Proposal to the

Town of Charlotte

For a

Bicycle & Pedestrian Scoping Study

Submitted by:

Broadreach Planning & Design

In conjunction with

Civil Engineering Associates
Heritage Landscapes LLC
University of Vermont Consulting Archeological Program

June 22, 2016

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Mr. Dean Block
Town Administrator
159 Ferry Road
Charlotte, Vermont

Subject: Trail Link Bicycle and Pedestrian Scoing Study - Technical Proposal

Dear Dean,

Broadreach Planning & Design, in association with Civil Engineering Associates, Heritage Landscapes, LLC, and the University of Vermont Consulting Archeology Program, has prepared the following proposal to conduct a Bicycle and Pedestrian Scoping Study for the Town of Charlotte on the extension to the north and east of the Trail Link Trail. Our Team members have already worked together in various combinations on other walking and bicycling projects throughout Vermont.

We believe our combined local, regional, and national experience and knowledge in walking, bicycling, and trail planning and design work, combined with exceptional expertise in historic preservation and archeological studies, natural resource analysis, traffic engineering, civil engineering, and public involvement will ensure a productive, compatible consulting team for the Town.

We see our role in bicycle and pedestrian scoping projects as that of a partner and expert guide for our clients, helping them reach their own conclusions on what would be the best solutions to the purpose and need of their project and the issues they are addressing. We supply technical expertise on regulations, construction requirements, safety, alignment, permitting, design alternatives, and procedural issues, along with pragmatic ideas and recommendations. The community brings to the project their detailed knowledge of the land, the mood, and desires of the neighbors and community, and the goals of local plans and officials. With adequate, technically realistic, reliable, and expertly presented information, we believe that community members can use the facts, data, ideas, and figures to make their own, well informed and ultimately accurate decisions on the most appropriate alignments for the Trail Link Trail. For this particular project, we will also be adding our own understanding of local conditions and history, since almost all of our Team members live and/or work in Charlotte.

Our proposal provides more details on the Broadreach Planning & Design Team's qualifications and our proposed method of conducting this study. Following the guidance provided in the RFP, we have organized our proposal into seven sections after this cover letter, as listed on the next page.

As requested, we have kept the overall length of the first five sections plus this cover letter to 15 pages.

I will be acting as project manager for our BRPD Team. I will be assisted by David Marshall, PE and the staff of Civil Engineering Associates; Patricia O'Donnell, FASLA, PLA, AICP, Greg Jacobs and the staff of Heritage Landscapes LLC; and Dr. Charles Knight and his staff at the University of Vermont Consulting Archaeology Program.

We have included a digital copy of one of our BRPD projects completed with Civil Engineering Associates for another bicycle and pedestrian scoping study that we did for the City of Winooski on an extension of the Riverwalk. It also examined the development of a trail through an area with lots of wetlands and other natural resources constraints. We have also included a digital copy of another report BRPD did for the Towns of Morristown and Stowe on a cross country path linking the Stowe Recreation Path with the Lamoille Valley Rail Trail. The study also examined many alternatives to find the best alignment for a path that would be developed in stages and probably start as a mowed path with the ultimate goal of creating a complete multi-use path on the alignment. You are also welcome to go to the Broadreach Planning & Design website (www.broadreachpd.com) to see additional reports or summaries for other walking and bicycling studies that we have in process (look under the projects/current heading).

We thank you for the chance to submit this proposal and look forward to the opportunity of working with you and others in Charlotte on this project. If you have questions on our proposal or would like to discuss it further with us, please contact me at either the phone number or the email shown on the letterhead.

Cordially,

Jim Donovan, FASLA, AICP
Licensed Landscape Architect

I. INTRODUCTION

Broadreach Planning & Design has teamed with Civil Engineering Associates, Heritage Landscapes LLC, and the University of Vermont Consulting Archeology Program to submit this proposal to undertake a scoping study for the extension of the Trail Link Trail on both ends, east and north, in the Town of Charlotte, Vermont. Jim Donovan, FASLA, AICP, landscape architect with Broadreach Planning & Design (BRPD), will serve as the project manager. He brings over 20 years of national bicycle and pedestrian experience and over 30 years of community planning and design work throughout the Northeast to this project. Jim will operate as the primary contact for the project and take the lead on documenting existing conditions, developing alternatives, conducting public involvement, and creating the reports.

Civil Engineering Associates (CEA) will provide transportation engineering services, including assistance in collecting and analyzing existing conditions, contributing to the exploration of alternatives for the project, providing the cost estimating, and addressing the right-of-way and utility components of the project. Heritage Landscapes LLC (HL) preservation landscape architects and planners, will provide historic preservation expertise. The University of Vermont Consulting Archeology Program (CAP) will provide archeological resources expertise and input.

BRPD has worked with the Town of Charlotte before on the layout of the Co-Housing portion of the Link Trail, as well as the Big Oak Subdivision connector trail alignment. He has also previously served the Town as a member of the Charlotte Planning Commission and currently serves as the Town's representative to the Chittenden County Regional Planning Commission. He has worked closely with Dave Marshall of CEA on several volunteer projects for the Town.

BRPD Team members have also worked together on numerous other bicycling and walking studies throughout Vermont over the past five years. They are familiar with collecting and analyzing the type of information that will be required for this project. The Team members also fully understand the elements of the *Vermont Bicycle and Pedestrian Facility Planning and Design Manual,* the Americans with Disabilities Act (ADA) standards, *Trail Solutions, IMBA's Guide to Building Sweet Single Track*, the August 2014 version of *Local Transportation Facilities Guidebook for Municipally Managed Projects* and other Vermont or federal permitting and construction requirements and regulations that could direct the implementation of the extended Trail Link Trail. **Section VI** of our proposal provides more information on our Team members and **Attachment A** includes our Team member's resumes.

As part of our Scope of Work outlined in **Section III**, we plan to have a BRPD Team Alternative Development Work Session (Work Session) to explore and analyze as many different alignment alternatives as possible for the extensions of the trail north and east. This brainstorming event could include alignments anywhere between Greenbush Road and Route 7 and on either side of State Park Road, in or outside of the right-of-way. We will also do an initial analysis of the alternatives and eliminate those that would be clearly not viable, carefully recording the reasons why they were removed from further consideration. The format for this joint Work Session would allow our Team

to quickly articulate and analyze a large number of ideas and alternatives along with the various issues associated with each. We think that exploring as many options as possible from the beginning ultimately results in a more complete study and provides the Town with a complete record of the extensive number of alternatives the Town considered and, for those alternatives eliminated from consideration, the reasons why the Town determined that they should not be pursued.

The goals of the Work Session would be twofold:

1. To explore and evaluate as many alternatives and issues as our Team can create, to make our review of the potentials and issues as comprehensive as possible; and
2. To reduce the time needed to review and analyze alternatives, allowing our Team to shorten the time needed to complete this study so as to maintain interest in the work with the Town and so that the Town can use the recommendations as appropriate for other work or grant applications.

We would welcome the participation of the Municipal Project Manager (MPM) as well as other Town officials or members of the Trails Committee at the Work Session. Their participation would allow them to add their local knowledge and/or particular expertise during the actual development and examination of alternatives, options, and ideas rather than afterwards during the review process. We provide more information on the elements of our Team Work Session in **Section III** our proposal.

Our use of this and other interactive work sessions with the Town during the course of the project highlights the fact that we see the residents, volunteers, and officials of the Town of Charlotte, especially in and around the west Charlotte village, as an integral part of our BRPD Team. As much as possible, we intend to involve each group in the development of the recommendations that will emerge from this Study. We believe this collaboration is important to the completion of a successful project. Our Team would provide technical expertise on planning and designing safe, pragmatic and economical trail extension, along with their local knowledge. The local Town of Charlotte representatives would bring to the project a larger field of local knowledge and understanding of the town and the concerns of the local residents about development of new segments of the Trail Link Trail. Both are critical to the development of a set of recommendations that would be technical feasible and politically possible. Local involvement also gives Charlotte participants more ownership of the project and a greater stake in pursuing its subsequent implementation.

We see the Municipal Project Manager, with assistance from the Town of Charlotte local officials (the Town) as the overall Project Team leaders, with BRPD acting as the prime consultant under them. CEA, HL, and CAP will serve as sub-consultants to BRPD, each reporting directly to BRPD and through them, to the Town. **Table 1** shows the different expertise each of the consultant members of the BRPD Team contributes to the project.

II. PROJECT UNDERSTANDING

The goal of the project is to Move the Town Link Trail closer to completion by identifying viable routes on both ends of the existing trail. We understand that the trail, as currently envisioned,

would, at least initially, be similar to the existing trail on the Co-Housing parcel. Like that trail section, it might start as a mowed path and eventually be upgraded with a gravel surface.

Table 1: Consultant Team Member Contributions

Professional Specialties	Project Management	Bicycle/Pedestrian/Trail Planning	Traffic Planning/Engineering	Community Planning	Survey & Right-of-Way	CAD Work	Archeology	Historic Preservation	Environmental Analysis	Utilities	GIS	Cost Estimation	Funding and Implementation	Public Participation	Existing Condition Analysis	Report Development	Permit Review & Coordination	Quality Control
Broadreach Planning & Design																		
Jim Donovan, FASLA, AICP	■	■	□	■					■	□	■	□	■	■	■	■	□	
Civil Engineering Associates																		
David Marshall, PE	□	□	■			■			□	■		■	□	□	□	□	■	
Tim Cowen, LS					■	□						□			□			
Staff		□	□		□	□			□	□	□	□	□		□	□	□	■
Heritage Landscapes, LLC																		
Patricia O'Donnell, FASLA, AICP	□							■								□		
Staff								□										
University of Vermont Consulting Archaeology Program																		
Dr. Charles Knight	□						■									□		
Staff							□											

Lead Professional ■
Contributing Professional □

For this study, our Team's focus will be:

- The creation of preferred trail alignment close to State Park Road ending at the entrance to Mount Philo State Park;
- The identification of a workable trail route from the north end of the Co-Housing portion of the trail to the Town Hall and the west Charlotte village, and
- A clear listing of the issues the Town will need to address, the benefits the Town will gain if they decide to pursue the installation of the recommended improvements, and possible ways for funding the completion of the trail.

The Town will face challenges in finding acceptable alignments for the Town Link Trail on both ends. There are numerous obstacles to the development of easy, simple alignments. With this in mind, we have noted several of these issues, along with a few other ideas, that are especially important in our considerations for this project. We briefly talk about them here, prior to presenting our proposed Scope of Work.

Existing Data & Studies - The Town of Charlotte has an extensive set of existing data that will help in the identification of viable alignments for the Town Link Trail. The interactive wildlife data set will be very helpful in examining potential impacts of the various alignments on wildlife habitat

and movement. The environmental information available for the Burns property will also be extremely useful. The overall Trails Vision map has been serving the Town for many years and provides the basis for the Trail Link alignments, and could also help in setting the north end of the trail up for further extensions towards the Town Beach at some point in the future. Other Town environmental maps maintained by the Chittenden County Regional Planning Commission will also provide an excellent basis for understanding the existing conditions and analyzing potential impacts of the alternatives.

The Town also worked with University of Vermont students to look at trail alignment options along State Park Road. Our Team will review the information they gathered and the recommendations they made, along with their reasoning, to help in the overall analysis of potential trail alignments and impacts along the trail's eastern portion.

BRPD also already has a set of existing condition files for this portion of Charlotte created during the development of the alignment for the Co-Housing Section of the Trail Link Trail that can serve as the starting point for an up to date set of existing condition maps.

Town Land - In addition to the land around the Town Green, the Town also owns the Burns property, the large, mostly open parcel, running between Greenbush Road and Route 7 south of the Town Offices. These parcels could provide potential locations for the trail, although there are many natural resources on the Burns property, as well as the Town wastewater disposal system and its future expansion options, that limit its use. CEA prepared maps and information for the Town as it used a portion of the Burns Property to create three affordable housing units on Greenbush Road.

Wetlands - There are wetlands along the northern side of State Park Road and on many of the properties between the Co-Housing community and the west Charlotte village. The State Park Road wetlands present the largest obstacle to an alignment along the north side of the road, either in or outside of the public right-of-way. The wetland's proximity to the road makes them very difficult to avoid if the trail is on the north side of the road. Avoiding the wetland by putting the trail on the south side of the road has its own issues that our team will need to exam. The larger wetland areas south of the west village are on both the private parcels and the Town Burns property. These wetlands are not clearly defined on all of the private parcels; we will need to estimate their limits from aerial photos and state data when they have not been identified as part of prior development or subdivision proposals.

Our team will assist the Town in finding ways to work around these wetlands as possible; we will examine as many options as we can develop to verify whether avoidance of the wetlands is feasible. If circumventing the wetlands does not appear to be possible, we will suggest ways to cross them in an acceptable manner. We will also verify our conclusions with reviews from the State of Vermont Wetlands Program and the Army Corps of Engineers. We understand that clearly addressing the wetland issues in a way that will allow the Town to gain wetland permits as needed is a critical aspect of this project.

Clay Plain Forest - The large forested area that lies between the west village and the Co-Housing parcel is mostly a clay plain forest, one of the few remaining examples of this type of habitat in the

Champlain Valley. As such, this clay plain forest is an important environmental resource. Maintaining its integrity is important to the Charlotte Conservation Commission and the State Department of Conservation. Our development and analysis of potential alternative alignments for the trail will include careful consideration of the clay plain forest.

Right-of-Ways & Easements - There are several larger private parcels between the Co-Housing site and the Town Green with the Town Offices. The Wildwood subdivision also lies north of the Co-Housing site, east of the schematic alignment. These parcels could include potentially viable locations for the Trail Link Trail. All of them, however, would require the creation of an easement or actual right-of-way for the trail. The non-participation of one parcel negates the positive responses from all other parcel owners along any particular potential alignment. Consequently, our Team believes that gaining an understanding of who might be interested in participating in the development of the trail is another important component of this scoping study. Working with landowners needs to be done carefully, however, so as not to jeopardize future official easement or right-of-way discussion. The BRPD Team members have worked with landowners in many previous trail, path, and sidewalk studies to successfully understand the willingness of landowners to work with the community on easements in the future to move a particular project towards completion.

Community Outreach - Public participation and input in the planning process is essential to the project's success but not always easy to obtain. When done effectively, the public participation process can be used as a means of uniting a community behind a project, resulting in recommendations that can meet the purpose and need of the project while also enjoying high levels of community support. While there is definite support for the Trail Link project in Charlotte, we think that a variety of methods could to be used to heighten and expand public interest, participation and support during the planning process. Informative, educational materials, highlighting project issues and objectives circulated to the community through the local newspapers, newsletters or flyers; town web page information; emails; Front Porch Forum and other on-line discussion; or even small group/one-on-one presentations are useful methods of public involvement. Given the history of local opposition to planning and updates for the area in and around west Charlotte village, we suggest the use of one-on-one or very small meetings with land owners and others in or close to the northern portion of the Study Area. These meetings, along with other possible public engagement activities, might play a role in the public participation process for this project. We will finalize the most effective methods for public outreach in consultation with the Town and Municipal Project Manager during the project kick-off meeting. We have made suggestions for elements of a robust public participation process in our proposed Scope of Work.

