by unit cost measures.

Deliverable: Pre-bid conference notes; list of firms represented at the pre-bid conference

Task 4. Bid Evaluation

4.A. - Bid Opening and Evaluation

A bid-opening will be held via Zoom (or another preferred remote platform) facilitated by the project team. All contractors who bid on the project will be provided with a link for the meeting upon receipt of their bids. All valid bids will be opened and read aloud.

4.B. - Memorandum Preparation and Submittal

Following the bid opening, the project team will develop a memorandum summarizing the bids and provide a recommendation and a rationale for that recommendation to the project stakeholders regarding contractor selection. If requested, the project team will meet with the project stakeholders to discuss any concerns or questions.

Deliverable: Memorandum summarizing bids received; recommendation and rationale for contractor to be awarded the contract

Task 5. Prepare Contract Documents

Contract documents will be drawn up to be executed by and between the Town of Georgia and the Selected Contractor. The project team will facilitate communication and coordination between the contractor and the project stakeholders as necessary and facilitate execution of the contract between the Town and the selected construction firm.

Deliverable: Draft contract documents

Task 6. Permitting

The project team will ensure final permits are obtained including the Town of Georgia Zoning Permit prior to project construction. The team will perform a brief final required permitting review to ensure that all necessary permits are in place.

Deliverable: All necessary permit applications complete and submitted

Task 7. Facilitate Pre-Construction Conference

7.A. – Project Stakeout

Project stakeout will be completed at least three days prior to the pre-construction conference. The site will be staked and marked per the final design plans with a particular focus on staking out areas to be avoided by heavy equipment. Details on equipment staging, gravel and stone stockpiles, and other related storage of supplies will be provided. The Town and site landowner will be contacted, and any relevant discussions held prior to and following stakeout.

7.B. – Pre-Construction Conference

A mandatory pre-construction conference will be held on-site. The selected contractor, the site landowner, and project stakeholders will attend this conference. A site walk will be completed and any remaining questions from the contractor answered. The project team will ensure that the contractor has coordinated with Dig Safe.

Deliverable: Project stakeout complete, attendance at pre-construction conference

Phase 2 – Construction Management

Task 1. Construction Observation, Invoice & Change Order Approval, and Interim Reporting

1.A. - Construction Observation and Oversight

The project team will provide construction observation and oversight services throughout the course of construction. All staff who visit the construction site will be equipped with appropriate personal protective equipment (high visibility vest, hard hat, and crush resistant footwear), and all necessary equipment, tools, and supplies will be transported to the site or, if applicable, stored on site. The team will perform site visits two to three times per week with more frequent and/ or prolonged visits when key installations are being completed or constructed.

The project team will ensure the project is constructed in accordance with design specifications and that work completed complies with the plans and specifications and is true to line and grade. The project team will also ensure that erosion control practices are in line with accepted standards and applicable permits. Any derivations from acceptable construction practices including violations of permits, ordinances, property agreements, erosion and sediment control practices, or any other unusual occurrences will be reported immediately to the project stakeholders, the landowner, and the contractor. Annotated photo documentation will be completed at each site visit. Regular communication will be provided regarding site updates to project stakeholders and the landowner. The project team will receive certificates, computations, and reference materials submitted by the contractor, which will be maintained, stored, and organized in a project-specific file.

1.B. - Change Order and Invoice Review

The project team will verify and approve material specifications, review and approve payment requisitions and change orders, answer any questions as they arise, and be generally available to the Contractor throughout the course of the project. Change orders will be coordinated as needed and will include preparation of an independent cost analysis for work items that were not included in the original contract price.

1.C. - Interim Report Preparation and Submittal

At the approximate midpoint of construction, the project team shall prepare an interim report to be submitted to the project stakeholders which shall include:

- Construction photographs
- Approximate completion percentage
- Work completed to-date
- An assessment of project budget status
- A summary of any project complications if applicable

- Any other information deemed pertinent

Deliverable: Interim project report (see details above)

Task 2. Final Inspection and Reporting

2.A. – Site Inspection and Correction List

A final site inspection and walk through following reporting of substantial completion by the contractor. A representative from the contractor will accompany staff on this walk-through. A list of items to be corrected or completed will be developed following this inspection as needed. The list will be provided to the contractor and project stakeholders. Staff will confirm correction of any identified issues following notification that the corrective actions have been completed by the contractor. The final site inspection will be coordinated and completed following corrective actions as needed. A Certificate of Substantial Completion will be issued when appropriate. Following this, certification will be provided to the project stakeholders and the landowner that the project was constructed as designed, taking into account any approved changes or revisions that occurred during construction, and is in conformance with project specifications and is in fulfilment of the contract provisions.

2.B. - As-Built Plan Preparation

Final as-built plans will be prepared following construction.

2.C. - Final Construction Report

Following substantial completion of the construction phase, a Final Engineering Report will be prepared and submitted to CVRPC. This report will include, at a minimum:

- a brief summary of the project,
- site photographs,
- a description of any deviation from the original 100% design and a rationale for that deviation (as applicable), and
- as-built plans.

Deliverable: Corrective action list, as-built plans, final engineering report

Staff Hours per Project Task

The table below includes a summary of the person hours proposed per project task.

Phase	Category & Task	Firm Staff / Title	Watershed Consulting			LEG		Trafton Engineering
			A. Torizzo	K. Garvey	A. Sherman	A. Stout	S. Smith	T. Crandall
			Principal	GIS Program Manager	Water Resources Scientist	Senior Planner	CAD / GIS Specialist	Principal, P.E.
Phase 1. Administration								
1	**Task 1. Kickoff Meeting**							
	1.A. Attend Kickoff Meeting		1	1				
	1.B. Prepare and Distribute Meeting Minutes			0.5				
2	**Task 2. Finalize and Issue Bid Documents**		2		3			1
3	**Task 3. Facilitate Pre-Bid Conference**		4					
4	**Task 4. Bid Evaluation**							
	4.A. - Bid Opening and Evaluation		3					
	4.B. - Memorandum Preparation and Submittal		0.5		1			
5	**Task 5. Prepare Contract Documents**		2		1			
6	**Task 6. Permitting**				2			
7	**Task 7. Facilitate Pre-Construction Conference**							
	7.A. – Project Stakeout		1		5			
	7.B. – Pre-Construction Conference		2.5					
Phase 2. Construction Management								
1	**Task 1. Construction Observation, Invoice & Change Order Approval, and Interim Reporting**							
	1.A. - Construction Observation and Oversight		16		8			8
	1.B. - Change Order and Invoice Review		2.5					
	1.C. - Interim Report Preparation and Submittal		0.5	1	2			
2	**Task 2. Final Inspection and Reporting**							
	2.A. – Site Inspection and Correction List		4		1			4
	2.B. - As-Built Plan Preparation		1		4	2	6	
	2.C. - Final Construction Report		1	1	4			1
	Total Hours by Staff		41	3.5	31	2	6	14

Qualifications

Watershed Consulting is a Burlington, Vermont-based Woman-Owned Small Business (WOSB) specializing in stormwater management, practice design, geospatial planning, water quality investigations, and data analysis. Watershed Consulting has a strong portfolio of successful project examples in the State of Vermont, from initial assessment and planning to concept design to final design and implementation support. Watershed Consulting has been a leader in the State on stormwater retrofitting and has led designs for treatment features in Vermont for over 15 years. Since that time, Watershed Consulting has worked with a diverse group of partners and stakeholders to design and implement numerous water quality projects.

