

# **THE WARREN VILLAGE PEDESTRIAN ENHANCEMENT PLAN**

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## Feasibility Report

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Prepared for:  
The Town of Warren  
P.O. Box 337  
Warren, VT 05674

Prepared by:

**LandWorks**



211 Maple Street, MW 26  
Middlebury, VT 05753  
802.388.3011 (p)  
802.388.1950 (f)  
[info@landworksvt.com](mailto:info@landworksvt.com)  
[www.landworksvt.com](http://www.landworksvt.com)

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## INTRODUCTION

### Overview

This report establishes the feasibility of developing pedestrian facilities, landscape enhancements, traffic calming elements and related amenities for the Village of Warren, Vermont. The Village center, which features the Warren Store, Pitcher Inn and other commercial sites, sits next to the Mad River and is separated from busy Route 100, which runs north-south just to the west of the Village. Well established pedestrian facilities and safe and logical circulation are essential to a community this size, especially since most destinations are within walking distance to one another. Currently, the Village has one existing sidewalk along the west side of Main Street, which begins at the Warren Store and ends just before the intersection of Fuller Hill Road.



The intersection of Main Street and Flat Iron Road, looking south. The existing sidewalk can be seen at right. Also noticeable in this picture is the lack of white stripes that delineate the travel lanes.

In response to the Village's growing concern about cars speeding in the Village and other pedestrian related issues, a *Warren Village Improvements Plan* was prepared in January of 1996 to address these concerns. The plan proposed improvements, which ranged from sidewalks and lighting, to parking and street painting. Although some of the initiatives have been implemented, the Planning Commission applied for state grant monies in 2001 to investigate the feasibility of installing sidewalk and pedestrian facilities. Thus, in the spring of 2002, the Town contracted LandWorks to begin Phase I of the feasibility process, which involved the initial design development and public participation process. Phase II of the feasibility study



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commenced in 2003 and involved further development and finalization of the conceptual design plan.

The main focus of the project was the development of pedestrian infrastructure improvements and traffic calming along Main Street, Brook Road, Flat Iron Road and School Road that:

- Promote and encourage pedestrian and bicycle activity;
- Increase the comfort, enjoyment and security of pedestrians, bicyclists and other non-motorized street users;
- Reduce speed, congestion and cut-through motor vehicle traffic;
- and,
- Increase safety for children in the neighborhood, and elderly people with limited mobility.



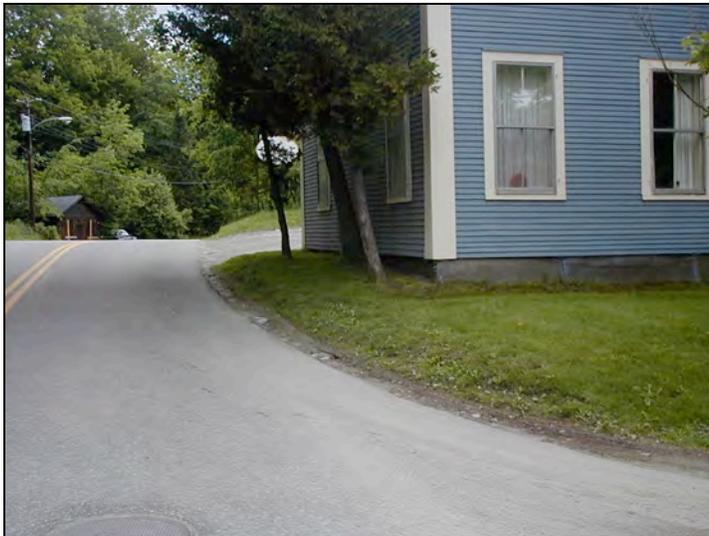
A school bus stop is located on Main Street, just south of the commercial center. Children must walk home along the roads since sidewalks are lacking in the Village.

The most challenging aspect of this project was developing creative and responsive solutions common to the needs of community members while still maintaining the Village's aesthetic appeal and historic character.