Implementation – Too often, plans and studies are developed that lack directions as to how the communities can begin to bring them to fruition. Consequently, we suggest adding the development of an Implementation Strategy as part of the services our Team will provide. We plan to work with the Town to examine the most appropriate methods of implementing the Study's recommendations. We will focus our implementation recommendations specifically to Charlotte and its particular capabilities and budget for this project that go beyond relying solely on enhancement grants for construction funding. To make sure that the project is eligible for such funding, however, our

recommendations and cost estimating work will assume that state and/or federal grants, including trail grants, will be used to implement the projects.

III. PROPOSED SCOPE OF WORK

We have outlined the main elements of our approach below. We have based our tasks on those listed in the Scope of Work included in the RFP, but we suggest a few modifications to and expansion of the scope that we think will provide an appropriate study for the Town. Specifically, we have suggested:

- Adding an implementation plan to the RFP's Task "K.) Project Time Line;"
- Completing "Task D.) Identify Land Use Context" prior to "Task C.) Local Concerns Meeting," so that the results can be presented and discussed at the meeting;
- Preparing a draft purpose and need statement prior to "Task C.) Local Concerns Meeting," so that it can be discussed during the public work session;
- Finishing "Task K.) Project Time Line," prior to the completion of "Task J.) Develop Preliminary Cost Estimates," so that the cost estimates can reflect possible phasing that might be suggested for the recommendations; and
- Including a fourth public session after the completion of the Final Report to provide the Selectboard a review of the Final Report (rather than the draft Final Report at the third public work session) and a chance to endorse or decline the preferred alternative.

We present our suggested Scope of Work in outline format so that the Municipal Project Manager (MPM) and the Town can easily use it to keep track of the completed tasks as work begins. These tasks outline our suggested method of completing the Study. Due to the modifications, our Task designations do not exactly match those in the RFP. Our Team is flexible and we are ready to review and revise our assumptions, our proposed work tasks, and our suggested report contents as needed to match more closely the Towns' objectives for this scoping study.

In our proposed Scope of Work, we refer to the Steering Committee, as mentioned in the RFP. For the sake of brevity, we are defining the Steering Committee as including the MPM, local officials from the Town, and representatives from the Chittenden County Regional Planning Commission (CCRPC), the VTrans District Office, and the VTrans main office. Our proposed Scope of Work includes several meetings with the Steering Committee as part of our goal of including them as part of our project Team.

Task A: Project Kickoff Meeting

- Hold a start-up meeting run by BRPD, with the Steering Committee, so that the group may:
  - Verify the limits of the Study Area;
  - Confirm the scope of the study;
  - Settle the public involvement program;
  - Finalize the project schedule;
  - Confirm the project deliverables;

  - Define lines of communication;
  - Discuss critical issues;
  - Exchange information; and
  - Address other issues that may arise.
- Prepare and distribute notes from the meeting for Steering Committee review and acceptance.

Deliverables: *Digital notes from the meetings; a final project schedule; and the accepted public involvement program.*

Task B: Compile Base Map / Document Existing Conditions

- Update as needed our existing VT digital orthophoto base map of the final Study Area in an ArcView format.
- Update as needed our existing GIS secondary source data on natural resources, above and below ground utilities, cultural resources, active transportation facilities, flood plains, parcels, structures, and other available information in and near the Study Area primarily from the Vermont Center for Geographic Information, with other information from the Towns or the CCRPC.
- Update our existing traffic, crash, roadway width, pavement condition, and right-of-way data as may be available for the roadways in the Study Area.
- Update as appropriate our existing GIS maps showing land uses, zoning districts and future proposed land uses in the Study Area from existing data and aerial photo information.
- Field verify information on the existing condition base maps by site visits to the Study Area and add relevant missing, not evident, or incorrect information as well as more detailed information not readily available from existing sources, such as location, size and condition of prominent trees in or near the State Park Road right-of-way; the location of mail boxes, fences, utility poles, service boxes, manholes, drain inlets or outlets, fences; and the location and condition of ditches or other storm drainage facilities.
- Identify walking and bicycling origins and destinations in and around the Study Area based on field observations, land uses, and other local sources.
- Predict future bicycling and walking patterns if they might differ from the existing patterns.
- Develop a preliminary Purpose and Need Statement.
- Review completed or ongoing plans and studies related to the Study Area.
- Prepare a written and graphic draft Existing Conditions Summary that includes the information gathered or developed in this and other Tasks, including the Purpose and Need Statement.
- Submit the draft Existing Conditions Summary to the Steering Committee for their review.
- Meet with the Steering Committee to discuss additions and refinements to the draft Existing Conditions Summary as needed.
- Update the draft Existing Conditions Summary as needed.

Deliverables: Digital notes from the review meeting; digital and paper versions of the draft Existing Conditions Summary, including the base map with existing conditions, opportunities, and constraints; a draft Purpose and Need Statement

Task C: Identify Land Use Context

- Map existing land uses; zoning districts in the Study Area; future proposed land uses; and public or private plans in and around the Study Area from existing data.
- Verify the land use data by aerial photo analysis and field visits.
- Add the Task C information to the base map and the draft Existing Conditions Report.

Deliverables: *Digital description of existing and future land uses in the draft Existing Conditions Summary.*

Task D: Conduct Local Concerns Meetings

- Prepare public work session #1 agenda, publicity flyers, press releases and invitation letters for MPM distribution.
- Post the draft Existing Conditions Report to the web for public review.
- Review the presentation material with the MPM and Steering Committee.
- Facilitate a local concerns meetings jointly with the Steering Committee for the public to:
  - Present the draft Existing Conditions Summary information and gather comments on changes, omissions, additions or deletions to be made to this information;
  - Explain and discuss the project's Purpose and Need Statement;
  - Summarize the issues associated with the proposed project;
  - Solicit comments on a potential trail alignments, other potential improvements, possible users, user needs, maintenance, materials, special constraints, the Purpose and Need Statement, and other suggestions or concerns; and
  - Address questions that the participants may have relative to this project.
- Revise the draft Purpose and Need Statement as needed to reflect comments from the Local Concerns Meeting and review the revisions with the Steering Committee.
- Review meeting results with the Steering Committee and update the existing condition information as appropriate.
- Undertake other preliminary public involvement activities as decided in ***Task A***, potentially including:
  - One-on-one discussions or a special meeting with landowners in the areas between the Co-Housing parcel and the Town Green to help them participate in the development of the studies recommendations;
  - A presentation and discussion included in one of the Charlotte Library's regularly scheduled evening talks;
  - A display at the Town Offices or Post Office.

Deliverables: Digital versions of the #1 Public Work Session and other Public Involvement notes; updated Existing Conditions Summary.

Task E: Investigate Alternatives

- Identify, map and review potential alignments for the Trail Link Trail in the two portions of the Study Area at a Team Work Session with the Steering Committee and invited guests held in or close to the Study Area, using information gathered in previous Tasks and the interaction of the participants, considering at a minimum:
  - The Purpose and Need Statement;
  - Comments and suggestions received at the first public work session;

  - ADA, *Vermont Pedestrian and Bicycle Facility Planning and Design Manual* requirements, and other relevant guidelines and regulations;
  - Updated walking and bicycling patterns;
  - The location of underground utilities and utility poles;
  - Topography, watercourses, vegetation, and other natural or cultural features;
  - Bridge and culvert constraints and opportunities;
  - The existing rights-of-ways, land uses, and ownership patterns;
  - Interactions with and possible removal of roadside objects;
  - Existing side slopes along the road and roadway grades themselves;
  - Interactions with moving motor vehicles;
  - Optimal locations for crosswalks on Mount Philo Road;
  - Safety considerations and improvements;
  - Interactions with and impacts to the adjacent properties;
  - Historic character and locations of buildings and other features and potential impacts to them;
  - Needed installation of or modifications to drainage ditches or other storm water facilities;
  - New landscape improvements;
  - The best methods of addressing potential impacts; and
  - Other issues and field conditions noted in the previous tasks.
- Conduct a field review of the possible alternatives.
- Begin a comparison matrix describing the various remaining alignments and/or alternatives, maintenance issues or requirements, and other review criteria, including a column for the "No Action" alternative.
- Prepare typical cross sections for the alternatives.
- Develop order of magnitude cost estimates for the alternatives.
- Prepare visual simulations of the various alignment alternatives, as needed, to convey their location and impact to the public and adjacent landowners.
- Meet with appropriate VTrans representatives, in conjunction with the MPM, at a joint meeting at the VTrans office to get their input on the alternatives and adjust the alternatives as necessary to address their comments.
- Prepare an Alternatives Summary of the information developed in this task and submit to the Steering Committee for review.
- Meet with the Steering Committee to review the Alternatives Summary, discuss the comments from VTrans, and revise the alternatives as appropriate.

Deliverables: *Digital copies of the Alternatives Summary including preliminary alternative locations on the base map, descriptions of the alternatives, ROW information with private property and right-of-way information on the base map, utility information, agency review letters (as received) and digital versions of the historic resources review and the Archeological Resources Assessment, a list of likely permit, and the initial version of the Comparison Matrix and information.*

Task F: Identify Right-of-Way Issues

- Verify rights-of-way information for State Park Road and any other roads associated with alternatives by a review of existing roadway and Town data, augmented by existing recent plats along the roads completed as part of subdivision applications.
- Identify locations where the Town would need to acquire additional rights-of-way or easements to complete the development of the alternatives.
- Examine other affected public land or easements in the Study Area for possible use or impacts, including current conservation agreements for the Burns property.
- Identify private property owners, existing easements, or restrictions that might be affected by the proposed alignments, including Act 250 permits.
- Update or add property and rights-of-way information to the base map.
- Review alignments for impacts or conflicts with the gathered information and edit as appropriate.
- Add information to the Alternatives Summary and update the Comparison Matrix to include rights-of-way information.

Deliverables: Digital copies of updated Alternatives Summary with private property and rights-of-way information on the base map and expanded Comparison Matrix.

Task G: Identify Utility Conflicts

- Review above and below ground utility information for impacts or conflicts with the proposed alignments, including the Town wastewater disposal system or future disposal field sites on the Burns property.
- Discuss conflicts with affected utility companies or the Town for possible solutions including relocating the trail alignment or the utility in or out of the public right-of-way.
- Review comments and revise alignments as possible to resolve conflicts, or define necessary relocations or special construction requirements, noting locations inside or outside of the existing right-of-ways.
- Add information to the Alternatives Summary and update the Comparison Matrix to include utility information.

Deliverables: Digital copies of the updated Alternatives Summary and Comparison Matrix with utility information.

Task H: Identify Natural and Cultural Resource Constraints & Permitting Requirements

- Prepare a historic reconnaissance level survey of above ground historic resources and an Archeological Resources Assessment for areas near the proposed alternatives in the Study Area.
- Contact State and relevant federal resource agencies with proposed alternatives to gather their comments, concerns or suggestions.
- Review potential impacts to 4(f) and 6(f) public lands and agricultural resources.
- Assess the change in the contributing storm water runoff surface areas and the need for and requirement of obtaining a storm water discharge permit for the various alternatives.
- Estimate the extent of potential mitigation that will be required under the National Pollutant Discharge and Elimination of Sediment for the various alternatives.
- Identify other likely permits needed to implement the different alternatives, including Act 250.

- Refine the list of alternatives to remove or edit those that appear to be infeasible due to unacceptable resource impacts.
- Add information to the Alternatives Summary and update the Comparison Matrix to include permitting information.

Deliverables: *Agency review letters (as received) and digital versions of the updated Alternatives Summary including a list of likely permits, the storm water requirements and the expanded Comparison Matrix.*

Task I: Hold Alternatives Presentations

- Prepare public work session #2 agenda, publicity flyers, press releases and invitation letters for MPM distribution.
- Post the draft Alternatives Summary to the web for public review.
- Facilitate an Alternatives Presentations to:
  - Present the proposed alternatives and comparison matrix for discussion;
  - Solicit additional comments, suggestions, complaints or changes from participants;
  - Work towards consensus on a preferred trail alignment and associated improvements, if any; and
  - Prioritize the elements of the preferred alignment and improvements for phasing purposes as needed.
- Undertake other public involvement activities on the alternatives as determined in Task A, such as:
  - Meeting individually or in a small with potentially affected landowners in the Study Area about the alternatives;
  - Placing information displays about the alternatives in the Town Offices, library, Senior Center or post office, and/or
  - Presenting the alternative information to the Charlotte - Shelburne Rotary Club.
- Review results of the work session and other activities with the Steering Committee and finalize the preferred alternative(s).

Deliverables: *Digital notes from the Alternatives Presentation Work Sessions and the preferred alternative(s).*

Task J: Create Project Time Line & Implementation Strategy

- Develop a phasing and priority plan for the preferred alternatives as needed.
- Create a project development time line showing in order the steps needed to bring the project to fruition and how long each step might take, incorporating the phasing recommendations as appropriate.
- Prepare an initial list of implementation methodologies to accompany the phasing and priority plan, include coordination with other possible bridge improvements.
- Document different appropriate funding options for the proposed facility, including:
  - Public-private partnerships,
  - Municipal bonds,
  - Private funding grants,
  - Local sponsors and contributions,
  - Federal and State government grants, and
  - Private grants for smart growth and healthy living development.

- Prepare the information for inclusion in the final report.

Deliverables: *Digital versions of a phasing plan as needed, implementation strategies, project time line, and funding options for inclusion in the Final Report.*

Task K: Develop Preliminary Estimate of Possible Construction Costs

- Prepare a more detailed preliminary estimate of probable design, construction, management, and maintenance costs for the preferred alternative, by phase if appropriate, using preliminary bid item quantities.
- Document cost for inclusion in the final report.

Deliverables: *Digital version of the preliminary estimate of probable construction costs for inclusion in the Final Report.*

Task L: Prepare Final Report

- Refine and edit the earlier Task Summaries and work products for inclusion in the final report.
- Prepare the draft Final Report.
- Submit draft Final Report to the Steering Committee for their review and comment and edit the Final Report as needed.
- Submit the draft Final Report to VTrans for their review and comment prior to public work session #3.
- Review the VTrans comments with the Steering Committee and update the draft Final Report as needed to address the comments.
- Prepare and submit publicity flyers, press releases and invitation letters for public work session #3 for distribution by the MPM.
- Hold public work session #3 to review the draft of the Final Report and gather public comments on the Report and preferred sidewalk alignment.
- Edit the draft Final Report after public work session #3 as appropriate and distribute to the Steering Committee for their acceptance.
- Submit the Final Report to the Town and attend a public meeting with the Charlotte Selectboard to present it for their review and possible acceptance.

Deliverables: *A digital copy, three bound double-sided copies of the draft Final Report; notes from the public work session #3; a PDF of the separate sections of the Final Report; a PDF of the entire Final Report; a WORD version of the text; and three bound double-sided copies of the Final Report.*

IV. HOURLY LABOR COMMITMENT

Table 2 presents our Team's projected hourly commitments to this project.