Watershed Consulting has successfully provided construction engineering services for a variety of stormwater and water quality focused implementation projects around the State of Vermont. Watershed Consulting is experienced with the preparation and distribution of construction bid materials to select a contractor to implement water quality project. Watershed Consulting utilizes the Vermont Bid Network and through this platform, has successfully collaborated and maintained working relationships with many contractors in Vermont. If the client has a pre-selected list of contractors that they have completed previous work with, Watershed Consulting will work with the client to evaluate and select the appropriate contractor for the project from this selection. We work closely with the contractor to ensure that a detailed implementation schedule is developed and maintained, the project site is properly staked out, and that daily construction activities are in compliance with the applicable permit regulations and design specifications. Below is a selection of stormwater projects that Watershed Consulting has provided construction engineering services for and collaborated with various contractors to execute successful stormwater project implementation.

Andres Torizzo CPESC, CISEC, CESSWI, CPSWQ – Principal: Andres is the Principal and co-founder of Watershed Consulting. Andres has been modeling, designing, permitting, and inspecting stormwater projects in Vermont for over 19 years in a range of environments and geographic locations across the State. His work has included partnering with municipalities and nonprofit groups on State and Federally funded water quality improvement projects, and he has consulted for a range of development owners on industrial, commercial, residential, and transportation-based sites. Andres holds a master's degree in Geography from the University of Colorado at Boulder and a bachelor's degree in Geological Sciences from Tufts University.

Kerrie Garvey, GISP – GIS Program Manager: Kerrie has extensive experience working with ArcGIS software, developing models, and managing large datasets. Kerrie has been actively managing multi-town master planning efforts, has supported the design, both concept level and final design, of many stormwater BMPs, and completes stormwater-focused modeling with programs including HydroCAD, WinSLAMM, STEPL, EPA's Opti-Tool, and State phosphorus loading tools including the Stormwater Treatment Practice calculator. She holds an MS in Natural Resources from the University of Vermont and a BS from Colby-Sawyer College.

Anna Sherman- Water Resources Scientist. Anna has a background in stormwater treatment analysis, biogeochemistry, and Geographic Information Systems (GIS). She has a bachelor's degree from the University of Vermont in Environmental Science with a concentration in Ecological Design and a minor in Anthropology. Anna is involved with stormwater permitting, soils research, and mapping.

Watershed Consulting will be the primary consultant for this project and the project team will include Trafton Engineering and Lakeside Environmental Group (LEG). Watershed Consulting has worked closely

with Trafton Engineering and LEG on many projects in recent years and have found that Trafton Engineering's extensive engineering experience and LEG's design and drafting experience has been an asset on similar past projects. Resumes for all key personnel are attached.

Trafton Engineering Associates, LLC

Trafton Engineering is led by Trafton Crandall, a Vermont-licensed professional engineer (P.E.). Trafton is the Owner and Principal Engineer of Trafton Engineering Associates, LLC and has extensive experience in stormwater BMP design and permitting. Trafton's expertise complements and enhances the skills of the remainder of the project team. Trafton will provide engineering oversight for this project.

Lakeside Environmental Group

Lakeside Environmental Group (LEG) is a small Burlington, VT consulting firm that specializes in stormwater treatment design, wastewater and potable water supply design, complex grading designs, land use planning, project management and permitting, GPS and GIS mapping, topographic surveying and modeling, CAD drafting, environmental mediation, and related resource evaluations (aesthetics, agricultural soils, wetlands, etc.). LEG was formed in the spring of 2010 with partners who had worked together previously at Heindel & Noyes for over eight years. LEG frequently teams with other development consultants including Watershed Consulting.

References: Below please find contact information for three references familiar with Watershed Consulting's ability, experience, and reliability. Additional references are available upon request.

Ira Shadis
Friends of the Mad River
Stewardship Manager
ira@friendsofthemadriver.org
Physical address: General Wait House • 4061 Main Street, Waitsfield, VT 05673
Mailing address: PO Box 255, Waitsfield, VT 05673
Phone: 802-496-9127

Nanci McGuire
Rutland Natural Resources Conservation District
District Manager
(802) 775-8034 x117
170 S Main St, Ste 4
Rutland, VT 05701
Nanci.mcguire@vt.nacdnet.net

Mark French
Town of Hyde Park
Road Commissioner
mfrench@hydeparkvt.com
Physical Address: 344 VT 15W, Hyde Park, VT 05655
Mailing Address: PO Box 98, Hyde Park, VT 05655
Phone: 802-888-2300

Project Examples

A brief selection of project examples is included in the following pages. Additional examples are available upon request.

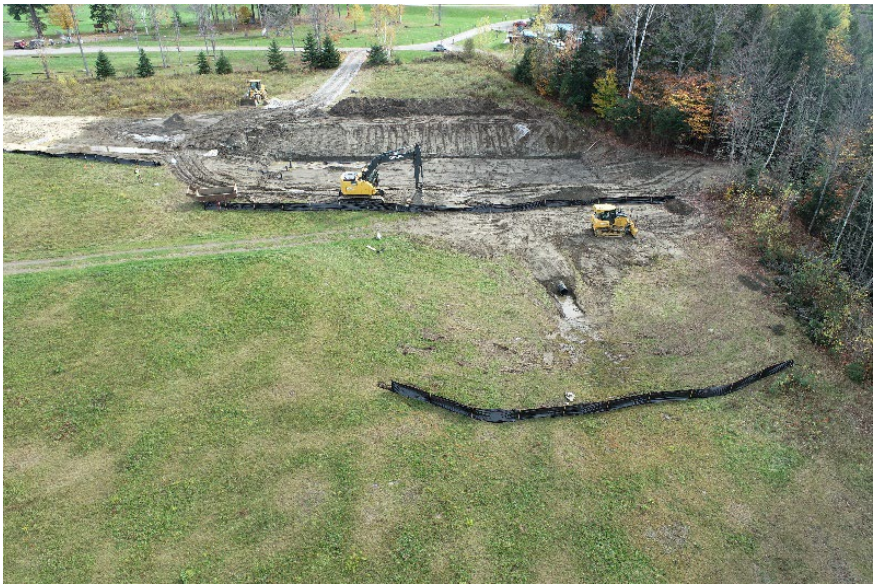
Barre Town Recreational Fields – Bioretention Basin Final Design & Implementation