The project area is defined by a commercial center, which includes the Warren Store, Pitcher Inn and other commercial sites, surrounded by residential areas and some municipal buildings such as the Village offices, post office, town hall and library. Because of the range of uses, the study area experiences a high amount of pedestrian activity, especially by school-age children. Likewise, it also encounters a significant amount of vehicular traffic, specifically cut-through traffic. It was therefore important to incorporate enhancements that minimize potential conflicts with automobiles and ensure pedestrian safety. However, residents also felt that while safety is very important, the

Village should still maintain its character and not be marred by unsightly lines and concrete.

Presently, Warren Village yields various challenges in terms of land use planning, development, transportation design, pedestrian facilities, landscape and aesthetics. Variations in population and geography, natural and cultural resources, as well as existing infrastructure and settlement patterns account for a variety of challenges for the project area. Studying the natural and built landscape, the existing pedestrian movement patterns, the scenic qualities of the area, and the characteristics and values that make Warren Village distinctive is essential in the development and implementation of the conceptual design plans and this report.



Some homes in the Village are set very close to the road, which posed a challenge with regard to facility planning and design.

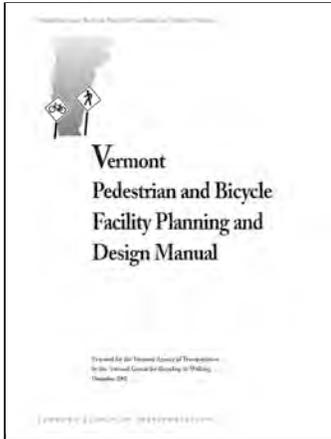
Therefore, this report documents the potential impact that the pedestrian facilities, landscaping, and related enhancements might have on the natural environment, cultural resources, infrastructure and land use within the project area. By investigating possible impacts, construction costs, and permitting requirements, the Village can make informed decisions about which design alternatives it would like to ultimately design and construct. Furthermore, it provides an approach that realistically facilitates attainable phasing and implementation. Once a final decision is made to move forward with the conceptual design plans, the Village will have sufficient information to seek Federal and State funds or a combination of funding sources to initiate scoping, construction document preparation, and future implementation.



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## Considerations for Planning and Design

In order to provide a design plan that would be easily attainable and widely endorsed, several resources were utilized as a point of reference to the recommendations. The most significant and noteworthy resource used in designing the conceptual plans was the *Pedestrian and Bicycle Facility Planning and Design Manual* (the Manual) published by the Vermont Agency of Transportation (shown at left). This publication provides guidelines for planning, designing, constructing and maintaining pedestrian and bicycle facilities in Vermont, including preferred traffic calming devices, and renders state support for the recommendations suggested in the



conceptual design alternatives. Please refer to this manual for more specifics on facility, planning, and design.

In busy village centers like Warren, pedestrian related improvements and traffic calming are very important to everyday pedestrian and motor vehicle activity. Traffic calming improvements help to enhance the overall sense of place, aesthetics, and pedestrian and bicycle safety. They enable walkers to efficiently, safely, and enjoyably access key destinations and encourage greater pedestrian usage, even if there is no apparent demand for pedestrian facilities. Moreover, it ensures a healthier and cleaner environment as vehicle usage is reduced.

Some of the different types of pedestrian facilities and traffic calming methods that were important to consider in the development of the Warren Village Pedestrian Enhancement Plan ranged from sidewalks and overland trails or paths, to crosswalks and traffic signals, to lighting, landscaping, and signage. When making determinations about what and where to establish these elements, we referenced the design principles outlined on page 3-9 in the Manual to help supplement our decision-making process, from “making it safe” to “providing good spaces.”

## PROJECT DESCRIPTION

### About Warren

The Town of Warren is located in Washington County, 18 miles south of Waterbury between the Northfield Mountains to the east and the Green Mountains to the west (see *Location Map* in Appendix A). Half the town is in the Green Mountain National Forest and home to Sugarbush Ski Resort, which is the region's largest ski and summer resort destination and is the Town's current primary economic base.

Warren Village is situated just off of Route 100 along the banks of the Mad River, where it was located to take advantage of the power of the river and remains the center of the community. Much of the commercial activity in the town and Village is centered on year-round tourism and ski services.