V. SCHEDULE

Several components of our proposed work schedule will allow the BRPD Team to complete this project in approximately eight months, at least one half year less than the fourteen month schedule requested in the RFP, including:

- Our familiarity with the Study Area, Town resources and data, and our existing condition information that will allow us to quickly complete the gathering of existing conditions information.
- Continual communication and interaction with the Steering Committee at least once during most tasks, which could reduce the time needed for review of the final report at the end of the project (submissions will be made at least one week prior to meetings);
- Short Steering Committee review discussions of the public work session input directly after the sessions themselves; and
- The Team Alternative Development Work Session to quickly and efficiently develop and analyze feasible alternatives.

Table 3 highlights the basics of our proposed schedule. We are ready to revise, including expanding, our schedule as needed to work with the Towns' needs and desires.

Table 2: Projected Work Hours

	BRPD		*HL*			*CAP*			*CEA*					*TOTAL*
Tasks	Project Manager Donovan	BRPD Total	Principal O'Donnell	Historic Pres. Jacobs	OES Total	Principal Knight	Staff	CAP Total	Principal Marshall	Engineer/ Surveyor Milbank	Quality Control Marks	Staff	CEA Total	Hours Per Task
Task A: Project Kick Off	8	8	0	0	0	0	0	0	4	0	0	0	4	12
Task B: Base Map/Existing Conditions	40	40			0	0	0	0	4	0	4	28	36	76
Task C: Land Use Context	8	8	0	0	0	0	0	0	2	0	0	0	2	10
Task D: Local Concerns Meeting	12	12	0	0	0	0	0	0	4	0	0	0	4	16
Task E: Conceptual Alternatives	68	68	0	0	0	0	0	0	18	4	4	20	46	114
Task F: Right-of-Way Issues	4	4	0	0	0	0	0	0	2	12	0	0	14	18
Task G: Utility Conflicts	2	2	0	0	0	0	0	0	4	8	0	2	14	16
Task H: Natural & Cultural Resources	10	10	4	24	28	14	32	46	4	2	0	2	8	92
Task I: Alternatives Presentation	16	16	0	0	0	0	0	0	4	0	0	0	4	20
Task J: Project Time Line & Implementation	6	6	0	0	0	0	0	0	2	0	0	2	4	10
Task K: Preliminary Cost Estimates	2	2	0	0	0	0	0	0	4	2	0	6	12	14
Task L: Final Report & Presentation Meeting	48	48	2	0	2	2	0	2	10	4	4	16	34	86
Total Hours	224	224	6	24	30	16	32	48	62	32	12	76	182	484

Table 3: Proposed Schedule

	August		September		October		November		December		January		February		March	
Days	1 - 15	16 -31	1 - 15	16 -30	1 - 15	16 -31	1 - 15	16 -30	1 - 15	16 -31	1 - 15	16 -31	1 - 15	16 -28	1 - 15	16 -31
Task A: Kick-Off meeting	S1															
Task B: Base Map/Existing Conditions					S2											
Task C: Land Use Character																
Task D: Local Concerns Meeting					P1/S3											
Task E: Conceptual Alternatives					C				S4							
Task F: Right-of-Way Issues																
Task G: Utility Conflicts																
Task H: Natural & Cultural Resources																
Task I: Alternatives Presentation									P2/S5							
Task J: Project Time line																
Task K: Preliminary Cost Estimate																
Task L: Final Report Production											S6	VT R		P3/S8	P4	

S1 = Steering Committee Meeting Number X
P = 3 Public Work Sessions & One Selectboard Presentation
C = BRPD Team Alternative Development Work Sessions
VTR = Vtrans Review

V. QUALIFICATIONS

Attachment A includes detailed resumes of our key BRPD Team members. **Attachment B** includes more information on a few selected projects from our Team's firms. We have also included two paper copies of previous similar projects.

Broadreach Planning & Design is an inventive small business focusing on bicycle and pedestrian facility planning, design, and development. Expertise offered through BRPD includes bicycle and pedestrian facility planning and design, transportation policy planning, transportation corridor studies and public involvement. Based in Charlotte, Vermont, BRPD brings a commitment to project excellence and client satisfaction for every project it undertakes in New England or beyond.

Jim Donovan, PLA, FASLA, AICP, licensed landscape architect and certified planner of BRPD, brings 30 years of local, regional, national, and international experience in planning and landscape architecture to BRPD, with a special focus in the last 20 years on bicycle and pedestrian planning and design. BRPD projects, as well as Jim's earlier work, emphasize the creation of livable communities with a strong mix of active transportation choices. Jim has one of the most extensive bicycle and pedestrian project credits in New England. He also brings significant experience in environmental planning and natural resource identification and planning to every project.

Jim previously served as the project manager for both the Co-Housing Trail and Lone Oak Trail link alignments for the Town of Charlotte. Additionally, he has served as project manager on a wide range of state, regional, and municipal bicycle and pedestrian plans. Some of Jim's current and recent at work at BRPD is particularly relevant to this project.

- The *Windsor Bicycle and Pedestrian Scoping Study* for the Town of Windsor, Vermont included an examination of how to improve walking and bicycling conditions in downtown Windsor, focusing primarily on several intersections and the potential for creating an off-road path in the downtown area to supplement bicycling opportunities on Main Street.
- The *Stowe-Morristown Shared Use Path Scoping Study*, which explored the potential for creating a regional bicycling and walking connection between the future Lamoille Valley Rail Trail in Morrisville and the Stowe Recreation Path in Stowe Village for the Lamoille County Regional Commission, and the Towns of Stowe and Morristown.
- *Montpelier in Motion*, the new walking and bicycling master plan for Montpelier, Vermont, which includes a wide range of recommendations on increasing bicycling and walking activity in the capital. The recommendations range from identifying specific locations in the existing sidewalk system that have ADA or other problems that should be addressed; to creating short-term and long-term bicycle networks so that the City could undertake quick, simple modifications to improve bicycling conditions while it found the funds to make more permanent and inclusive upgrades; to outlining numerous educational and encouragement activities that the City or its partners could begin.
- The *Route 2 Non-Motorized Travel Study,* which explored the most appropriate ways to increase non-motorized travel opportunities between Richmond village and the Richmond Park and Ride on Route 2 near Interstate 89.

- The *Conceptual Planning & Feasibility Study for Bicycle & Pedestrian Facilities* in St. Albans Town, which is examined the best ways to link the Town Schools with one of the Town's primary recreation areas, which lies on the other side of a limited access state highway.
- The *Killington Avenue Sidewalk Extension Scoping Study*, which found the most appropriate location for the extension of the existing sidewalk on Killington Avenue, including the crossing of Moon Brook, for the City of Rutland.
- The *Elm Street Sidewalk (Bicycle and Pedestrian) Scoping Study* in Enosburgh Falls, Vermont, which is determining the best way to extend an existing sidewalk further east on Elm Street to reach athletic fields heavily used by elementary, middle and high school students. The route needs to cross a well-traveled road, possibly at a busy intersection.
- The *Bicycle and Pedestrian Scoping Study* for a sidewalk on Main Street in the Village of Essex Junction, Vermont, which examined the most appropriate alignment for a sidewalk on the north side of Main Street from Educational Drive to the Village Line. The Area is close to the Essex Educational campus and is heavily traveled by both students and residents along Main Street.
- The *Sidewalk Scoping Study* for the Village of North Bennington, Vermont, which examined a portion of the Village's aging sidewalk system to develop recommendations for upgrading it to meet current ADA standards and expanding it to create a more complete sidewalk system. The Village has subsequently used this scoping study to obtain design and construction grants from the State to start implementing the recommendations.
- The *Bridge Street Bicycle & Pedestrian Feasibility Study* for the Town of Richmond, Vermont, which developed a set of recommendations for the Town on how to improve walking and bicycling conditions along Bridge Street, one of the main streets in Richmond Village. The recommendations included the suggested development of an off-road shared use path that could compliment on-road bicycling conditions on Bridge Street.
- The *Post Road Sidewalk Extension Feasibility Study* that examined the most appropriate way of extending walking facilities from the end of the existing sidewalk on Post Road to Northwood Park for Rutland Town.
- The *Route 15 Bicycle and Pedestrian Scoping Study* in Chittenden County VT for the development of the most appropriate types of walkers and bicyclists in the Route 15 corridor between Essex Junction and Winooski.
- The development of numerous Travel Plans for elementary schools around Vermont as part of the State's Safe Routes to School program; the Travel plans include the identification of physical improvements in the neighborhood around the school that would create easier bicycling and walking conditions for student going to and from the school.

Jim will serve as the Team's project manager and primary contact for the Town. Jim has extensive public involvement experience, much of it related specifically to bicycle and pedestrian projects. He has run successful local, regional and statewide public involvement programs, which have included public work session, on-line interactive questionnaires, one-on-one interviews, focus groups, newsletters, radio programs, and other means of public interaction. He has extensive experience in running public work sessions in an open and friendly manner that encourages participation and yields useable results.

Jim is the Town of Charlotte's representative to the Chittenden County Regional Planning Commission, the treasurer of the Northern New England Chapter of the American Planning Association and President-Elect of the Vermont Chapter of the American Society of Landscape Architects. He is licensed landscape architect in Vermont and numerous other states and is also a Fellow of ASLA and a member of the American Institute of Certified Planners (AICP)

Civil Engineering Associates (CEA), was founded in 1970 and operates out of offices in South Burlington, Vermont. Since its inception, the firm has successfully undertaken more than 7,500 projects for a wide variety of state, municipal, and private sector clients. Civil Engineering Associates has experienced steady growth and currently employs a staff of 16 including four Registered Professional Engineers, two Engineers-in-Training, two registered Land Surveyors and Party Chief with two technicians skilled in surveying and four experienced CADD operators.

Civil Engineering Associates broadly categorizes its services under the areas of Civil Engineering, Land Surveying, and Construction Observation.

- **Civil Engineering** - The firm is experienced with all aspects of engineering project development including site investigations, preliminary and detailed design, and services during construction. Major engineering practice areas include:

  Feasibility Studies
  Foundations and Structures
  Site Development
  Water Supply and Wastewater Disposal
  Roadway Design

  Specialty Engineering:
  Municipal Engineering
  Bank Inspections
  Forensic Engineering
  Permitting Assistance

- **Land Surveying** - Civil Engineering Associates has been providing land surveying services to its clients since its founding. The surveying staff includes two Registered Land Surveyors and several skilled surveying technicians. Projects undertaken have ranged from single lot surveys to large commercial, industrial and residential subdivisions.

- **Construction Observation** - Civil Engineering Associates offers a full range of construction observation services. CEA's field personnel provide experience in sampling of concrete and soil materials while also providing inspection of building components including steel, fireproofing, and masonry installation. CEA provides inspection reports with a summary of all observations as part of every site visit.

David S. Marshall, P.E., has been practicing civil engineering for over 30 years with experience in a broad range of areas with specialty work in hydrodynamics, pavement systems and wastewater disposal. As a resident of Charlotte and active volunteer in municipal improvements projects, he provides an understanding of the community dynamics in bringing projects through the design and permitting processes. Dave will serve as the lead civil designer for CEA. He worked closely with Broadreach Planning & Design on the master planning of the Winooski Casavant Park recreation path system, which provided 2/3 mile of corridor design with numerous spur tails through flood plain and steep terrain.

Survey Tim Cowan, L.S. has over 30 years of experience in conducting site survey and boundary line recovery in support of documenting the existing conditions of thousands of projects located throughout Vermont. Tim's experience includes engineering surveys in urban and suburban settings, as well as boundary surveys of large woodland tracts for forest product companies and conservation groups. Recent work includes providing land surveying consultation services to engineers and other design professionals, and providing assistance in boundary location problems.

Heritage Landscapes, LLC is a woman-owned professional firm with offices in Charlotte, Vermont and Norwalk, Connecticut. Since 1987, HL has specialized in projects focusing on culturally valuable landscapes. Nearly 400 projects for the landscapes of communities, parks, parkways, campuses, institutions, museums, estates, paths and trails, historic sites, cemeteries, and residential grounds are credited to the firm. This diverse group of works addresses landscapes of various types and sizes, from a few to several hundred acres and includes single, multiple property, neighborhood, community and linear corridor cultural landscapes. HL has worked with BRPD on numerous bicycle and pedestrian projects.

Patricia O'Donnell, PLA, FASLA, AICP, Principal of HL, is well known for her contributions to the application of preservation standards and guidelines to the historic landscapes of communities. She is a hands-on principal working daily on project efforts with a talented staff. Her experience over the past 22 years has resulted in over 400 landscape preservation commissions for public historic places in the United States, including national historic landmarks, national register and locally listed historic properties. In particular, Patricia's successful, award-winning historic community commissions include the design and construction documents for the historic streetscape of Route 27 adjacent to the Mystic Seaport in Stonington, Connecticut; ongoing guidance for landscape stewardship and preservation at Shelburne Farms, Vermont; the preservation of historic community character and adaptation for enhanced bicycle and pedestrian access along historic parkways in Fort Wayne, Indiana, Louisville, Kentucky and Niagara Falls, New York. Patricia will provide oversight on the historic analysis and lead the development of graphic representations of the preferred alternative. Patricia is the Chair of the International Federation of Landscape Architects Cultural Landscapes' Committee and an active member of the International Committee on Monuments and Sites' Cultural Landscapes Committee.

University of Vermont Consulting Archeology Program assists state and federal agencies, communities and individuals meet their obligations with respect to archeological resources when contemplating changes to the landscape. Established in 1978, CAP has conducted more than 400 archeological investigations as a consultant archeologist. Their past experience and present capabilities cover the full range of cultural resource management needs, including Archeological Resource Assessments (ARA), Phase I Site Identification Surveys, Phase II Site Evaluations, large scale Phase III data recovery studies, nomination of sites to the National Register of Historic Places and the implementation of project-specific public education programs. CAP has worked with BRPD on numerous bicycle and pedestrian projects.

Dr. Charles Knight is the Assistant Director and Senior Investigator for CAP. He is also an adjunct professor to the Department of Anthropology at the University of Vermont. Dr. Knight

has directed the completion of many ARAs and more detailed archeological studies for transportation projects in Vermont, including three with BRPD in the last year.

VII. REFERENCES

Broadreach Planning & Design

Each of these projects was successfully completed or is underway with the assistance of CEA (as well as Heritage Landscapes, LLC and the UVM Consulting Archeological Program if needed.) The Town is welcome to check with our other clients on any of the other projects listed in the proposal or on our resume for their opinion of BRPD's work all around the State of Vermont.