BARRE TOWN, VT 2017-2021

Project Highlights

- Constructed grass swale and bioretention basin treats stormwater runoff from 22.3 acres of land
- Complies with the site's 3-Acre regulatory treatment requirements

In 2019, Watershed Consulting was hired by the Friends of the Winooski River to complete 100% engineering designs for three properties in Barre Town, VT, including the Barre Town Recreational Fields. The project was originally identified and developed to the 30% design phase in the Quarry Hill and Sterling Hill Stormwater Master Plan in 2017. The proposed stormwater features included a retrofit of an existing grass swale to improve stormwater pre-treatment and conveyance, a bioretention basin, and slope stabilization. Watershed Consulting completed the 100% engineering design of all proposed features in 2019. In 2021, FWR acquired a second round of funding to obtain the necessary permits and implement the proposed practices. Watershed Consulting was subcontracted by FWR for this subsequent implementation phase. This phase included developing an Operations & Maintenance plan and agreement for the Town of Barre and acquiring the Act 250 permit, Construction General Permit, the Operational Stormwater Permit (3-9050) prior to project implementation. Watershed Consulting prepared all permit applications and oversaw the technical review process for each permit application with the applicable state regulatory agencies to acquire the necessary permits. Once all permits were authorized, Watershed Consulting completed and administered bid documents through the Vermont Bid Network to hire a contractor to construct the project. Watershed Consulting selected Hebert Excavation to construct the project. From September to December 2021, Watershed Consulting worked closely with Hebert Excavation to complete a site stakeout, observe construction activities on a daily basis to ensure successful project implementation that was in compliance with the authorized permits. This work was completed in December 2021 and continues to be inspected by Watershed Consulting on an annual basis.



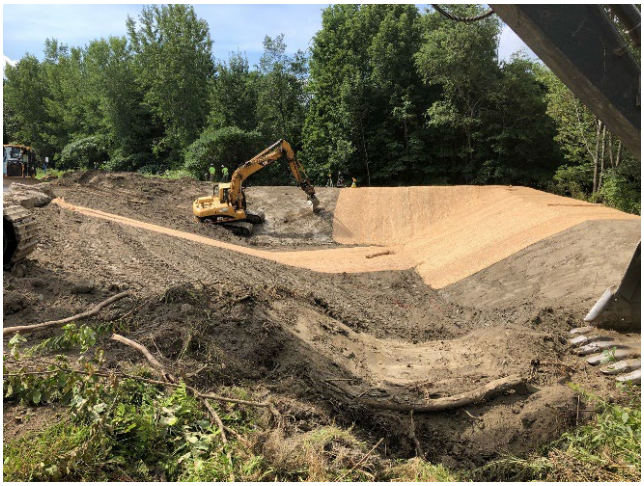
U-32 Middle & High School – Gravel Wetland Final Design & Implementation

MONTPELIER, VT 2018-2022

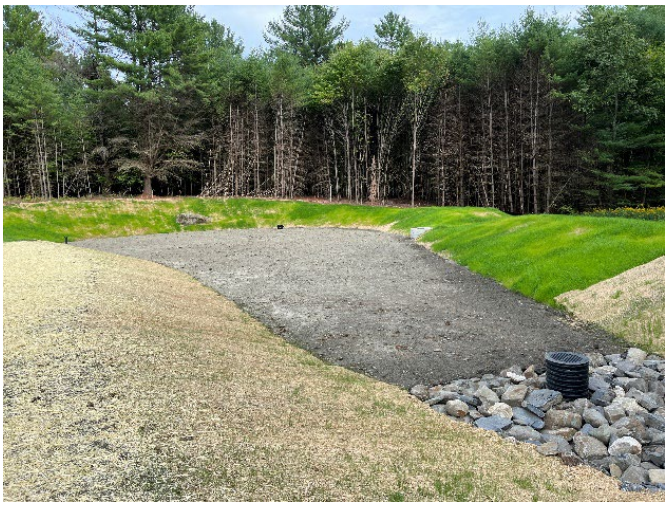
In 2018, Watershed Consulting, in partnership with Civil Engineering Associates, was hired by the Town of East Montpelier to complete a municipal stormwater master plan (SWMP). The U-32 Middle & High School was identified and assessed as part of the East Montpelier SWMP to determine the site's future 3-acre requirements needed to comply with General Permit 3-9050. During this preliminary planning phase, it was determined that two gravel wetlands systems would collectively help the school meet their 3-acre treatment requirements under General Permit 3-9050. In 2019, a 30% engineering design was completed for the two gravel wetlands as part of the East Montpelier SWMP.

Project Highlights

- Successfully implemented two gravel wetlands that manage 5.7 acres of impervious within a 14-acre drainage area
- Stormwater features comply with the 3-Acre treatment requirements under General Permit 3-9050



In 2021, the Washington Central Unified Union School District hired Watershed Consulting directly to complete a formal Engineering Feasibility Analysis (EFA), a 100% design, General Permit 3-9050 obtainment, and construction engineering services. Watershed Consulting first conducted a thorough EFA to verify the minimum treatment requirements for the school to meet General Permit 3-9050 standards that were initially assessed in the East Montpelier SWMP. The EFA findings showed that the two proposed gravel wetlands would be sufficient for providing the minimum treatment requirements under General Permit 3-9050. Once the EFA was complete, Watershed Consulting completed a 100% engineering design and an O&M plan and agreement for the two gravel wetlands. The final component of the scope of work was providing construction engineering and oversight. This included providing bid management support, stakeout of key site features to establish horizontal and vertical control, organize and attend a pre-construction meeting with the selected contractor, daily observation of construction activities, and a post construction inspection. In Summer 2022, Watershed Consulting selected Hebert Excavation to implement the proposed stormwater system and worked closely with the contractor to ensure that all construction engineering services were met for the client and resulted in a successful implementation of the gravel wetlands and all associated design features.