Historic photo of Warren Village looking north

Vermont Indicators Online (VIO), which provides geographic profiles of Vermont towns, lists Warren with 27,392 acres, of which 23% is conserved and administered by the federal government. The population of the town was 1681 in the year 2000 and an estimated population of 1699 for 2002. VIO records indicate that most of the town's highway mileage is made up of Class II and III roads and minor arterials and major collectors such as Route 100, Route 17, and German Flats Road primarily define the major traffic network in Warren.



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The Warren Town Plan defines the transportation network as follows:

The principal mode of transportation within Warren is the private automobile. During tourist seasons, buses, vans, and taxi service are available. Bicycling is popular during the warm months. Walking, running, and horseback riding occur throughout the year, primarily for recreation, but they are limited as a means of transportation by the widely dispersed pattern of development in the rural areas, the great distances between growth centers, and the lack of sidewalks, paths or adequate shoulders along the main roads. (page 7-1)

There are five major collectors that provide links to state routes and carry the largest volume of traffic within the Town. Two of these roads are located within the project area - Main Street and Brook Road. Main Street and Brook Road are defined as Class II roads, which “typically provide access to neighboring towns” according to the state designation. Flat Iron Road is the third road in the study area and is designated as a Class III road. All three roads are owned and maintained by the Town.

#### Project Purpose and Need

Purpose and need statements, according to the Vermont Agency of Transportation, are the foundation to clearly stating a problem and are very important in justifying and defining a project. Because Warren’s proposed improvements would ideally use Federal or State funds, this section of the report is included to document a genuine need and to offer justification for spending public monies.

The “purpose” portion of the statement defines the goal(s) which the project will attain; and, the “need” portion of the statement describes the characteristics that are inconsistent with and hinder the accomplishment of the project’s goal(s). The following purpose and need statement for the Warren Village Pedestrian Enhancement Project was developed from identified needs, Planning Commission and staff comments, public input, and professional expertise:

#### **Purpose**

The purpose of the Warren Village Pedestrian Enhancement Project is:

- To provide orientation, safety, accessibility and comfort to walkers, bicyclists, and other multi-modal users in the Village;
- To develop pedestrian improvements that will promote and encourage usage and ultimately reduce overall traffic speed in the area;
- To develop landscape and gateway enhancements that complement and improve the aesthetic quality, slow traffic and provide a sense of welcome to the Village.

## Need

The following inconsistencies and deficiencies define the need for Village improvements:

- *Location* - The study area is located off of VT 100, a busy state highway, which experiences a significant amount of tourist traffic due to its proximity to Sugarbush Ski Resort and other regional tourist activities. Main Street and Brook Road are also gateways into the Village and currently lack signs that inform travelers they are entering an area where pedestrians are walking about or where they need to share the road with bicyclists.
- *Existing Roadway Design Features* – This area contains multi-way intersections, which lack appropriate signage (i.e. stop signs, pedestrian signs) or are more favorable for vehicle activity such as wide curb radii. The roads are also extended lengths of linear streets, which encourage higher vehicle speeds and increase the threat to pedestrians.
- *Lack of Pedestrian Facilities* – The Village is devoid of pedestrian related amenities such as crosswalks, lighting, and signs that advise motorists of pedestrian activity. This lack of facilities threatens pedestrian safety and discourages walking and other alternative forms of transportation.

### Conformance with Local, Regional and State Plans

After careful review of Town, Regional, and State plans, the proposed alternatives and improvements described in this analysis correspond with the goals and policies outlined in each of the following documents:

*The Warren Town Plan* has several references to traffic calming, pedestrian facilities and safety. In the Transportation Overview on page 7-1, the Plan suggests “walking, running, and horseback riding occur throughout the year...but they are limited as a means of transportation by the...lack of sidewalks, paths or adequate shoulders along the main roads.” It declares that average daily traffic volumes have increased, and that “the speed of traffic can be reduced by using traffic calming measures” (page 7-2). The Plan also states “a number of Village residents have expressed their concern about cars speeding in the Village” and that “the number one priority was to control vehicular traffic speed” (page 7-5). Several methodologies are identified to address these problems, and include pavement striping, slow/warning signs and crosswalk striping.