Stowe-Morristown Shared Use Path Scoping Study
Rob Moore, Transportation Planner
Lamoille County Regional Commission
PO Box 1637
Morristown, Vermont 05661
802-888-4548
rob@lcpcvt.org

Windsor Bicycle & Pedestrian Scoping Study
Robert Haight, Downtown Director
Town of Windsor
29 Union Street
Windsor, Vermont 05089
802-674-1018
robertdhaight@comcast.net

Route 2 Non-Motorized Travel Feasibility Study
Bryan Davis, Senior Transportation Planner
Chittenden County RPC
110 West Canal Street, Suite 202
Winooski, VT 05404
802 660-4071 ext. 17
bdavis@ccrpcvt.org

Main Street Bicycle and Pedestrian Scoping Study
Robin Pierce, Director of
Community Development
Village of Essex Junction
2 Lincoln Street
Essex Junction, Vermont 05452
802-878-6944
robin@essexjunction.org

Attachment A
Team Member Resumes

BROADREACH
Planning & Design

PO Box 321
Charlotte, Vermont 05445
802-425-5061
jdonovan@gmavt.net
www.broadreachpd.com

JIM DONOVAN, FASLA, AICP

Landscape Architect/Planner

EDUCATION

B.S. Architecture, University of Detroit, 1975, Magna cum Laude
Masters of Landscape Architecture, University of Illinois, 1979

LICENSES AND REGISTRATION

Licensed Landscape Architect: States of Vermont, Michigan, Connecticut, Maine, Pennsylvania, and New York.
American Institute of Certified Planners (AICP)

PROFESSIONAL EXPERIENCE

April 2008 to Present – Owner
BROADREACH Planning & Design, Charlotte, Vermont
This innovative firm focuses on transportation and community planning and design. Projects emphasize bicycle and pedestrian mobility, transit oriented design and walkable communities. Other services include landscape architecture, site design, environmental planning and analysis, park design, parking studies, and public involvement.

May 2001 to April 2008 - Senior Landscape Architect/Land Use Planner
Wilbur Smith Associates, Shelburne, Vermont
Mr. Donovan focused his transportation work on bicycle and pedestrian facility planning and design services offered with a particular emphasis on statewide plans as well as shared use path and greenway planning, design and construction. He provided urban and rural planning services both in conjunction with transportation corridor plans and as independent projects. Mr. Donovan also supplied public participation expertise for many projects either as part of his other responsibilities on a project or as a public involvement specialist on projects for others.

November 1994 to April 2001 - Senior Planner/Landscape Architect
Lamoureux & Dickinson Consulting Engineers, et. al., Essex Junction, Vermont.
Responsible for planning and landscape architectural services, including community and public involvement; preparation of transportation scoping reports for bicycle/pedestrian facilities, roadways, and intersections; completion of construction documents and construction services for shared use paths; analysis of pedestrian and vehicular circulation and parking needs; development of visual impact analysis and simulations; park planning and design; landscape plans; air quality analyses; site planning and design; municipal planning and zoning; and project permitting.

July 1983 to November 1994 - Vice President/Environmental Planning
Frederick P. Clark Associates, Inc., Rye, New York
Prepared site and subdivision plans for numerous residential and commercial properties ranging in size from 1 to over 600 acres; environmental resource analyses and SEQR documents; freshwater wetland and other land use and environmental conservation regulations for municipal clients; environmental mapping, open space studies, wetland

rehabilitation and restoration project; visual impact analysis and visual simulation for private and public projects; and air quality modeling studies using HIWAY2 and CAL3QHC air quality modeling programs.

September 1982 to July 1983 – Associate Landscape Architect
Dickinson De Marche and Associates, Westport, Connecticut.

October 1979 to May 1982 - Landscape Architect/Planner
Hellmuth, Obata & Kassabaum, St. Louis, Missouri.

June to October 1979 - Intern
National Park Services, Midwest Rocky Mountain Regional Planning Team, Denver, Colorado.

SELECTED HONORS & AWARDS

Plan of the Year, Vermont Planners Association 2012 – *Route 22A Corridor Study*
Merit Award, Vermont Chapter American Society of Landscape Architects 2007 – *Washington Depot Master Plan*
Merit Award, Vermont Chapter American Society of Landscape Architects 2005 – *Longmeadow –Webster Road Bicycle and Pedestrian Facility Feasibility Study*
Plan of the Year, Vermont Planners Association 2003 – *Transit Oriented Design Guidelines for Chittenden County*
Way to Grow Award, Rochester Planners – 2003 – Irondequoit Town Center Master Plan
Merit Award, Connecticut Chapter American Society of Landscape Architects 2000 – *Taconic State Parkway Management Plan*
Presidents Award Vermont Chapter American Society of Landscape Architects 2007
Connecticut Public Space Award 1987 and Honor Award 1989 Connecticut Chapter American Society of Landscape Architects – *Guilford Master Plan for Preservation and Scenic Conservation*

REPRESENTATIVE PAST PROJECTS

Bicycle and Pedestrian Planning and Design & Streetscapes

Riverwalk East Trail Network Expansion, Winooski, Vermont. Landscape architect on a team, with lead responsibilities for developing and analyzing alternative routing locations for a multi-use trial through Casavant park, an environmentally sensitive parcel of land along the Winooski River. The new trail is meant to extend the existing, popular Riverwalk in Downtown Winooski northward further along the banks of the Winooski River. The overall system is designated to be part of the larger regional off-road pedestrian and bicycle network in Chittenden County.

Stowe-Morristown Shared Use Path Scoping Study, Stowe and Morristown, Vermont. Project Manager for a scoping study examining the best way to create a better bicycling and walking link between the Stowe Recreation Path and the Lamoille Valley Rail Trail. The study is looking at both on-road and off-road options for creating the plan. As part of working with a two-town steering committee, Jim is helping with landowner outreach to property owners who may be affected by one of the alternative routings under consideration. There is also an extensive public outreach component to the project to help raise community enthusiasm and support for the project.

Adams Camp Trail Master Plan, Stowe Vermont. Project Manager for the development of approximately 5 miles of new single track mountain bike trails, parking facilities, and signage recommendations for the 500+ acre Adams Camp Parcel. The project is one portion of the larger Vermont Ride Center planned for the Stowe and Waterbury Vermont Area that involves other private, State and local properties.

State of Vermont Bicycle Pedestrian Policy Plan, The Vermont Agency of Transportation, Vermont. Project Manager for an update of the Vermont Bicycle and Pedestrian Plan, including work on updating goals, objectives, policies and recommendations of the 1998 Plan. The Plan also addressed the gaps in the earlier plan and added performance standards, asset management recommendations, and long-term monitoring recommendations. Jim's work has created a plan that provides a framework for monitoring progress towards accomplishing the recommended goals. The Vermont Bicycle and Pedestrian Policy Plan also provides guidance for the Vermont Agency of Transportation's Bicycle and Pedestrian Program over the next five to ten years.

Barre City and Barre Town Multi Use Path Conceptual Alignment Study, Barre City & Town, Vermont. Project Manager for an analysis of the most appropriate alignment for a shared use path linking Barre City and Barre Town, as well as the two existing shared use paths in the City and Town. The work includes the review of numerous alternative alignments, an intense examination of methods that can be used to accommodate significant changes in elevation; possible use of active railroad right-of-ways, several river crossings, and path intersections with busy state routes.

Non-Infrastructure Safe Routes to School Statewide Program, Vermont Agency of Transportation, Vermont. Landscape architect on a multi-firm consulting team lead by Toole Design Group providing non-infrastrucutre support to schools around the State. Jim's specific work is the development of travel plans for individual schools, including identification of possible physical improvements in the neighborhoods around the schools, and the programs general outreach and training around the state.

Stone Valley Byway Bicycle and Pedestrian Scoping Study, Rutland & Bennington Counties, Vermont. Project Manager for a project that is developing a Stone Valley Bikeway along Vermont Route 30. The work includes the examination of the most viable ways to create a continuous, safe bicycling route on or close to the Stone Valley Byway (Route 30) from Hubbarton to Manchester, Vermont as well as improving walking conditions in the villages along the byway. The work includes examination of additional loop rides along the Bikeway, various types of rest stops along the Bikeway and methods of addressing road conditions that are currently not compatible with bicycling or walking.

Windsor Bicycle and Pedestrian Scoping Study, Windsor, Vermont. Project Manager for an analysis of various on and off-road improvements to create better walking and bicycling conditions in Downtown Windsor and along Route 5 north of the Downtown. The work included determining the best alignment of a new off-road path close to an operating railroad line, the improvement of several intersections, the upgrading of crosswalks, the creation of a northern gateway to the Downtown, and road widening options through difficult rising turns on Vermont Route 5.

Route 2 Non-Motorized Travel Feasibility Study, Richmond, Vermont. Project Manager for a study looking at how to best improve non-motorized travel between the center of Richmond Village and the Richmond Park & Ride lot, the heaviest park and ride lot in the State of Vermont and a transit stop for a commuter express bus to Montpelier and Burlington. The project is looking at various options for improving the bicycling and walking line between the village and the park and ride, including on-road options, off-road options within the right-of-way and off road options that also create other bicycling and walking opportunities for the Town.

***Montpelier in Motion*, the Bicycling and Walking Master Plan for Montpelier, Vermont.** Team leader for the development of a walking and bicycling master plan for Vermont's capital city. The plan includes not only recommendations for physical on- and off-road infrastructure improvements, but also proposals for better bicycling and walking education and encouragement, along with ideas on better enforcement of existing bicycling and walking related laws. The plan also includes methods for the City to easily and inexpensively track its progress towards creating one of the best bicycling and walking cities in the United States.

Route 15 Bicycle and Pedestrian Facility Scoping Study; Winooski, Colchester, Essex and Essex Junction, Vermont. Project manager for a scoping study that is updating and completing previous Route 15 corridor studies (also prepared by Mr. Donovan) for which the client never decided on a final preferred route. The plan also extends the study area westward into Winooski to eventually link with other trails being planned in Winooski through Casavant Park. The work includes reviewing and updating previously examined alternatives, developoing new alternative alignments for the extension area and working with the various communities to develop an overall preferred alignment or a set of on and off-road alignments for implementation.

Town of Fairfield Trail Master Plan, Fairfield, Vermont. Project Manager for the development of a non-motorized on and off road trail system to increase the ease at which residents and visitors and circulate throughout the town on foot, bicycle, horse, skies or other non-motorized means.

Mad River Valley Active Transportation Plan, M ad River Valley, Vermont. Landscape Architect and Planner acting as a subconsultant to the SE Group for the development of a long range plan that will outline an interconnecting plan for improving active transportation possibilities in the Mad River Valley (MRV). The work is exploring both detailed improvements for walking and bicycling as well as streetscaping in the four village centers within the MRV along with more general recommendations for walking and bicycling trails, shared use paths, and on-road facilities within the watershed of the Mad River. Jim is taking the lead on the development of the detailed village plans, as well as the overall public involvement work.

Pedestrian Bridge and South Sidewalk Conceptual Alignment Analysis, Plainfield, Vermont. Project Manager for a study to find the best methods for improving pedestrian access across the Winooski River from Plainfield Lower Village to the Upper Village and to locate a sidewalk between the new river crossing and the Plainfield Post office west on Route 2. The project examined numerous different methods of crossing the river, from new prefabricated bridges at various locations to several different methods of expanding the existing bridge.

Lincoln Bicycle and Pedestrian Planning & Feasibility Study, Lincoln, Vermont. Project manager for a study to identify the most appropriate ways to improve circulation between Lincoln Village and Lincoln Community School, a distance of approximately 1.2 miles. Jim worked with a community steering committee and the school children to develop, review and prioritize options; finalize the most appropriate recommendations, prepare cost and schedule estimates; and create an implementation plan.

North Bennington Sidewalk Scoping Study, North Bennington, Vermont. Project Manager for team working on a Scoping Study examining the upgrading and completion of the sidewalk system in Village Center, including sidewalks on School Street in front of the North Bennington Community School. The work included a close examination by the Team, with assistance of a local steering committee, of the existing sidewalk system, the existing conditions along the streets in the study area, and the possible methods of upgrading or adding to the existing sidewalk system. Jim worked with the community to select a set of preferred recommendations and then developed associated cost estimates, priorities, schedules and an implementation plan for the community.

Route 78/Missisquoi High School and Middle School Pedestrian Circulation Review, Swanton, Vermont. Project Manager and principle investigator for a review of pedestrian safety and mobility along Route 78 in Swanton, near the entrance to Missisquoi Valley Union High School for the Northwest Regional Planning Commission and the Town of Swanton, Vermont to create safer conditions for students. The study included suggestions for creating alternate means of providing more appropriate walking conditions, including sidewalks, side shoulders, a separate shared use path, slower vehicle speeds, signage, and traffic calming measures.

Fairfield Sidewalk Scoping Study, Fairfield, Vermont. Project Manager for the development of an enhancement grant scoping study for the potential addition of sidewalks or other pedestrian facilities in Fairfield Center and East Fairfield. Working with a team that includes engineers, historic landscape architects and

archeologist, Jim is exploring the best way to provide better pedestrian mobility in these two village areas. Some of the challenges include poor sight distances, topographic changes, utilities, and minimum right-of-ways.

Shelburne Falls Non-Motorized Traveler Safety and Mobility Study, Shelburne Vermont. Project manager for an enhancement grant study that is examining the best way to fill a gap in the existing sidewalk system on either side of the LaPlatte River near Shelburne Falls as well as to improve bicycling conditions in this same area. Jim and his sub-consultant team are examining how to best make this link and to provide better access to views of Shelburne Falls while minimizing additional costs to the Town, impacts to existing trees, cuts to existing grades and impacts to adjacent properties.

Chittenden County Bicycle and Pedestrian Master Plan Update 1, Chittenden County, Vermont. Final Project Manager on the update of Chittenden County's Bicycle and Pedestrian Master Plan, meant to include those municipalities not included in the original study and to expand the original network of regional bicycle and pedestrian facilities. Jim's work included a detailed community specific update of existing and proposed facilities and Steering Committee and public outreach discussions to determine which elements of the local plans should be included in the regional network.

Chittenden County Bicycle and Pedestrian Master Plan Update 2, Chittenden County, Vermont, Project Manager for the second update of Chittenden County's Bicycle and Pedestrian Master Plan. This update focused on adding more direction on encouragement, education and enforcement actions. It also included an update of the overall recommended on and off road regional bicycle network.

Bridge Street Bicycle and Pedestrian Feasibility Study, Richmond, Vermont. Project manager for the study of how to improve bicycling and walking conditions on Bridge Street in Richmond village. The work includes considerations of how to either use the recently upgraded Bridge Street Bridge, a new pedestrian bridge, or a resumption of the recent bicycle ferry to cross the Winooski River.

Michigan I-275 Bike Path Asset Management Study, Wayne & Monroe Counties, Michigan. Projects Manager for an assessment of the existing conditions of a 40 mile long bike path in the Michigan I-275 right-of-way constructed concurrently with the highway in the 1970s but not well maintained over the years. The study documented existing conditions through an innovative GIS/GPS process, identified necessary improvements needed to bring the path back to current standards, and created phasing recommendations for individual projects along the 44-mile path. The work was done with the assistance of several local cycling organizations.

Bangor Area Bicycle Plan and Pedestrian Plan Updates, Bangor, Maine. Project manager for the update of the bicycle and pedestrian plans for the Bangor Metropolitan Area. The work includes the re-evaluation and updating of an existing on and off-road bicycle system for the region, as well as the updating of a regional pedestrian network. As part of the project, Jim provided updated cost estimates for the various components of each plan, a phasing and priority plan, and an overall implementation plan that highlights how the region should proceed towards completing the plan.

Champlain Islands Trail Feasibility Study, Champlain Island, Vermont. Landscape Architect and Graphic Designer for an analysis of the potential for creating either a shared use path or on-road bicycle facility connecting the Island Line causeway through Lake Champlain with the bicycle system in Quebec, Canada. Jim worked with ALTA Planning + Design and the Rails to Trails Conservancy on the project, providing assistance at the public work sessions, developing existing condition information, assisting in the analysis of the various potential options, providing graphic design for the final document.