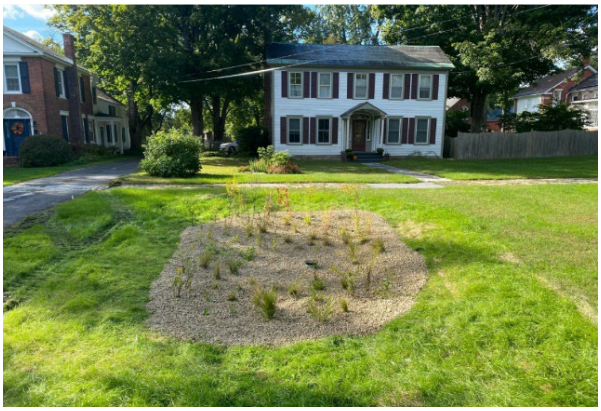
Pearl Street Final Design and Implementation

BRANDON, VT 2021

Project Highlights

- Developed 100% design plans
- Completed construction oversight

A project along Pearl Street in Brandon, VT was identified by Watershed Consulting as a priority area for stormwater retrofit during the 2017 Brandon Stormwater Master Plan (SWMP) due to its crucial location within the Neshobe River watershed and anticipated high pollutant removal efficiencies. Pearl Street has particularly wide rights-of-way and sandy soils that are ideal for infiltration. The concept envisioned for the Pearl Street area was a series of bioretention practices (bio-swales) along the entire length of Pearl Street. These practices make use of the wider than average street width to create long, narrow bioretention practices within the right-of-way that reduce pollutants by infiltrating runoff to the groundwater. Runoff flows into a concrete notch inlet and overflows using existing catch basins. 30% designs were completed during the SWMP development. This design was then advanced to the 100% design phase. Watershed Consulting staff completed topographic surveys and soil investigations along Pearl Street to verify the infiltration rate of the native sandy soils. Cost projections were also developed. This project was estimated to remove 6.49 lbs of TP annually. The team completed site stakeouts for construction and provided oversight during the construction activities in 2021.



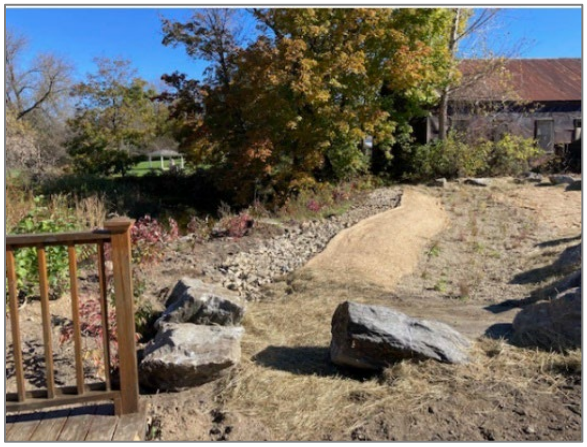
Café Provence Final Design and Implementation

BRANDON, VT 2021

Project Highlights

- 100% designs completed for constrained site abutting river corridor.
- Project successfully implemented in constrained area along the Neshobe River.

Watershed Consulting completed a Stormwater Master Plan (SWMP) for the Town of Brandon. As part of this SWMP, 5 sites were identified for concept (30%) designs including the Town-owned public parking lot behind Café Provence. This parking area serves numerous buildings and businesses and the stormwater runoff from this area was draining directly into the Neshobe River. Final design was then completed for the site. These 100% plans included a bioretention area to collect runoff from the parking lot and a dry well. This design was successfully implemented within the constraints of the existing buildings, traffic patterns, and the river's sensitive riparian area and corridor to manage stormwater effectively. A dry well was designed to manage the runoff from the Café's patio area. Watershed Consulting completed construction oversight for this project's implementation.



Northfield Village Green Infrastructure Design and Implementation

NORTHFIELD, VT 2014-2019

Project Highlights

- Town of Northfield completed implementation of green infrastructure design project
- Four projects designed, with the ability to manage 24.3 acres

Watershed Consulting, in partnership with Lakeside Environmental Group, was hired by the Central Vermont Regional Planning Commission to complete a green infrastructure retrofit assessment for the Town of Northfield. The project identified treatment opportunities for existing impervious surfaces, primarily roads and parking lots. Site characterization was completed for ten priority sites using infiltration testing and utility conflict identification. The team worked with the Town to prioritize retrofits and refined the original list of potential projects to two large-scale infiltration basins and two small-scale curb extensions with flow-through planters, managing a total of 24.3 acres. Planting plans and conceptual engineering plans were developed for the proposed practices. A landscape rendering was prepared by Urban Rain Design for integrating green infrastructure treatment systems into the Village Green to improve water quality treatment and aesthetics of the area, as well as making parking and traffic circulation more efficient. Watershed Consulting provided construction oversight services including preparing bid materials and construction observation for two of the proposed retrofit projects, which were installed in 2019.

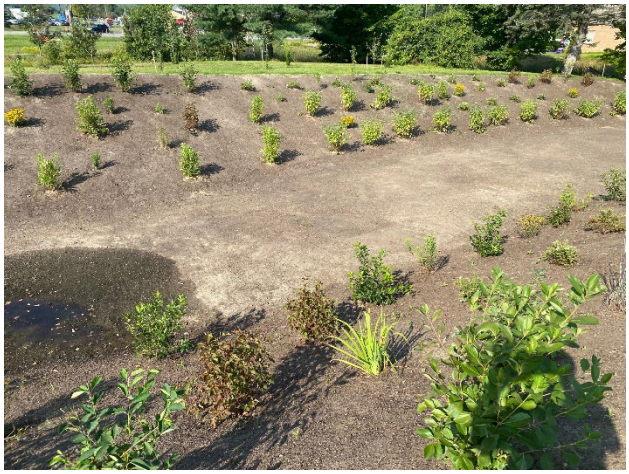
Berlin Elementary School – Bioretention Final Design & Implementation

BERLIN, VT 2019-2021

Watershed Consulting identified five high priority sites in need of stormwater mitigation in the Town of Berlin, Vermont during development of a multi-town Stormwater Master Plan in 2016-2017. The Central Vermont Regional Planning Commission obtained funding through the Lake Champlain Basin Program for final design of three of these projects in 2019: the Chimney Sweep Fireplace Shop, the Berlin Elementary School, and the Berlin Fire Department. Watershed Consulting and sub-consultant Civil Engineering Associates (CEA) were hired to complete these designs and provide construction engineering services.

Project Highlights

- An educational sign was developed for Berlin Elementary School.
- Final design completed for 3 sites including two parcels subject to the 3-Acre Rule.