The *Central Vermont Regional Planning Commission (CVRPC) Regional Plan*, which integrates the major goals and strategies outlined in the *CVRPC Regional Transportation Plan (RTP)*, references the



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importance of maintaining and providing multi-modal transportation options, as well as a safe and efficient transportation network. The *Transportation Element*, Goal 7, Policy 4 encourages “traffic calming efforts to minimize conflicts between traffic and surrounding neighborhoods” (page 45). The RTP on page 164 states that “physical traffic calming measures might be considered in cities, villages, and other growth areas in order to better control traffic speeds, improve pedestrian safety, and improve the overall environment. These measures could include speed humps or tables, chicanes, neck downs, narrow vehicle travel lanes, wider sidewalks, textured cross walks, pavement markings, medians, bulb-outs, roundabouts, gateways, plantings, and street furniture.” It also recommends the “inclusion of bicycle and pedestrian facilities and accommodations in all VTrans, Town, and new private development projects in villages, cities, and other growth areas.”

Some of the main objectives stated in the *1998 Vermont Agency of Transportation Bicycle and Pedestrian Plan* include the development of on-road facilities (expanded shoulders, bicycle lanes, line striping, signs, traffic calming), off-road facilities (multi-use paths, rail trails, bicycle parking), and pedestrian facilities (sidewalks, cross walks, paths, pedestrian amenities). The program also states that sidewalks and paths are needed in many Vermont towns and it encourages such areas to offer safe linkages between community destinations and to promote walking as a mode of transportation. It further states that in order to improve bicycle and pedestrian safety, paved shoulders should be provided along all principal and minor arterials and major collectors (page 21). It goes on to state that traffic calming devices should be considered along a roadway corridor or through a village area where pedestrian access is encouraged (page 26).

The conceptual design alternatives presented in this analysis clearly respond to the goals and policies stated in these documents. Furthermore, positive feedback and words of endorsement expressed for the project as well as public meeting results indicate community support for the enhancement and development of the proposed facilities throughout Warren Village.

#### Public Involvement

As an integral part of the Warren Village Pedestrian Enhancement Project, several public meetings and publicly advertised Planning Commission meetings were held to present preliminary design options, to gain citizen input, and to generate new ideas for the enhancement elements. Press releases, posters, and newsletters were utilized to announce the meetings.

The meetings were well attended by property and business owners, interested residents, Village officials, and other concerned individuals. Brief overviews of the project and work completed to date were presented by the Village and the consultant, and it is evident from public involvement discussions that the people very much want to be involved in the decision-making process of this project.



The Pedestrian and Sidewalk Focus Group discuss options for Village enhancements at the public meeting.

Several concerns and opportunities were raised at these meetings. On the one hand, a few people felt that the construction of sidewalks would change the look and feel of the Village and might cause more development. They felt that Warren is unique with no defined style and were concerned about adding more pavement to the Village streets. On the other hand, many people believed that sidewalks were necessary to improve pedestrian usage and safety, especially that of school-age children. Overall, there was agreement by all participants that vehicles were traveling at unsafe speeds through the Village jeopardizing pedestrian safety and quality of life, and that the calming of traffic was of utmost importance.

See the *Handout* and *Meeting Notes* in Appendix B for additional information about the public meetings.



## CONCEPTUAL DESIGN OPTIONS

### Overview

The overall purpose of developing pedestrian and traffic calming improvements in the Village is to provide a safe, accessible connection to and from numerous key destinations, including the Town Offices, Library, Elementary School, Post Office, General Store, and to ultimately reduce traffic speeds within the project area. The process of developing improvements that were consistent with the goals of Village officials and residents proved to be a difficult one. After several revisions and reviews by the Selectboard, Planning Commission, and townspeople, a final design was completed (see *Conceptual Enhancement Plan* in Appendix C). The design elements were formulated from public meeting comments, field study, and predominantly from suggestions by the Warren Village Planning Commission. The options listed below provide an overview of the improvements proposed for the project area. All recommended improvements shall meet VTrans guidelines for signage, amenities, traffic calming, and pedestrian facilities as outlined in VTrans' *Pedestrian and Bicycle Facility Planning and Design Manual* and *Traffic Calming Standard Drawings*.