Island Line Amenity Package, Champlain Islands, Vermont. Project Manager, working with the Local Motion staff, on the development of a package of bicyclists amenities along the Lake Champlain Bikeway/Island

Line. The work included the identification of potential resting areas along the route and the types of amenities to add to each site.

Addison County Regional Bicycle & Pedestrian Report, Addison County, Vermont. Project Manager for the production of a County-wide report that assessed the current needs and conditions of bicycling in Addison County, Vermont. The report also discussed the opportunities for improvement and the constraints limiting what could be done, as well as solutions for the identified problems. The project included a detail map and photographic inventory of existing conditions.

Longmeadow Neighborhood – Webster Road Bicycle/Pedestrian Path Feasibility Study, Shelburne, Vermont. Project Manager for a study that examined the feasibility of creating a bicycle/pedestrian facility between the northern neighborhoods in the Town of Shelburne with the Shelburne Village Center and Village School. Jim's effort built on work completed earlier by updating and expanding the study area and looking more closely at alternate routes. Important issues considered were natural resource impacts, especially wetland impacts, integration into a historic district, bridging the LaPlatte River, and developing safe roadway crossings.

Dover Valley Trail, Segment B, Town of Dover, Vermont. Project Manager for preparation of design plans and construction documents for the second segment of the Dover Valley Trail, a shared use path in West Dover, Vermont. The work included the preparation of construction drawings, the coordination with various utility companies, public outreach sessions, and permit applications

Transportation Planning

Pearl Street Multi-Modal Corridor Plan, Essex Junction, Vermont. Project manager for a concise review and updating of the numerous different studies that have been done that relate to Pearl Street in Exxex Junction with the goal of creating one set of integrated strategies that encompass a complete set of transportation improvements. The focus is on providing transit, bicycle, and pedestrian circulation on par with vehicular circulation. The Village intends to have Pearl Street serve as a model for multimodal transportation and plans to create a "complete street." The examination includes consideration of developing commuter rail service in the corridor to complement other forms of transportation on Pearl Street.

Route 22A Corridor Management Plan, Rutland and Addison Counties, Vermont. Project Manager for the development of a management plan for Route 22A from the New York State line in Fairhaven north to the intersection with Vermont route 73 in Orwell. The plan involves extensive community outreach, as well as consideration of potential land use modifications along the corridor, short term changes to the roadway to address immediate issues, and long term plans for larger upgrades to the road as may be needed. The work is being done with support from Stantec Consulting Services, Inc.

MEMBERSHIPS AND AFFILIATIONS

American Society of Landscape Architects: Fellow, President Elect, former Treasurer and Trustee
American Planning Association, Northern New England Chapter Treasurer
American Institute of Certified Planners
Association of Pedestrian and Bicycle Professionals
US National Committee of the International Council on Monuments and Sites (ICOMOS)
ICOMOS International Cultural Tourism Committee, Secretary General
Association of Consulting Engineering Companies Vermont
Chittenden County Regional Planning Commission: Town of Charlotte Representative

DAVID S. MARSHALL, P.E.

QUALIFICATIONS SUMMARY:

Considerable experience in the design and construction management of civil works including bridge, highway, water supply, wastewater disposal, site development and solid waste disposal. Registered Professional Engineer in Vermont and Connecticut.

EXPERIENCE:

1992 - Present	Civil Engineering Associates, Inc. Shelburne/South Burlington, Vermont
1990 – 1992	Pinkham Engineering Associates, Inc. Burlington, Vermont
1984 - 1990	Pare Engineering Corporation, Inc. Norwich, Connecticut

Site Development and Stormwater Management

- Project Engineer responsible for the design and permitting of South Village, the largest residential project in the City of South Burlington. The 334 unit project is based upon a traditional neighborhood design of many narrow public and private streets. The project included road widening on Spear Street, new traffic lights, stormwater permitting within two different watersheds including an impaired waterway.

- Project Engineer responsible for the design and construction oversight of the SMR 2000 expansion at Stowe Mountain Resort. Provided design and permitting for a $12.5 million infrastructure program which will support $400 million of new building construction at the base of Spruce Peak. The project included new roadways, a 62 foot bridge, water distribution, sewer collection, stormwater management, a new golf course and a new 100 million gallon reservoir.

- Project Engineer responsible for the design and permitting of the Westlake project in Burlington, Vermont which included a new seven story waterfront Hotel, eight story residential condominiums building, commercial building and parking garage.

- Project Engineer responsible for the design and permitting of the supporting infrastructure for Champlain Valley Co-Housing project, the largest residential project in the Town of Charlotte, Vermont. In order to meet the density requirements of the client, the design and permitting included a first of its kind means of wastewater disposal in the State of Vermont.

- Project Engineer for the Winooski Downtown Development project, the largest redevelopment project in the State of Vermont. Responsible for the design and permitting of a $14.5 million infrastructure contract including new roadways, water, sewer, stormwater management, power and communications distribution systems in support of the construction of over $200 million of residential and commercial buildings including a 940 space parking garage. The project included the first of its kind separated stormwater collection system where roof runoff was separated from pavement runoff as a means of reducing the sizing requirements of the stormwater treatment facility.

- Project Engineer responsible for the design and permitting of the Vermont National Country Club which included 240 units of residential housing and a Jack Nicklaus designed golf course. The project included 3 miles of new roadways, supporting infrastructure and an innovative stormwater collection and re-use program in support of the irrigation system for the golf course.

- Permitting Coordinator and Hydrologist for the F.W. Whitcomb Quarry Expansion in Colchester, Vermont. F.W. Whitcomb sought to expand the existing rock quarry both horizontally as well as 100 feet down to provide an additional 30 years of rock material for the aggregate processing operations.

- Project Engineer responsible for the design of the new athletic fields and upgrades to existing fields for the CVU High School Expansion in Hinesburg, Vermont.

- Project Manager and Engineer for the preparation of the feasibility study and the final plans and contract documents for the Gould Hill Road slope stabilization project for the City of Montpelier, Vermont. Work included the stabilization of 1.2 acres of landslide area through the geogrid reinforced steepened slopes and the reconstruction of 600 linear feet of roadway.

- Project Manager and Engineer responsible for preparing a flood study of the Kenfield Brook/Town Highway #10 area for the Town of Morristown. Work included an analysis of the reasons for and extent of existing flooding and recommendations for a new road structure to replace the existing 10 foot diameter culvert.

- Project Engineer responsible for the preparation of design plans and specifications for the $1.2 million rehabilitation of the Texas Falls Recreation Area in Hancock, Vermont. Work included the design of new retaining wall systems, bridges, relocation of walkways and roadways and the design of new parking areas.

Transportation

- City of Winooski - Project Engineer responsible for the design and permitting of the City of Winooski Downtown Development Project which included 0.5 miles of urban roadway and supporting stormwater, water supply, sewage collection, power and communications infrastructure for the $14 million site package.

- Town of Ripton & Starksboro - Project Engineer responsible for the design plans, specifications and construction administration for the repairs to Bridge #4 for the Town of Ripton and Bridges #19 and #20 for the Town of Starksboro.

- Stowe Mountain Resort – Stowe, VT- Project Engineer responsible for the design and permitting of a 62 foot clear span glue-laminated bridge. The structure was placed on cast-in-place abutments designed to avoid the meandering stream and wetlands while supporting two lanes and a separate pedestrian walkway and a future covered bridge structure for the Big Spruce Access Road over Little Spruce Brook.

- Project Manager and Engineer for the preparation of final plans, permitting and technical specifications for the Marshall Avenue extension project for the Town of Williston, Vermont. Work included the hydrologic analysis for and design of two 10 foot diameter multi-plate arch culverts on concrete footings, stormwater collection and treatment system and one-half mile of roadway.

- Town of Ripton, VT Brooks Road Bridge over South Branch Middlebury River- Project Engineer for the design of a new 28' clear span bridge replacement.

- Town of Ripton, VT Wagon Wheel Road over North Branch Middlebury River – Project Engineer responsible for the design and permitting of a new 30; precast arch culvert replacement bridge for the Town of Ripton.

- Town of Westmoreland, NH - Project Engineer responsible for the design of a fast track replacement of an existing one lane bridge destroyed by flooding with new cast-in-place concrete abutments and a 62' precast concrete voided slab bridge superstructure.

- Town of Middlebury/Weybridge - Project Engineer responsible for the design of a new three span pedestrian bridge with a total length of 220' supported by a cantilever system off of the existing historic Pulp Mill Road covered bridge.

- Stowe Mountain Club Golf Course – Project Engineer responsible for the design and permitting of a 180' clear span structure over the Big Spruce Brook. The project included the alignment and design of the substructure supporting the new steel truss arch, pedestrian and small vehicle bridge.

EDUCATION:

Bachelor of Science in Civil Engineering with Specialization in Hydrology and Hydrodynamics
University of Vermont, 1984

Graduate Study in Bituminous Materials, Pavement Systems
University of Connecticut, 1985 - 1986

Graduate Study in Geosynthetics
University of Vermont, 1992

PROFESSIONAL STATUS:

Registered Professional Engineer - Vermont, Connecticut

PROFESSIONAL MEMBERSHIP:

American Society of Civil Engineers, Chi Epsilon

Timothy R. Cowan, LS

Licensed Land Surveyor

A native Vermonter, Mr. Cowan graduated from University of Vermont in 1980 with a B.A. in Geography. Since that time he has been continuously employed in the field of land surveying in Vermont and northern New Hampshire. After earning his professional license in 1987, Cowan was appointed to the Vermont Board of Land Surveyors in 1989, where he served for over nine years. Upon completion of his terms on the board he was named a Board Member *Emeritus.* He continues to serve the National Council of Examiners for Engineering and Surveying on the committee which writes, prepares, and administers the standard examination for land surveyors.

His experience includes boundary surveys of large woodland tracts for forest product companies and conservation groups, as well as subdivision and engineering surveys in urban and suburban settings. Recent interests include providing land surveying consultation services to engineers and other design professionals, and providing assistance in boundary location problems.

Education

1980 B.A., *Geography*, University of Vermont
1981 Additional Studies in Surveying & Mapping, NHVTC, Berlin, NH
1983 University of Maine, Orono: *Land Information Systems, Real Estate Law, Photogrammetry*
1993 Vermont Technical College: *Geodetic Surveying*

Professional Registration

Licensed Land Surveyor, Vermont, 1987-Present

Employment History

2004-Present	Civil Engineering Associates, *Land Surveyor*
1991- 2004	Cowan Surveying, *Sole Proprietor*
1989-1991	Thermo Consulting Engineers, *Chief of Survey*
1986-1989	Pinkham Engineering Associates, *Engineering Tech./Party Chief*
1978-1986	F.W. Cowan & Sons, *Survey/Forestry Technician*

Current Professional Affiliations and Public Service

- National Council of Examiners for Engineering and Surveying
- National Society of Professional Surveyors
- Vermont Society of Land Surveyors *(Publications Committee,Program Committee)*

Special Training

- Hazardous Waste Site Training, 40 Hr. OSHA-certified course, 1990 (Refreshers 1991-2001)
- Precision Global Positioning Systems
- Outdoor Emergency Care (First Aid)

Awards or Honors

- *President's Award (1991)* - Vermont Society of Land Surveyors
- *Member Emeritus* - Vermont Board of Land Surveyors

RESUME PATRICIA M. O'DONNELL, LLA, FASLA, AICP, IFLA, ICOMOS

EDUCATION

MASTER OF LANDSCAPE ARCHITECTURE, University of Illinois at Urbana Champaign, Concentration behavioral aspects of landscape architecture, emphasis on applied behavioral research, 1982.
MASTER OF URBAN PLANNING, University of Illinois at Urbana Champaign, Concentration in historic preservation with emphasis on the history, theories and practice of landscape preservation, 1985.
BACHELOR OF SCIENCE IN DESIGN, State University of New York College at Buffalo, Concentration in Environmental Design, 1978.

PROFESSIONAL EXPERIENCE

• 1987-present, PRINCIPAL & FOUNDER, Heritage Landscapes, Preservation Landscape Architects & Planners. Completed 400+ cultural landscape preservation projects with attention to historic character, community engagement, sustainability, environmental quality, handicapped access, education, interpretation. Implementation through construction documents, staff/volunteer initiatives and management guidelines.
• 1983-87, ASSOCIATE, Walmsley & Company, Inc. Project Manager for Prospect Park, Emerald Necklace, City Hall Park, and urban design, waterfront, residential community and residential design.
• 1980-81, VISITING LECTURER, Department of Landscape Architecture RESEARCH ASSOCIATE, Housing Research and Development Program, University of Illinois at Urbana-Champaign.
• 1979-80, CONSULTANT, Houghton Park User Survey, Community Development, City of Buffalo and Survey of Buffalo Olmsted Parks System, Landmark Society of the Niagara Frontier and NYS OPRHP.
• 1977-78, DIRECTOR, US Youth Conservation Corps, Buffalo, city youth work and education program.