The practice at the Berlin Elementary School included a bioretention area and improvements in stormwater conveyance. One significant issue at the school prior to construction of this practice was an unpaved parking lot that was discharging unmanaged stormwater and significant sediment loads down a steep slope to a sensitive wetland area. The design was created to address stormwater issues on site and comply with the 3-Acre Rule. Watershed Consulting completed an O&M plan and agreement to ensure that the practices will be properly maintained for their lifespans. The practices were selected by the project team with input and support from project stakeholders to integrate with the existing use of the properties and serve as aesthetic amenities. Additionally, an educational sign was developed to educate students and the public about stormwater issues at the school and in the Town. The Elementary School and Fire Department share a parcel and are thus subject to the 3-Acre Rule. The final designs for the two sites meet the requirements of the permit. Watershed Consulting prepared and distributed construction bid documents to select a contractor to implement the proposed projects. Dubois Construction was selected by Watershed Consulting to construct the projects in 2021. Watershed Consulting and CEA collaborated with providing construction oversight and conducted a post-construction inspection. The project, will reduce phosphorus loading by 4.1 lbs/yr and manage 1.4 acres of previously unmanaged impervious cover.

Schedule

All tasks are proposed to be completed within the timeframe requested. The construction schedule will be dependent on the selected contractor's availability and schedule; the project team will remain responsive throughout the construction of the practice.

Task	Description	2024				
		Aug.	Sept.	Oct.	Nov.	Dec.
Phase 1. Administration						
1	**Task 1. Kickoff Meeting**					
	1.A. Attend Kickoff Meeting					
	1.B. Prepare and Distribute Meeting Minutes					
2	**Task 2. Finalize and Issue Bid Documents**					
3	**Task 3. Facilitate Pre-Bid Conference**					
4	**Task 4. Bid Evaluation**					
	4.A. - Bid Opening and Evaluation					
	4.B. - Memorandum Preparation and Submittal					
5	**Task 5. Prepare Contract Documents**					
6	**Task 6. Permitting**					
7	**Task 7. Facilitate Pre-Construction Conference**					
	7.A. – Project Stakeout					
	7.B. – Pre-Construction Conference					
Phase 2. Construction Management						
1	**Task 1. Construction Observation, Invoice & Change Order Approval, and Interim Reporting**					
	1.A. - Construction Observation and Oversight					
	1.B. - Change Order and Invoice Review					
	1.C. - Interim Report Preparation and Submittal					
2	**Task 2. Final Inspection and Reporting**					
	2.A. – Site Inspection and Correction List					
	2.B. - As-Built Plan Preparation					
	2.C. - Final Construction Report					

WATERSHED CONSULTING
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www.watershedca.com

Andres Torizzo
Principal, Hydrologist

Mr. Torizzo is Principal, Hydrologist, and co-founder of Watershed Consulting Associates, LLC., a firm specializing in stormwater management consulting services. Mr. Torizzo has worked for State agencies and numerous municipal and private entities on operational stormwater management and erosion-sediment control design and permitting issues, in a range of settings including linear transportation, commercial, industrial, residential, and agricultural.

Mr. Torizzo's specialties include stormwater mapping, inventory, and master planning, illicit discharge detection and elimination (IDDE), stormwater hydrologic & hydraulic modeling, stormwater pollutant load modeling, retrofit design, low-impact development design, and Total Maximum Daily Load implementation (TMDL) investigations.

EDUCATION

M.A.	2002, Geography, University of Colorado at Boulder
B.A.	1998, Geological Sciences, Tufts University

PROFESSIONAL EXPERIENCE

2005-Present	Watershed Consulting
2002-2005	Ross Environmental
2002	Pioneer Environmental
1998-2002	U.S. Geological Survey, Water Resources Division

PROFESSIONAL CERTIFICATIONS

Certified Professional in Erosion and Sediment Control (CPESC) # 3318.
Certified Inspector of Sediment and Erosion Control (CISEC) # 48.
Certified Erosion, Sediment, and Stormwater Inspector (CESSWI) # 179.
Certified Professional in Stormwater Quality (CPSWQ) #119.
Recognized as proficient in Construction Site Stormwater Management by the IECA.

PROFESSIONAL AFFILIATIONS

Center for Watershed Protection Association
International Erosion Control Association

KEY FIRM ROLES AND RESPONSIBILITIES

Project Management – Oversees project budgets, timelines, deliverables, quality control, and coordination with partners and clients.

SELECTED PROJECT EXPERIENCE

Public-Private Partnerships (P3) for Stormwater Management (2019-2021) – Provided oversight for all project operations including subcontractor management, task order tracking and deliverable development, retrofit design, modeling, stakeholder outreach and engagement, GIS analysis and visualization.

Northfield Infiltration Chamber Design (2019) – Developed design, and managed permitting for large-scale infiltration system for the Town of Northfield, Vermont. The chamber system manages a large area of residential development and is one of the largest chamber systems installed in the State. The project provides for water quality improvement and aids in flood reduction in the Dog River.

Central Vermont Stormwater Master Plans (2016– 2019) – Led efforts to perform stormwater management master plans in twelve Vermont communities, generating over 150 priority sites for field investigation and assessment. Conducted modeling for retrofit designs for nearly all priority sites and generated modeling information for production of 60 30% concept designs.

Potash Brook Flow Restoration Plan (2014-2016) – Worked for the City of South Burlington, VT and the Vermont Agency of Transportation on a Flow Restoration Investigation for the stormwater-impaired Potash Brook watershed.

SELECTED PUBLICATIONS & PRESENTATIONS

Torizzo, A. and Garvey, K.M. 2017. Flow restoration planning in the stormwater impaired Potash Brook Watershed, South Burlington, VT. StormCon, August 29-31, Bellevue, WA.

Torizzo, A., Allen, D., Garvey, K., and Bruno, M. 2016. Monitoring and Tracking Chloride Trends. *Stormwater Magazine*, July/August 2016, p. 18-37.

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Kerrie Garvey, GISP, M.Sc.

GIS Program Manager

Project management experience: 9 years

Ms. Garvey is currently the GIS Manager at Watershed Consulting Associates, LLC, a Vermont-based firm specializing in stormwater management consulting services. Ms. Garvey holds a Master of Science in Natural Resources from the University of Vermont and a B.S in Environmental Studies with a minor in Biology from Colby-Sawyer College.

Ms. Garvey has focused on utilizing GIS technology to study and improve real world water quality issues. Her past work has included quantifying stream erosion, mapping channel migration, and assessing hydrologic connectivity of impervious surfaces. During graduate school, she worked as a research assistant focusing on mapping stream channel migration and assessing impacts to water quality. After earning her M.S. degree, she was employed at the University of Vermont as a Research Specialist where her work revolved around understanding road-stream connectivity impacts to water quality and mapping and assessing hydrologically connected impervious surfaces.