1. **SPEED TABLES** are proposed at six locations to help slow traffic before entering the Village. Speed tables are flat-topped speed humps often constructed with brick or other textured materials on the flat section. Speed tables are typically long enough for the entire wheelbase of a passenger car to rest on the flat section. In this instance, the tables are at a proposed length of 22 feet, per VTrans requirements. The brick or other textured materials improve the appearance of speed tables, draw attention to them, and enhance safety and speed-reduction.



This is an example of a speed table on a residential street in Charlotte, NC. This example is shorter than the 22-foot table that is proposed in the Village. It uses the street print texture for the flat section, with asphalt for the ramps.

(The following information was obtained from Institute of Traffic Engineers (ITE) website)

**Description:**

- long raised speed humps with a flat section in the middle and gently sloping ramps on the ends; sometimes constructed with brick or other textured materials on the flat section
- sometimes called flat top speed humps, trapezoidal humps, speed platforms, raised crosswalks, or raised crossings

**Applications:**

- local and collector streets
- main roads through small communities
- work well in combination with textured crosswalks, curb extensions, and curb radius reductions
- can include a crosswalk



This is an example of a textured asphalt speed table, which has questionable effects since it lacks striping or a brick-like coloring across the flat section.

**Design/Installation Issues:**

- typically 22 feet in the direction of travel with 6 foot ramps on each end and a 10 foot flat section in the middle
- most common height is between 3 and 4 inches (and reported as high as 6 inches)
- ramps are typically 6 feet long (reported up to 10 feet long) and are either parabolic or linear
- careful design is needed for drainage – VTrans requires two (2) drainage basins on the upslope



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**Potential Impacts:**

- they have questionable aesthetics, if no textured materials are used
- no effect on access
- traffic volumes have been reduced on average by 12 percent depending on alternative routes available
- reported to increase pedestrian visibility and likelihood that driver yields to pedestrian

**Effectiveness:**

For a 22-foot speed table:

- Average of 18% decrease in the 85th percentile travel speeds, or from an average of 36.7 to 30.1 miles per hour; (from a sample of 58 sites).
- Average of 45% decrease in accidents, or from an average of 6.7 to 3.7 accidents per year (from a sample of 8 sites).

**Emergency Response Issues:**

- typically preferred by fire departments over 12 to 14-foot speed humps
- generally less than 3 seconds of delay per hump for fire trucks

2. A **RAISED, TEXTURED INTERSECTION** is proposed at the Brook Road and Flat Iron Road intersection. As defined by the Vermont Agency of Transportation, *Pedestrian and Bicycle Facility Planning and Design Manual*, it is a “raised plateau where roads intersect. Surface of the plateau may be textured and colored. The plateau is usually flush with the top of adjacent curbing. Approaches are ramped like speed humps.” By modifying the level of the intersection, it is more readily perceived by motorists to be “pedestrian territory”.

(The following information was obtained from ITE website)

**Description:**

- flat raised areas covering entire intersections, with ramps on all approaches and often with brick or other textured materials on the flat section and ramps
- sometimes called raised junctions, intersection humps, or plateaus

**Applications:**

- work well with curb extensions and textured crosswalks
- often part of an area wide traffic calming scheme involving both intersecting streets



This is an example of a raised, textured intersection in Cambridge, MA, similar to the one proposed at the Brook Road and Flat Iron Road intersection.

**Design/Installation Issues:**

- installations typically have gentle 1:40 slopes on ramps
- storm drainage modifications are necessary

**Potential Impacts:**

- reduction in through movement speeds at intersection
- reduction in midblock speeds typically less than 10 percent
- no effect on access
- make entire intersections more pedestrian-friendly
- improve safety for both pedestrians and vehicles
- can have positive aesthetic value
- can calm two streets at once

**Emergency Response Issues:**

- slows emergency vehicles to approximately 15 miles per hour

3. **LANDSCAPING TREATMENTS** are suggested along Main Street and Brook Road. Landscaping treatments include street trees, bushes, flowers, grass, etc. and can have a positive impact on the community. The historic picture below shows how Main Street used to look with street trees. Not only will it calm traffic by alerting drivers that they are entering a settled area, but it will improve the visual quality of the road. Monotony causes drivers to not pay attention. By adding variety to the visual landscape, drivers are more likely to take visual interest and thereby slow down.