SELECTED AWARDS, HONORS & EXPERT MEETINGS

• 2010 to 1987, 46 Project Awards for Planning and Implementation from the American Society of Landscape Architects, national and chapter awards programs from Upstate New York, Connecticut, Kentucky, Louisiana, Rhode Island, Vermont; Connecticut and Vermont Public Space Awards, New York State Preservation League Awards; Pittsburgh History and Landmarks Preservation Awards; Midwest Construction Award
• 2010 October, International Expert Meeting, Paris, UNESCO International Landscapes Convention Study
• 2010, February, International Expert Meeting, Paris, UNESCO Historic Urban Landscapes Initiative, HUL Tools presentation and drafting committee contributions, final expert meeting to frame HUL resolution
• 2009 Invited Expert, Rio de Janiero World Heritage Application Workshop, with Michael Turner, Israel and Katri Litzin, Sweden, IPHAN Brazil, May, 2009.
• 2007 World Heritage Expert Meetings, Historic Urban Landscapes in the Americas, Olinda, Brazil, November
• 2007 Integrity and Authenticity of Cultural Landscapes, Aranjuez, Spain, December
• 2005-2007 US Technical Team for the Preservation of Finca Vigia, Hemingway Property, Havana, Cuba.
• 2005 IFLA Delegate, UNESCO World Heritage, Architecture & the Historic Urban Landscape, Vienna, May
• 1999 Delegate, US/ICOMOS Cape Coast, Ghana Design and Planning Charette Team and Report
• 1995 Elected Fellow of the American Society of Landscape Architects, for Executed Works
• 1993 USA Delegate, UNESCO World Heritage Centre, Cultural Landscapes Expert's Meeting, Germany
• 1991 National Endowment for the Arts, Design Arts Grant, landscape preservation case studies

RECENT PRESENTATIONS & PAPERS

• Why Cultural Landscapes Matter, ECLAS 2010 Istanbul, European Council of Landscape Architecture Schools Annual Meeting, Invited Keynote, September 30 to October 3, 2010.
• Historic Urban Landscapes: Responsibilities & Opportunities, Preserving Spirit of Place & Partnering for the Future of Urban Heritage, Center for the Study of Architecture in the Arab World, Petra University, Amman, Jordan, Invited Keynote at CSAAR International Conference, November 2008

• "Landscape Documentation: Fostering Informed Stewardship & Enriching Interpretation" American Public Gardens Association, Planting Fields Arboretum, Invited Keynote, Oyster Bay, NY October 2008
• "Urban Cultural Landscapes & the Spirit of Place" ICOMOS, 16th General Assembly and Scientific Symposium, Québec City, Québec, Canada, October 2008
• "Is this Preservation or Sustainability", As University, Oslo, Norway, invited lecture, April 2008.
• "Cultural Landscape Preservation & Sustainability", Shanghai, Beijing and Wuxi, China, symposium and university invited lectures, and international exchange symposium, October 2007.
• "Global Heritage Preservation & Historic Urban Landscapes", 1st IFLA Americas Region Conference 5th National Congress Landscape Architects Mexico, Mexico City, 24-27 May 2007
• "Overview of World Heritage Inscription Trends, 1972 to 2006", and "USA Issues for World Heritage Tentative List", IUCN/US & US/ICOMOS Briefing & Symposium on the US World Heritage Tentative List, Representing US/ICOMOS, 12 September 2006.
• "World Heritage Framework for Cultural & Natural Landscapes", Introductory presentation, Scientific Committee Chair, US/ICOMOS 7th Scientific Symposium, Natchitoches, LA, March, 2004.
• "Public Landscapes at the Intersection of Culture and Nature", Symposium Developing an Urban Ecology Ethic: Promoting Stewardship & Sustainability for Pittsburgh's Historic Parks, PPC, January 2004
• "Shaker Mount Lebanon, North Family Cultural Landscape Report: Cultural Landscape as Expression of Life Ways", APT Annual Meeting, Portland ME, September 2003

RECENT PUBLICATIONS

• O'Donnell, Patricia M., Thirty Years of Landscape Rescue *VIEW* magazine, Library of American Landscape History, Summer 2008
• O'Donnell, Patricia M., "Preserving Designed Cultural Landscapes USA: understanding and preserving the designed landscape" TOPOS 56: Cultural Landscapes. Fall, 2006
• O'Donnell, Patricia M., "Learning from World Heritage: Lessons in the Preservation & Stewardship of Cultural and Ecological Landscapes", in *George Wright Forum,* September, 2004
• Schuyler, David and Patricia M. O'Donnell. "The History and Preservation of Historic Urban Parks and Cemeteries", in *Preserving Cultural Landscapes in America.* Alanen et al, John Hopkins Univ., 2000: 70-93

PROFESSIONAL REGISTRATION, SERVICE & AFFILIATIONS

• Licensed Landscape Architect (LLA), CLARB professional examination 1987, Connecticut, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Virginia, West Virginia
• AICP, American Institute of Certified Planners, professional examination 1995
• American Society of Landscape Architects, 1995 Fellow for Executed Works, HALS Co-chair 2000-2006, Historic Preservation Committee, Chair, 1981-1991, Annual Meeting Papers, 1981-2002 and 2004-2006; Symposia, 1987-1990; Mobile Workshop Leader 2003, 2006
• The Cultural Landscape Foundation, founding and incorporating Board Member, 1998-2009
• IFLA Cultural Landscapes Committee. Chair, 2006-2010, IFLA CLC website creator, Organizer "Issues for Heritage Cities from Global to Local" workshop ASLA/IFLA Meeting, Minneapolis, 2006, IFLA conference papers Mexico City, Mexico, 2007, Edinburgh, Scotland, 2005
• Cultural Landscapes International Scientific Committee ICOMOS/IFLA, Voting Member USA, 2006-2012; Working Session Host, 2008; Corresponding Member 2001-2005; World Heritage Desk Review, Batanes Cultural Landscape, Philippines, 2006; Meetings & Congresses 2002-2010
• ICOMOS International Scientific Committee on Cultural Tourism, Member 2009-2012.
• US/ICOMOS, ASLA Ex-Officio Board Member; Chair, US ICOMOS HGCL Committee, 2006-2010, 1997-2001. Scientific Chair, 7th US/ICOMOS International Symposium 2004;
• National Center for Preservation Technology & Training, Board, 2002-2006, Coalition for Preservation Technology 1990-5, US Congress Preservation Technology Transfer, Landscape Preservation Chair 1986
• Alliance for Historic Landscape Preservation, Member 1980 to present, Board 1988-98, conference papers
• National Association for Olmsted Parks, founding member 1979-80, board 1985-1988, conference papers
• Member: WMF, APT, NTHP, Garden Conservancy, Connecticut Trust, NYS Preservation League

Dr. Charles Knight
Consulting Archaeology Program
111 Delehanty Hall, 180 Colchester Ave.
University of Vermont
Burlington, VT 05405
Work: (802) 656-4310
Email: cknight@uvm.edu Fax: (802) 656-8033

Education

Awarded	Institution	Program
1999	University of Pittsburgh	Anthropology (Ph.D.)
1999	University of Pittsburgh	Certificate in Latin American Studies
1992	University of Calgary	Archaeology (BA)

Current Positions

2001-present: Assistant Director/Senior Researcher: University of Vermont's Consulting Archaeology Program, Burlington, Vermont

2001-present: Adjunct Assistant Professor, Department of Anthropology, University of Vermont

Publications

Knight, Charles L. F.,

nd The Proyecto Río Quijos: Lithic Analysis. Appendix in *Agricultural Economy and Chiefdom Emergence in the Eastern Andes of Ecuador*, by Andrea M. Cuéllar. University of Pittsburgh Latin American Archaeology Publications, Pittsburgh

2007 Palo Errado Patterned Wetland Mapping Project, Veracruz, Mexico. Final report submitted to the Foundation for the Advancement of Mesoamerican Studies.

2007 Proyecto de Mapeo de los Campos Inundables de Palo Errado, Veracruz, México. Tempraoda 2005. Informe Final submitted to the Instituto Nacional de Antropología e Historia, Mexico D.F., Mexico.

2005 "The Use and Maintenance of Levanna Style Projectile Points at the Bivouac Site in Colchester, Vermont". In. *The Journal of Vermont Archaeology*. 6:13-28

2003 Obsidian Production, Consumption, and Distribution at Tres Zapotes: Piecing Together Political Economy. In *Settlement Archaeology and Political Economy at Tres Zapotes, Veracruz, Mexico*. ed. Christopher Pool. UCLA Institute of Archaeology Occasional Papers. Monograph 50.

Knight, Charles L. F. and Michael D. Glascock

2010 "The Terminal Formative to Classic Period Obsidian Assemblage at Palo Errado, Veracruz, Mexico." *Latin American Antiquity.* Forthcoming

Selected Technical Reports

Knight, Charles

2006 Archaeological Phase III Data Recovery at the Norbert (VT-CH-942) and Shore Acres Drive (VT-CH-943) sites, located in the proposed West Lakeshore Drive Path project area, Colchester, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 401.

Archaeological Phase I Site Identification Survey and Phase II Site Evaluation Survey for Selected Archaeologically Sensitive Areas at Camp Johnson, Colchester, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 388.

Archaeological Phase I Site Identification Survey, Phase II Site Evaluation and Phase III Data Recovery of the Proposed Brandywine Development Project, Williston, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 363.

2004 Report of the Archaeological Phase II Site Evaluation of site VT-CH-321, Checkerberry Commercial Park, Milton, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 394

Report of the Archaeological Phase I Site Identification Survey for the Proposed 835 Hinesburg Road Development, South Burlington, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 391

2003 Archaeological Phase II Site Evaluation of site VT-RU-349 and Supplemental Phase I site Identification Survey of the proposed Rutland Town BRF 019-3(48)SC Bridge Replacement Project, Rutland, Rutland County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 377

Archaeological Phase I Site Identification Survey of the Proposed Point Bay Marina Dredging Project, Charlotte, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 376

Archaeological Phase I Site Identification Survey of the proposed Bristol BRF/STP 021-1(15), Bridge Improvement Project, Addison County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 372

Archaeological Phase I Site Identification Survey and Phase II Site Evaluation of the Wastewater Collection and Treatment Facility at Site VT-WA-106 (The Munn Site), Waitsfield Village and Irasville, Washington County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 365

Archaeological Phase I Site Identification Survey of the Heffernan Rock Quarry, Addison County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 364

Archaeological Phase I Site Identification Survey and Phase II Site Evaluation Survey for the Mill Pond Farm Project, Colchester, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 358

Archaeological Phase I Site Identification Survey and Phase II Site Evaluation Survey for the Demers Development, Colchester, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 356

Archaeological Phase I Site Identification Survey for the Turner Housing Development (Christine Court), Milton, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 343

2002 Archaeological Phase I Site Identification Survey and Phase II Site Evaluation Survey for the Mill Pond Farm Project, Colchester, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 358

Archaeological Phase I Site Identification Survey and Phase II Site Evaluation Survey for the Demers Development, Colchester, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 356

Archaeological Phase I Site Identification Survey for the Calkins Property Development, South Burlington and Shelburne, Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 344

CCCH Site Relocation and Site Datum Placement for Ten Prehistoric Native American Sites in Chittenden County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 329

2001 Phase 1 Archaeological Site Identification Survey for the Charleston Bridge Replacement in Charleston, Orleans County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 301

Knight, Charles, K. Kenny, and J. G. Crock

2002 Phase I Site Identification Survey for the Newport State Airport AIR 04-3142-100 Project, Coventry, Orleans County, Vermont. Consulting Archaeology Program, University of Vermont. Report No. 332

Professional Papers

2008 "Power, Status and Production during the Terminal Formative to Early Classic periods at Palo Errado, Veracruz, Mexico." Presented at the 41st Annual Chacmool Conference, Calgary, Canada. November 7-10, 2008

2008 "Volunteering and Archaeology at the Severance Site in Colchester, VT". Presented at the Vermont Archaeological Society Fall Meeting, Burlington, Vermont. October 11, 2008

2008 "Formative to Classic Period Obsidian Consumption at Tres Zapotes, Veracruz, Mexico." Presented at the 73rd Annual Meetings of the Society for American Archaeology, Vancouver, Canada. March 26-30, 2008

2006 "The Norbert and Shore Acres Sites: Middle to Late Woodland Period Occupation along the Banks of Mallets Bay in Colchester, Vermont" Presented at the Vermont Archaeology Society Spring Meeting, Enfield, New Hampshire. April 8, 2006

2003 "Ceramic Consumption and the Proto to Early Classic Period at Palo Errado, Veracruz, Mexico." Presented at the Vermont Archaeological Society Fall Meeting, Burlington, Vermont. October 4, 2003

1999 "More than Macrocores: Obsidian Core-Blade Technology during the Late Formative to Classic periods in southern Veracruz, Mexico." Presented at the 64th Annual Meetings of the Society for American Archaeology, Chicago. March 24-27.

1998 "The Obsidian Economy during the Late Formative to Classic periods in the Hinterland of Tres Zapotes, Veracruz, Mexico." Presented at the 31st Annual Meetings of the Canadian Archaeological Association, Victoria, British Columbia, Canada. May 6-10.

1998 "Intra-site Dynamics of Obsidian Use and Distribution at Tres Zapotes: Piecing Together Political Economy." Presented at the 63rd Annual Meetings of the Society for American Archaeology, Seattle. March 25-29.

1997 "Obsidian Distribution at Tres Zapotes: Arriving at an Understanding of Obsidian Production, Consumption, and Distribution." Presented at the 62nd Annual Meetings of the Society for American Archaeology, Nashville.

1996 "Distributional Analysis of Obsidian Technology at Tres Zapotes." Presented at the 61st Annual Meeting of the Society for American Archaeology, New Orleans.

Attachment B
Select Project Summaries

Winooski Riverwalk Extension Plan

Winooski, Vermont

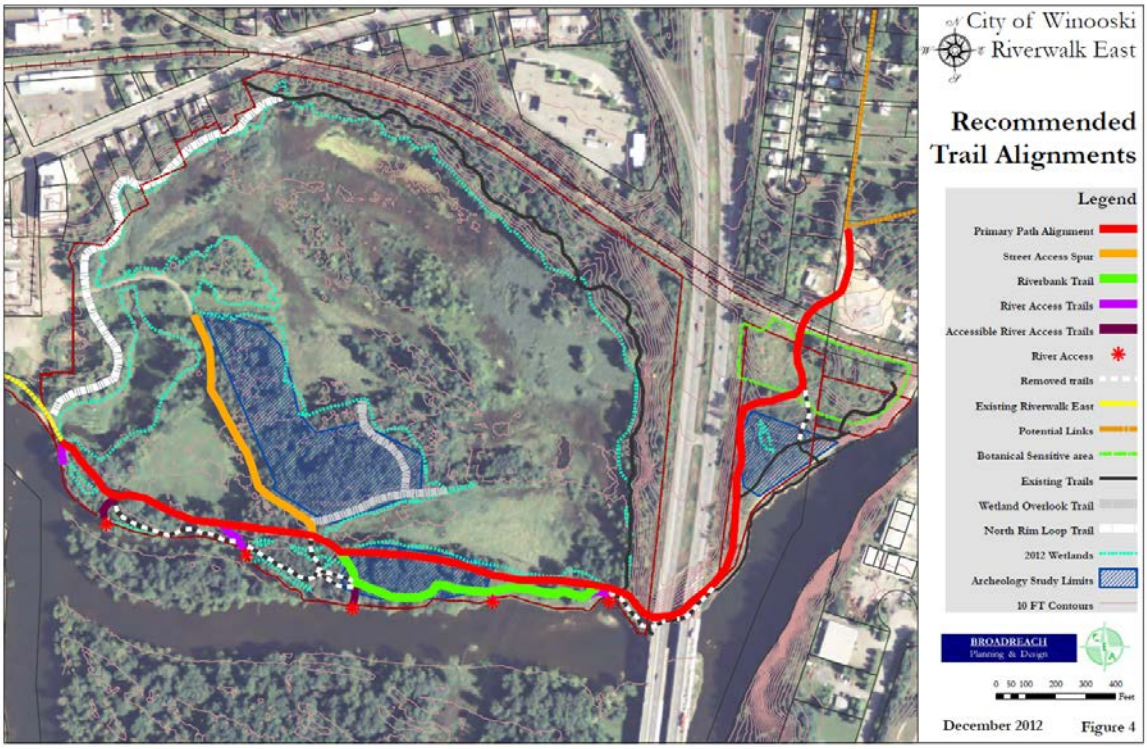
Client: The City of Winooski, Vermont

Project: Trail Scoping Study

Project Credits: Civil Engineering Associates, Project Leader; Broadreach Planning & Design, Jim Donovan, FASLA, Project Manager;

Description: Casavant Park lies just to the east of the Winooski's downtown area. Due to the recent redevelopment work on the downtown area that brought in more residents, the usage of the primitive path system at Casavant Park expanded significantly. The City consequently sought ways to extend the Riverwalk eastward into the park and beyond to link with another shared use path being developed along Route 15, to provide a well-planned facility in the park to allow more bicyclists and walkers to use the area. The Study also examined the continuation of access to the river, but in a way that minimizes degradation to the riverbank.