EDUCATION

M.Sc. 2012, Natural Resources, University of Vermont

B.S. 2006, Environmental Studies, Colby-Sawyer College

PROFESSIONAL EXPERIENCE

April 2014-Present
GIS Program Manager
Watershed Consulting Associates, LLC

April 2014-April 2015
Project Manager
Vermont EPSCoR CWDD

June 2012-April 2014
Research Specialist
University of Vermont

July 2009-June 2012
Research Assistant
University of Vermont

November 2006 – July 2009
Digital Mapping Specialist
TomTom / Tele Atlas

Certifications: Natural Shoreland Erosion Control Certification, GISP

SELECTED PROJECT EXPERIENCE

Forest Land Accounting Methodology to Estimate Sediment and Phosphorus Reductions (2021) – Provided technical support and project management support for the development of accounting methods for estimating phosphorus and sediment reductions for forestland BMPs and modeling sediment and phosphorus yields from forest roads.

Public-Private Partnerships (P3) for Stormwater Management (2019-2021) – Co-manager of this project, which will serve as a pilot project for creating public-private partnerships to meet the 3-acre permit requirements. Created a prioritization to identify candidate properties and municipalities to ultimately select 10 sites with a wide range of physical properties as well as a wide geographic spread. These 10 sites were taken to the 30% design level.

Georgia Shore and Stormwater Erosion Assessment (2020-2021) – Watershed team lead and project manager for assessments along the Georgia, Vermont shoreline to identify, map, and rank structural BMPs and shoreline water quality issues. Outreach includes presenting information to the public in two open meetings. Support for the development of three 30% concept plans to address identified issues.

SELECTED PUBLICATIONS & PRESENTATIONS

Garvey, K. and Gomez, K. 2020. Targeting and Prioritizing Stormwater Master Planning Projects in Vermont. New England Water Environment Association Conference, January 27, Boston, MA

Garvey, K. and Torizzo, A. 2019. Targeting and Prioritizing Stormwater Master Planning Projects in Vermont. ESRI Water Conference, February 4-6, Nashville, TN

Torizzo, A. and Garvey, K.M. 2017. Flow restoration planning in the stormwater impaired Potash Brook Watershed, South Burlington, VT. StormCon, August 29-31, Bellevue, WA.

Torizzo, A., Allen, D., Garvey, K., and Bruno, M. 2016. Monitoring and Tracking Chloride Trends. Stormwater Magazine, July/August 2016, p. 18-37.

Ishee, E.R., Ross, D.S., Garvey, K.M., Bourgault, R.R., and Ford, C.R. 2015. Phosphorus characterization and contribution from eroding streambank soils of Vermont's Lake Champlain Basin. Journal of Environmental Quality. vol. 44 no 6, p. 1745-1753.

Pechenick, A.M., Rizzo, D.M., Morrissey, L.A., Garvey, K.M., Underwood, K.L., Wemple, B.C. 2014. A multi-scale statistical approach to assess the effects of connectivity of road and stream networks on geomorphic channel condition. Earth Surface Processes and Landforms. vol. 39, no 11, p. 1538-1549.

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Anna Sherman

Water Resources Scientist

Anna is a Water Resources Scientist at Watershed Consulting. She has a background in ecological design, biogeochemistry and soils research, science communication, and Geographic Information Systems (GIS). In previous research assistantships, she has worked extensively with forest soils and soil carbon processes, and with drinking water treatment residuals for use in green stormwater infrastructure. At Watershed Consulting, Anna is involved with stormwater permitting and inspections, soils and site analysis, Best Management Practices (BMP) assessment, and GIS mapping and analysis.

EDUCATION

B.S.	2022, Environmental Science & Ecological Design, University of Vermont

PROFESSIONAL EXPERIENCE

2023 – Present	Watershed Consulting, *Water Resources Scientist*
2022 – 2023	University of Vermont Spatial Analysis Lab, *GIS Technician*
2021 – 2022	Nutrient Cycling & Ecological Design Lab, *Research Assistant*
Summer 2021	Adair Terrestrial Biogeochemistry Lab, *Field and Lab Technician Intern*
Summer 2019	Bristol-Myers Squibb, *Global Environment, Health, Safety & Sustainability Intern*

PROFESSIONAL AFFILIATIONS

Member, Phi Beta Kappa Honor Society

SELECTED PROJECT EXPERIENCE

Stormwater Permitting, Inspections, & Renewals (2023 - Ongoing) -- Prepares application materials for new permits, replacement permits, and permit renewals. Materials prepared include flow and drainage area determinations, map preparation, narratives, and State-required components. Conducts soil characterization, infiltration tests, and field verification of mapped vs. actual site conditions for determining best management practices. Conducts annual and quarterly inspections required by the State for General Permit 3-9050 and MSGP permit compliance, and all associated documentation and electronic reporting.

Permit Acquisitions for 3-Acre School Properties Under the "Green Schools" Initiative (2023) -- Co-managed the permit application processes for multiple 3-Acre school facilities across Northern and Central Vermont, meeting phase-specific funding deadlines to ensure grant funding for the facilities.

Illicit Discharge Detection & Elimination (2023 – Ongoing) – Conducts city- and town-wide sampling of stormwater outfalls and completes follow-up assessments of previous investigations. Completes field analyses of stormwater samples for a variety of pollutants and illicit discharge indicators, generating suggestions for improvements at sites with poor water quality markers. This work has been recently completed for the cities of Rutland and Saint Albans, with advanced investigation for the City of Saint Albans performed in the Fall of 2023.

Characterizing P-Retention in Drinking Water Treatment Residuals (2021 – 2022)
Processed drinking water treatment residuals (DWTRs) for use as green stormwater infrastructure material. Characterized DWTR samples, analyzed DWTRs for arsenic leaching, and prepared batch isotherms for characterizing phosphorus sorption. Prepared data briefs and communications to grant funder.

Anthony T. Stout

Senior Planner & Principal

EMPLOYMENT

Senior Planner & Principal, Lakeside Environmental Group LLC, Burlington, Vermont. 2010 to present.

Senior Planner, Heindel & Noyes, Burlington, Vermont. 2002 to 2010.

Principal, A.T. Stout Land Use Consulting, Ferrisburgh, Vermont. 1993 to 2002.

District Coordinator, Vermont Environmental Board, Pittsford, Vermont. 1985 to 1993.

Resource Economist, The Wilderness Society, Washington, D.C. 1984 to 1985.