Broadreach Planning & Design (BRPD), working with Civil Engineering Associates (CEA) and other team members, completed an extensive analysis of the existing conditions in and around the park and then worked with the City to develop a rich mix of different alternatives. After numerous public work sessions and discussions with the project's steering committee, BRPD and CEA finalized recommendations for a series of improvements that included a larger multi-use path through the park and several smaller trails allowing access to the river's edge for fishing, contemplation, dog play, and other forms of passive recreation. The City is in the process of finding funds to implement the recommendations.



BROADREACH
Planning & Design

PO Box 321 Charlotte, Vermont 05445
802-425-5061

Adams Camp Mountain Bike Trail System Master Plan

Stowe, Vermont

Client: Tom Jackman, Town Planner; Town of Stowe

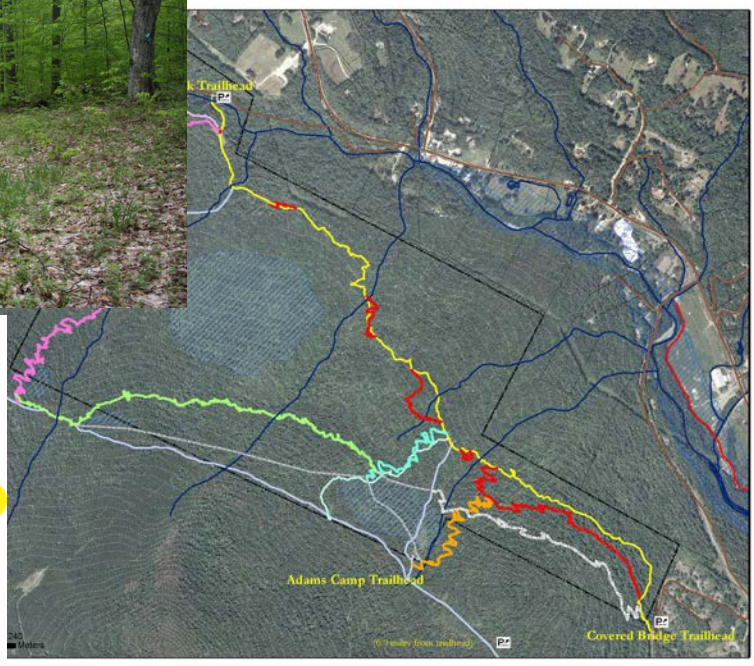
Project: Trail Layout and Trailhead Design

Project Credits: Jim Donovan, PLA, FASLA, Project Manager; Southwest Trail Solutions, Mountain Bike Planning

Description:

The Town of Stowe, in conjunction with the Stowe Land Trust, acquired the development rights to the Adams Camp parcel, along with the right of recreational access. The parcel is part of the Trapp Family Lodge properties, which itself is part of the larger Stowe Ride Center, a multi-property mountain bike trail system in the hills west and south of Stowe Village. The Town of Stowe contracted with the design team led by Broadreach Planning & Design to prepare a plan for a minimum of five miles of mountain bike trails on the Adams Camp Parcel. The work also included conceptual plans for three trailhead access points to the property.

After an extensive analysis of the existing natural resources on the site and discussions with local and state regulators, the Broadreach Planning & Design team spent over a week on the site, using hand-held GPS hardware to layout and map potential new trails. They finalized the layouts after the project's Advisory Committee joined them in the field to hike and review the proposed trails. The Broadreach Planning & Design team's work yielded an interconnected system of trails over six miles in length, providing use opportunities for beginning, intermediate and experienced mountain bike riders. After completing the trail layout plans, Jim developed plans for the two trailhead areas while the rest of the team focused on preparing a simple trail signage system that could eventually be expanded for use through the entire Stowe Ride Center.



BROADREACH
Planning & Design

PO Box 321 Charlotte, Vermont 05445
802-425-5061

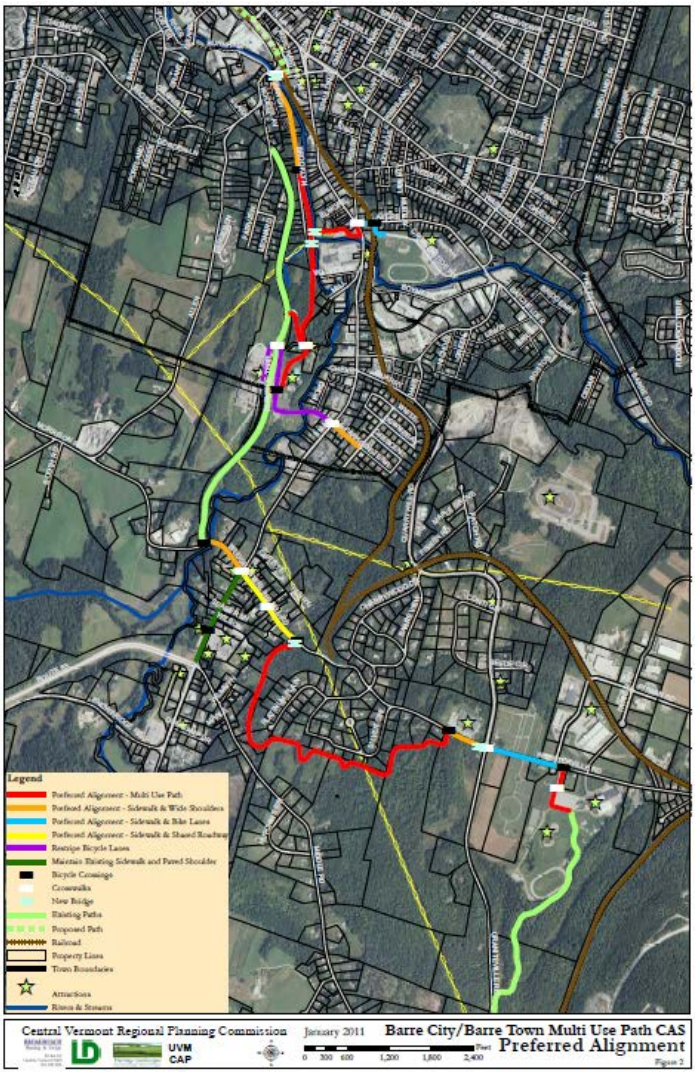
Barre City/Barre Town Shared Use Path Conceptual Alignment Study

Barre, Vermont

Client: The Ventral Vermont Regional Planning Commission, the City of Barre & the Town of Barre

Project: Planning and Feasibility Analysis

Project Credits: Broadreach Planning & Design, Project Lead - Jim Donovan, FASLA, Project Manager; Lamoureux & Dickinson, Traffic Engineering; Heritage Landscapes, LLC, Historic Resources; UVM Consulting Archeology Program – Archeological Resources



Description: The City and Town of Barre, with the support of the Central Vermont Regional Planning Commission initiated this study to find the most appropriate route for linking the City and the Town and existing shared use paths in each. Broadreach Planning & Design (BRPD) led a team that examined a multitude of potential on and off road alignments and eventually developed a set of recommendations that included portions of each to link the communities.

The BRPD team worked closely with a steering committee that included representatives from both municipalities. The team also conducted an extensive set of public involvement work sessions, including Saturday sessions and special group discussions.

The final recommendations included recommendations for improving several roadways and intersections for easier bicycle and pedestrian movement as well as several stretches of new, shared use paths. The final alignment included several links to neighborhoods and schools. It was then broken into numerous segments that could each be developed as independent sections that would be a useful addition to the community until the entire set of segments could be completed to create the full link.

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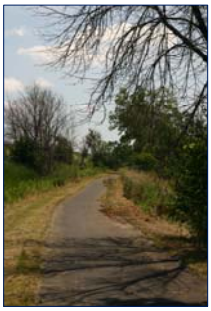


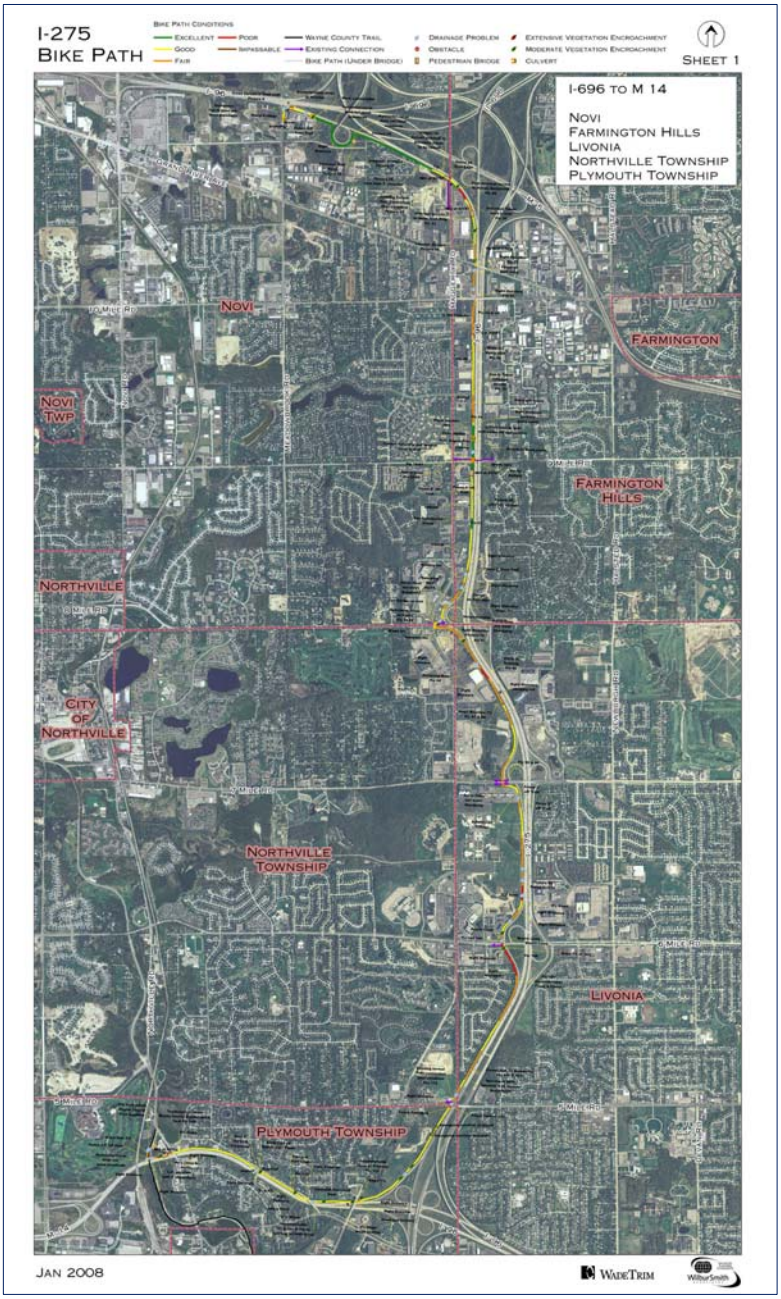
I-275 Bike Path Asset Management Study

Detroit Metropolitan Area

Client: The Michigan Department of Transportation

Project: Evaluation and Rehabilitation Recommendations for Existing 44 – Mile Path

Project Credits: Jim Donovan, FASLA Project Manager, Wilbur Smith Associates - Engineering & Lead; Wade Trim - GIS



Description: In 1970, the Michigan Department of Transportation (MDOT), while constructing Interstate 275 through the western Detroit Suburbs, decided to add a bicycle path at the outer edges of the Interstate right-of-way. Over the years, the path has not received adequate maintenance, which reduced its usefulness, which consequently reduced the use of the path, resulting in further maintenance neglect. Today the path is only usable in certain locations, but the demand to be able to use the path is higher than it has ever been.

Jim Donovan, acting as Project Manager, led a small team that contracted with MDOT to analyze all 44 miles of the path, identify where and what type of improvements were needed, Work with the Department and the public to develop improvement recommendations, prepare initial cost estimates for the recommendations, and develop a phasing schedule that balanced the needs of the various sections of the path with the desires of the various communities along the path to have their sections upgraded as quickly as possible.

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Mad River Valley Active Transportation Plan

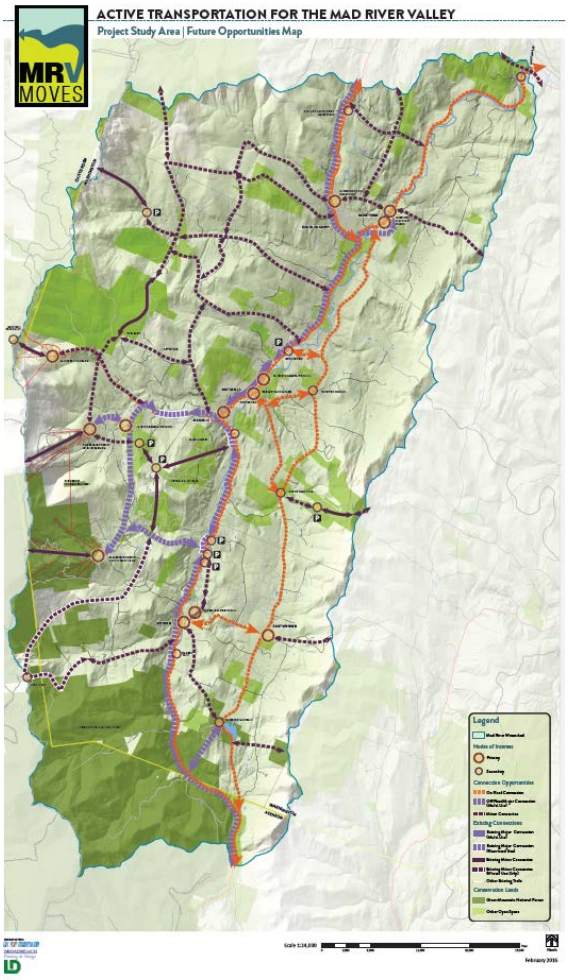
Towns of Moretown, Waitsfield, Fayston & Warren, Vermont in the Mad River Valley

Client: The Mad River Valley Planning District

Project: Active Transportation Planning

Project Credits: SE Group, Project Leader; Broadreach Planning & Design, Jim Donovan, FASLA, Project Landscape Architect; Lamoureux & Dickinson, Traffic Planning and Engineering

Description: The Mad River Valley is home to ski resorts, the Mad River Path, and portions of the Green Mountain National Forest, State forests, the Mad River Trails, sections of the Long Trail, and numerous other recreational facilities. There are three village centers along Vermont Route 100, which runs north south through the valley. While there are numerous methods and areas to engage in active transportation, there is no organized, interconnected, safe network of facilities that allows users of all ages and abilities to move around the valley to reach the village or the wealth of destinations without traveling by automobile.



The Active Transportation Plan is meant to serve as a long term guide to the development of on-road and off-road active transportation faculties primarily for walkers and bicyclists, but also usable by skiers, equestrians, and even snow mobilers. The work undertaken by BRPD includes the mapping the detailed work of examining existing conditions within the village areas and creating recommendations on how they development of streetscape recommendations to encourage greater walking and bicycling. BRPD is also reviewing the existing mix of on and off road trails in the Valley along with the numerous different standares for wayfinding signage. The goal of the work is the eventual development of one common wayfinding template that can unify each of the different systems into an identifiable Mad River Valley brand while still providing enough flexibility that the different elements of the overall trail and facility plan, such as National Forest trails or the Mad River Path can retain their individual identities.