Research Assistant, Resources for the Future, Washington, D.C. 1981 to 1984.

Water Resource Fellowship, Silver Creek Watershed Study, Cleveland State University, Chardon, Ohio. 1973-1975.

EDUCATION

B.S., Forestry. 1979, University of Vermont, Burlington, Vermont

M.S.L., Environmental Law. 1980, Vermont Law School, So. Royalton, Vermont

Mediation Program. 1990, Woodbury College, Montpelier, Vermont. 60 hours.

Snelling Leadership Institute. 1998, University of Vermont, Burlington, Vermont.

OTHER SKILLS & EXPERIENCE

Vermont Environmental Court Mediator, 2007 to present.

Act 250; Vermont Planning & Zoning; Vermont Water Supply and Wastewater Disposal Rules; Vermont Stormwater Rules; Vermont Wetland Rules; Federal Wetland Rules; National Environmental Policy Act; Federal Flood Hazard Rules; CAD Drafting (especially complex grading and compact designs); GIS Analysis and Mapping (using Vermont's GIS data sets); Digital Photo Visualizations (technically accurate size and perspective); Land Title Research; Legal Research; Drafting Deed Covenants and Articles of Association; Construction Supervision

REFERENCES AVAILABLE ON REQUEST

Scott Smith

Principal / Senior CAD/GIS Specialist

EDUCATION

State University of New York (SUNY), Geneseo, NY
Bachelor of Arts Degree, with a Major in Geography and a Minor in Environmental Studies – May 1994

PROFESSIONAL LICENSE

Licensed Designer #521-B - Vermont Agency of Natural Resources (ANR), Department of Environmental Conservation (DEC), Wastewater Management Division. Licensed to evaluate and design potable water supply and wastewater disposal systems and permits for single-family residential development and subdivisions.

RECENT EMPLOYMENT HISTORY

May 2010 – Present
Lakeside Environmental Group, LLC. – South Burlington, VT
Principal – Senior CAD/GIS specialist

- Drafting and customized mapping development of design plans to meet local and State permit requirements.
- Topographic surveying for planning and development of small and large scale subdivisions, environmental and civil engineering plans and water supply and wastewater system design.
- GPS data collection and integration into design plans and maps.
- Complete site evaluation including test pit soil analysis, percolation testing, identifying potential environmental impacts, locating suitable sites for water supply sources and wastewater disposal systems.
- Full plan and profile creation of 3D surfaces used for slope analysis, grading, stormwater design and construction material quantification.
- Large scale area watershed/subwatershed mapping

February 1997 – May 2010
Heindel & Noyes, Inc. - South Burlington, VT
Senior CAD/GIS/GPS & Survey Technician

- Served as primary GPS and survey technician for field mapping, and topographic Land Surveying with use of Nikon Total Station for purposes of developing engineering designs, site analysis, and planning.
- Completed design plans meeting local and State permitting requirements while working with engineers and planners as the lead CAD/GIS technician.
- Worked closely with hydrogeologists and staff scientists to collect data and assist with hazardous soil and groundwater contamination plans, remediation system design and exhibit preparation.
- Assisted with the development of a digital database integrated into a customized GIS interface offering official flood determination services to lending institutions throughout the State.
- Completed GPS field mapping for numerous infrastructure inventories for municipalities and utility companies for use in a customized Asset GIS package.
- Produced municipal parcel mapping, deed research, and GIS database development.

TRAFTON M. CRANDALL, P.E.

TRAFTON ENGINEERING ASSOCIATES, LLC

343 ORCHARD ROAD
CHARLOTTE, VT 05445

PHONE (802) 425-7760
E-MAIL: traftonmc@gmavt.net
www.traftonengineering.com

Education

1991 - 1993	**Cornell University** **M. S. Environmental Engineering**	**Ithaca, NY**
1988 - 1991	**University of Vermont** **B. S. Civil/Environmental Engineering** *(Honors: Tau Beta Pi, Chi Epsilon)*	**Burlington, VT**
1972 - 1976	**University of Vermont** **B. A. Environmental Studies**	**Burlington, VT**

Licensing/Certification

Professional Engineer Licenses: Vermont Environmental #8136
40-Hour HAZWOPER, 1991
8-Hr HAZWOPER Annual Training 1992 - 2014
Engineer-In-Training Certification, VT, 1991
Certified Septic Designer, Vermont ANR 2004 to Present

Professional Experience

4/15/2007 to Present Trafton Engineering Associates LLC
Owner/Manager – Principal Engineer

- Project manager-Subdivision Development: Residential and commercial subdivision design and permitting. Lot layout design, roadway and driveway design, wastewater and water supply design both private and municipal connection, erosion control and stormwater drainage permitting and design.
- Project manager-Wastewater Design: On-site wastewater design and permitting, soils evaluation. Experienced in Alternative/Innovative and Performance based on-site design at dozens of sites. Permit approvals for mounds, at-grade and in-ground systems. Municipal sewer connection design/permits.
- Project manager-Construction Certification: Site inspection, monitoring, testing and certification of commercial building and residential subdivision site construction for sewer, water supply, roadways, stormwater drainage controls and site grading.
- Project Manager- Site remediation: Responsible for oversight of site environmental remediation, investigations, regulatory compliance, monitoring and remedial design for contaminated soils and groundwater. Environmental site assessments, Oversight of underground petroleum tank removals, both residential and commercial. Site design and certification for tank installs

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TRAFTON ENGINEERING ASSOCIATES, L.L.C.

2003 – 3/15/2007 Llewellyn-Howley Inc So. Burlington, Vermont
Senior Engineer

- Project Manager- Site remediation: Responsible for oversight of site environmental remediation, investigations, regulatory compliance, monitoring and remedial design for contaminated soils and groundwater. Performed environmental site assessments, Phase I, II and III. Oversight of underground petroleum tank removals and cleanups at 20 sites, both residential and commercial. Site design and certification for tank installs. Phase I ESA for medical products manufacturer.
- Project manager-Subdivision Development: Residential subdivision design and permitting at 18 sites in 6 counties in VT. Lot layout design, roadway and driveway design, wastewater and water supply design both private and municipal connection, erosion control and stormwater drainage permitting and design. Compliance with State and local land development regulations. Municipal waterline extension design and permitting.
- Project manager-Wastewater Design: On-site wastewater design and permitting, soils evaluation at over 40 sites in VT. Experienced in Alternative/Innovative and Performance based on-site design at dozens of sites. Permit approvals for mounds, at-grade and in-ground systems.
- Project manager-Construction Certification: Site inspection, monitoring, testing and certification of commercial building and residential subdivision site construction for sewer, water supply, roadways, stormwater drainage controls and site grading. Sites included Holiday Inn, Saab Car Dealership, multi-lot subdivisions and single on-site wastewater systems.

2001 – 2002 Heindel & Noyes Burlington, Vermont
Senior Engineer

- Project Manager: Responsible for oversight of site remediation section, investigation, and remedial design. Designed 60,000 GPD sand/peat filter contaminated groundwater treatment facility for So. Burlington Landfill and completed UIC permit application. Prepared design of sewer relocation/connections for new performing arts building at the Putney School. Designed odor control biofilter for Burgess Landfill, Bennington. Performed annual IDP wastewater system inspections; Putney School and Shelburne Farms. Project manager for multiple remediation sites with AS/SVE systems for gasoline releases at petroleum UST facilities. Prepared Operating Air Permit for Vermont Veterans Home, Brattleboro. Designed biofilter to treat VOC emissions from SVE system at gasoline release site. Gave expert witness testimony at Act 250 hearing for auto body shop, as well as performing compliance inspection and calculating air emissions. Project manager for investigation and closure of chemical release at fertilizer sales facility in Swanton. Provided managerial and technical support for junior staff and field staff for numerous environmental site investigations and remedial cleanups, including UST releases and/or closures, petroleum, metals and halogenated organic compound releases.

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TRAFTON ENGINEERING ASSOCIATES, LLC

1998 - 2001 **Environmental Risk Limited** **Bloomfield, CT**
Senior Associate

- Project Manager: conducted: Phase I II & III environmental studies, remedial system design, UST replacement/removal, closures, and UST installation oversight. Massachusetts MCP sites; Phase I, II, III reports, IRA, RAM and RIP plans. CT Property Transfer Act sites; ECAF, LEP & DEP lead, RSRs soil/water, site verification reports. RCRA hazardous waste permit and compliance management, RCRA storage area closure, developed RCRA Corrective Action RFI plan and QAPP. Performed construction inspection on several sites, including 7 UST replacements at the Hartford Hospital. Regulatory compliance for industrial and commercial clients, hospitals and schools. Site remediation including SVE/AS and Hi-Vac pilot tests, soil excavation, system O&M.

1993 – 1998 **Tighe & Bond, Inc.** **Westfield, MA**
Graduate Engineer

- Entry-level engineer: conducted design and permit for geo-grid piggyback lined-landfill expansion, Peabody, MA. Worked in industrial services; regulatory compliance and permitting for air emissions (Title V permit), hazardous waste, stormwater, toxic release, and wastewater in federal and state programs. Performed industrial wastewater treatment feasibility studies for two clients. Prepared NPDES wastewater discharge permits. Prepared pollution prevention plans, SPCC, SWPPP and Air Emissions permits. Performed air emissions inventories and environmental compliance audits for industrial clients. Responsible for regulations database system at firm. Prepared design specifications and performed construction oversight of UST removal/replacement projects, including oversight of three LUST soil remediation projects under MA MCP program. Performed fuel oil AST replacements.

1992 – 1993 **Cornell University** **Ithaca, NY**
Research Assistant/Teaching Assistant

- Worked for Professor James Bisogni in research project on HCO2 balance in natural surface water systems. Acted as Teaching Assistant to Professor Leonard Lion.

1976 – 1988 **Cedar Hill Dairy Farm** **Glover, VT**
Owner/Operator

- Owned, managed and operated a 60-head dairy business and 200-acre farm.

Professional Affiliations

National Society of Professional Engineers

Community Service

Town of Warren Conservation Committee 2004-2006

Town of Charlotte Conservation Commission 2007 to 2012

Charlotte-Shelburne Hinesburg Rotary Club 2007 (President 2015)

Cost Proposal
Request for Proposals – Falls Road Trail Stormwater Improvements (Georgia):
Construction Management Services
Watershed Consulting
July 19, 2024

Phase	Category & Task	Firm Staff	Watershed Consulting			LEG		Trafton Engineering	Mileage ($0.67/ mi)	Total Estimate
			A. Torizzo	K. Garvey	A. Sherman	A. Stout	S. Smith	T. Crandall		
		Title	Principal	GIS Program Manager	Water Resources Scientist	Senior Planner	CAD / GIS Specialist	Principal, P.E.		
		Rate ($/hr)	$ 190	$ 140	$ 115	$ 100	$ 75	$ 130		
Phase 1. Administration										
1	**Task 1. Kickoff Meeting** 1.A. Attend Kickoff Meeting 1.B. Prepare and Distribute Meeting Minutes		1	1 0.5					56	
	Subtotal		1	1.5	0	0	0	0	$37.52	$438
2	**Task 2. Finalize and Issue Bid Documents**		2		3			1		
	Subtotal		2	0	3	0	0	1	$0.00	$855
3	**Task 3. Facilitate Pre-Bid Conference**		4						56	
	Subtotal		4	0	0	0	0	0	$37.52	$798
4	**Task 4. Bid Evaluation** 4.A. - Bid Opening and Evaluation 4.B. - Memorandum Preparation and Submittal		3 0.5		1					
	Subtotal		3.5	0	1	0	0	0	$0.00	$780
5	**Task 5. Prepare Contract Documents**		2		1					
	Subtotal		2	0	1	0	0	0	$0.00	$495
6	**Task 6. Permitting**				2					
	Subtotal		0	0	2	0	0	0	$0.00	$230
7	**Task 7. Facilitate Pre-Construction Conference** 7.A. – Project Stakeout 7.B. – Pre-Construction Conference		1 2.5		5				56 56	
	Subtotal		3.5	0	5	0	0	0	$75.04	$1,315
Phase 2. Construction Management										
1	**Task 1. Construction Observation, Invoice & Change Order Approval, and Interim Reporting** 1.A. - Construction Observation and Oversight 1.B. - Change Order and Invoice Review 1.C. - Interim Report Preparation and Submittal		16 2.5 0.5	1	8 2			8	336	
	Subtotal		19	1	10	0	0	8	$225.12	$6,165
2	**Task 2. Final Inspection and Reporting** 2.A. – Site Inspection and Correction List 2.B. - As-Built Plan Preparation 2.C. - Final Construction Report		4 1 1	1	1 4 4	2	6	4 1	112	
	Subtotal		6	1	9	2	6	5	$65.52	$3,681
	Total Hours by Staff		41	3.5	31	2	6	14	--	
	Total		$7,790	$490	$3,565	$200	$450	$1,820	$441	$14,756

Overhead rate an average of 16% at the time of CWSP RFQ submittal.