The overall goal of the Active Transportation Plan is to provide an active transportation network that not only serves the local residents, but also provide an additional reason for tourists to visit and stay in the Mad River Valley.

Large Plan prepared by the SE Group

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Conceptual Planning & Feasibility Study for Bicycle and Pedestrian Facilities

Town of St. Albans, Vermont

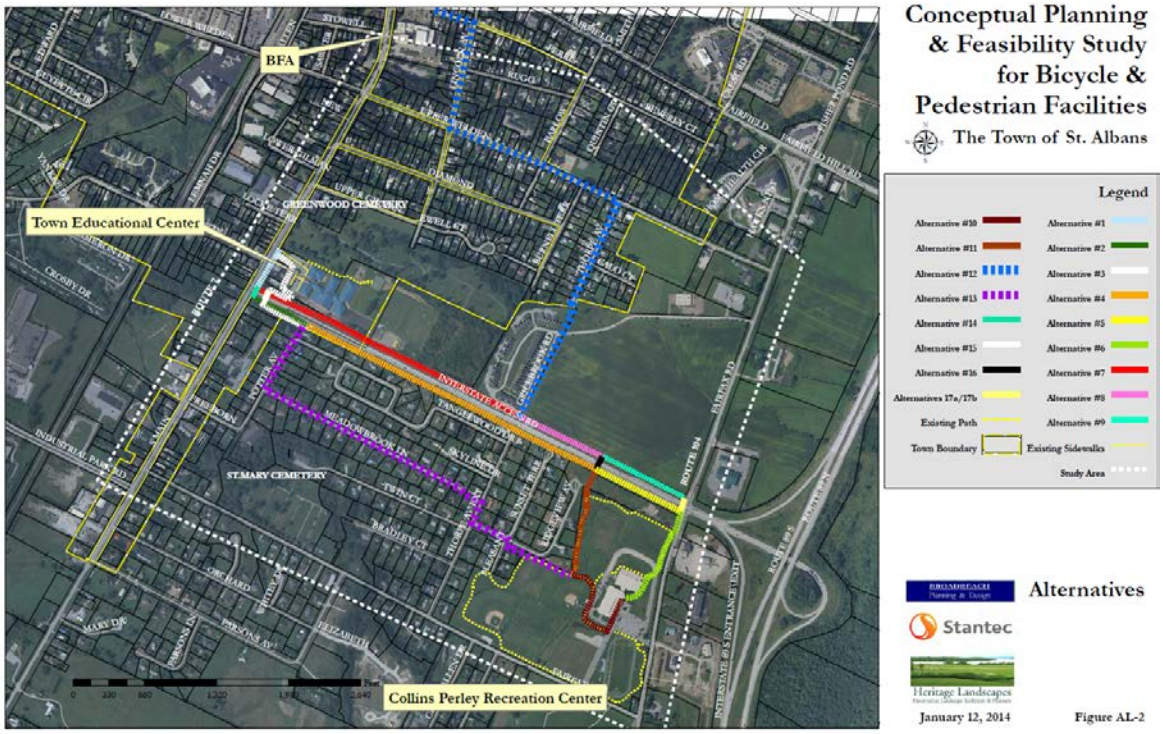
Client: The Town of St. Albans Selectboard

Project: Planning and Feasibility Analysis

Project Credits: Broadreach Planning & Design, Project Lead Jim Donovan, FASLA, Project Manager; Stantec Consulting Services, Traffic Engineering; Heritage Landscapes, LLC, Historic Resources

Description: The St. Albans State Access Highway (SASAH) currently runs between the St. Albans Town School and the Collins Perley Recreation Center, which hosts many of the Student athletic events. It is difficult to walk or bike between the school and the recreation complex; the pedestrian crossings at either end of the SASAH are not good and there are no intermediate crossing points.

The BRPD Team worked with a local Steering Committee to find ways to improve the situation. Potential alternatives under consideration include a bridge over the highway from the school, which is about 16 feet higher and next to the SASAH; an underpass where the adjacent land on either side of the SASAH is about 12 feet lower than the road; improved crossings at the end intersections; a new at grade intersections midway along the SASH where students have continually opened the highway fence to run across the road and numerous on and off road alternatives for shared use paths, new sidewalks or bicycle routes, some within the State-owned right-of-way of the SASAH. The BRPD Team has been working closely with the community through numerous public work sessions and with VTrans through meetings in Montpelier with key staff members to create a set of recommendations that are realistic, pragmatic and exciting to the community.



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Stowe-Morristown Shared Use Path Scoping Study

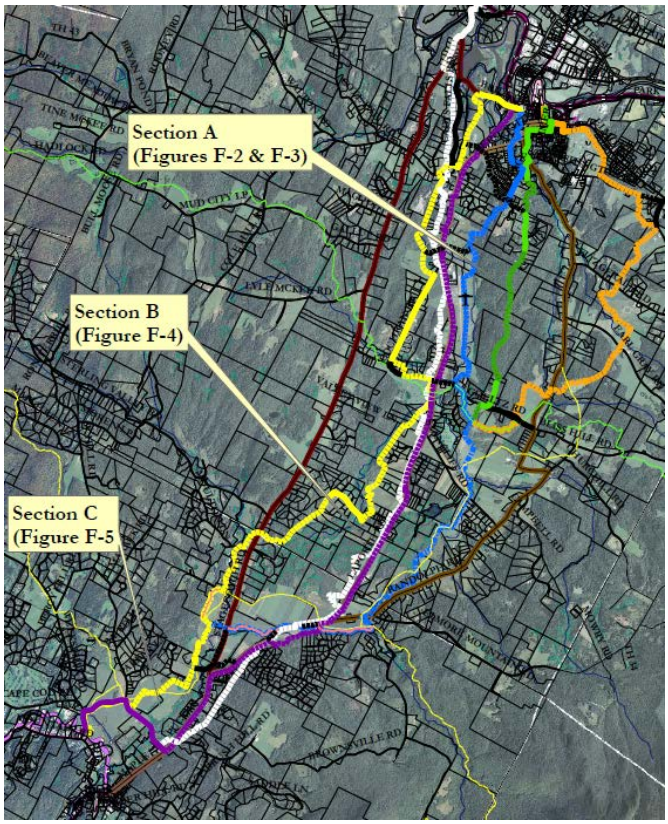
Stowe & Morristown, Vermont

Client: The Lamoille County Planning Commission

Project Credits: Jim Donovan, Project Manager Broadreach Planning & Design & Stantec, Heritage Landscapes, LLC and the University of Vermont Consulting Archeology Program

Project: Determination of the most appropriate method for improving pedestrian and bicycling connections between the Stowe Rec. Path and the Lamoille Valley Rail Trail. .

Description: A team led by Broadreach Planning & Design is conducting an analysis of the most appropriate routing and facility type for linking the Stowe Recreation Path and the future Lamoille Valley Rail Trail in Morrisville. The link is seen by bothcommunities as a major part of their transportation management processes as well as their economic development programs. The route would be usable by both tourists and local commuters alike. The dual purpose of the route increases the parameters that BRPD is using to evaluate the potential alternatives to include such items as visual resources and tourist interest as well as typical features such as interactions with motor vehicles and natural resource impacts.



The options that are being studied include using existing VAST trails, on-road routings, sidepaths and new cross-country shared use paths. BRPD organized the alternatives by sections, with the potential to easily mix and mathc alternatives from different sections.

Steering Committee review and public input will narrow the alternatives to a preferred single or combination of options. BRPD is working with the Steering Committee to contact each landowner that may impacted by an alternative alignment to gauge their willingness to allow a path on their property. This will culminate with a special public work session just for these affected homeowners.

Contacts: Bonnie Waninger, Lamoille County Planning Commission. Bonnie@lcpcvt.org

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Stone Valley Bikeway

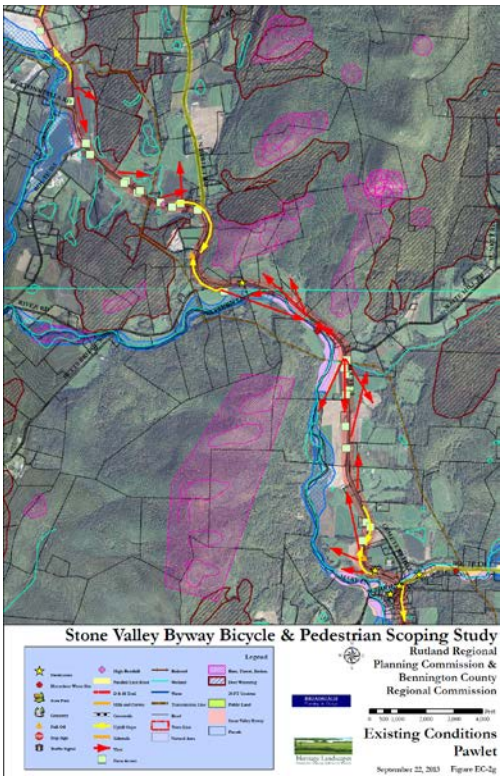
Rutland and Bennington Counties

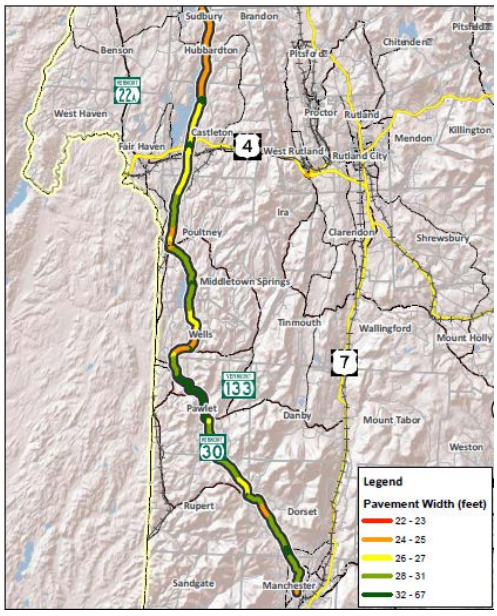
Client: Rutland Regional Planning Commission

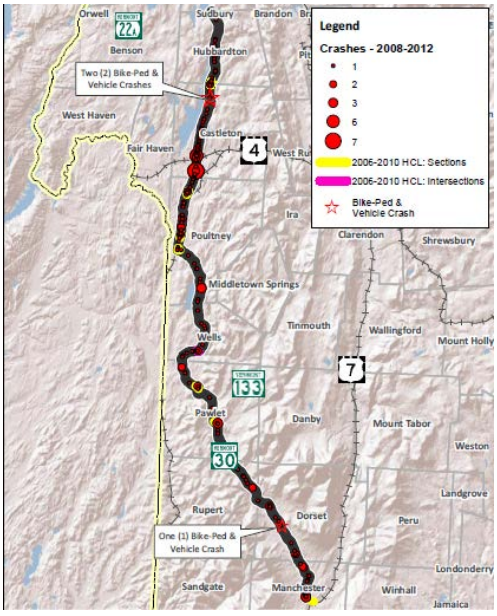
Project: Master Planning for Regional Bikeway

Project Credits: Jim Donovan, PLA, FASLA, Project Manager; RSG Inc. Engineering support

Description: The Stone Valley Byway runs from the Town of Manchester in the south to the northern boundary of the Town of Hubbardton along Vermont Route 30, passing through the towns of Dorset, Rupert, Pawlet, Wells, Poultney and Castleton. The Towns, along with the Rutland Regional Planning Commission and the Bennington County Regional Commission have plans to increase the bicycling and even walking conditions along the Byway. This project is developing a master plan for a "Bykway" to follow the general alignment of the Byway and to examine localized efforts to make it easier to walk or bike all or portions of the Stone Valley Byway. The alternatives under consideration include bringing the entire length of the roadway up to State Design Standards, to creating different levels of rest areas along the byway, to creating smaller loops to encourage exploration of the region, to creating a better signage system along the Byway, to more bicycle and pedestrian friendly management policies.







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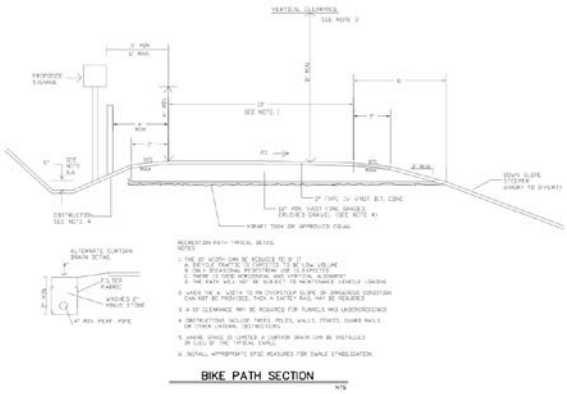
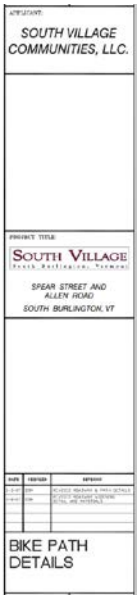
South Village Recreation Path and Quiet Path Systems

Civil Engineering Associates was the lead Civil Engineer for the design and permitting of the 240 unit housing project in South Burlington. In addition to the 2 miles of road and supporting utility infrastructure, the project included both active recreation path and quiet paths.

The layout of the path systems and the development of the various typical sections took into account the varying topographic conditions, a myriad of wetlands and archaeologically sensitive areas.





The wetland permitting required careful consideration of the alignment and the use of boardwalks as a means of minimizing impacts the wetlands and wetland buffer areas.

City of Winooski - Casavant Park Recreation Path Planning & Design

Civil Engineering Associates, Inc. partnered with Broadreach Planning to provide the existing condition documentation, public outreach and planning to the City of Winooski in support of identifying the best routing of a proposed recreation path within the 100-acre Casavant Park in a manner which:

- Enabled path users to best experience the broad range of natural resources and topographical features present within the 100 acre Casavant Park nestled along the Winooski River.
- Preserved the sensitive resource areas.
- Reduced soil erosion and improved the water quality of stormwater runoff.

The scope of work in included:

- A field survey of rare, threatened and endangered species in the Park;
- A field survey of migrant and resident bird species on the property;
- An analysis of the general vegetative patterns in the Park;
- Mapping of the existing trails, river access points, erosion problems, and other existing trail related elements;
- A review of existing regulations, plans and policies that may relate to additional development in the Park;
- A review of the land use and developmental history of the Park land;
- The preparation of an existing conditions report; and
- Public work sessions to review the existing conditions as well as to gather public input on the extension of the Riverwalk into the Park.

Once the Project Team (PT) had thoroughly documented existing conditions, they lead a work session with the PSC and other invited City and State regulators to identify as many alternatives for trail alignments as possible. The PT then worked together to review and analyze the alternatives, eliminate those that did not meet the purpose and need or were otherwise unsuitable and develop a concise set of viable alternatives for public review and further, more detailed analysis. Once they had a reasonable set of alternatives, the PT prepared an alternatives summary report that the City made available on its website prior to a second public work session. At the work session, the PT and the PSC reviewed the alternatives with the goal of developing a set of final recommendations.

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