Landscaped street edges also soften the appearance of speed tables and other vertical traffic calming measures. Street trees enhance the visual landscape and create a narrowing effect on the road. A landscape plan will need to be developed in the next phase of the project.

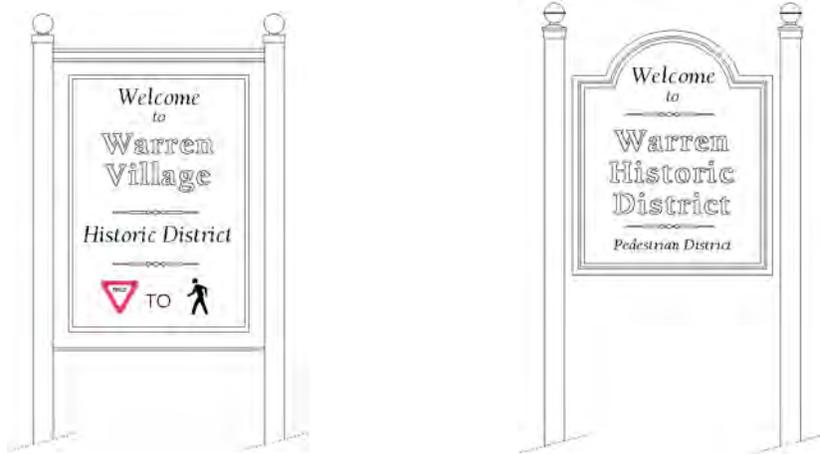
4. **LIGHTING** is proposed along Main Street and Brook Road to notify motorists that they are entering a settled area and to help improve visibility of pedestrians on the road, especially at twilight and nighttime hours. Lighting considerations include control of light disbursement, lamp efficiency, appropriateness of the level of illumination, protection of the visibility of the night sky and consideration of nearby property owners. Light fixtures and associated materials will need to be determined in the next phase of the project. It has been suggested to restore the historic lights that were on the bridge on Main Street. A photometric plan will also need to be completed once a fixture has been chosen.

5. **TRAFFIC CONTROL SIGNS** are proposed and required throughout the project area to alert drivers of conditions in the Village such as speed limits, pedestrian areas and school zones. It is VTrans policy to use the fluorescent yellow-green background for all pedestrian, bicycle or school zone signs that have inadequate stopping distance. MUTCD cautions that the standard yellow background signs should not be mixed with the fluorescent yellow background signs in any given area. Therefore, it is recommended that the fluorescent yellow-green background only be used at the school crossing on Brook Road. The standard yellow background signs should be used for all other applications.



6. Three **GATEWAYS** are proposed at the three entrances of the Village. The gateway acts as a sort of welcoming mat for residents but can deter other drivers because they believe that the community is either self-contained or with no through streets. Non-indigenous drivers are made to feel that they would be infringing on the privacy of those who live within the community. Therefore drivers who enter the neighborhood through the gateway tend to behave as though they are a guest on the street, and no longer enjoy the sense of anonymity that they possess in other, less defined communities. Gateways can range from simple treatments such as reduced speed and neighborhood identification signs, to more forceful treatments such as road narrowing curb extensions or landscaped islands.

In Warren, simple gateway signs, shown below, are proposed to notify drivers that they are entering a neighborhood and to help calm traffic entering the Village. The signs will be placed at the Village's gateways, just before the speed tables.



Below are examples of gateway and neighborhood street signs installed on Borough of Collegeville streets in Virginia, which are



based on a sign used successfully in Portland, Oregon. Located on neighborhood collector streets, the gateway signs are intended to define the parameters of the Borough, while the



neighborhood street signs serve as reminders in between. Together they let motorists know that pedestrian, family, and recreational users also enjoy Borough streets. They do not physically restrain motorists, but can psychologically affect the driving behavior of motorists not indigenous to the area.

7. **TEXTURED PEDESTRIAN CROSSINGS**, like the one shown in the picture below, are proposed along Main Street and Brook Road. Textured crosswalks enhance the pedestrian environment and



encourage motorists to yield to people crossing the street. The first crosswalk proposed along Main Street is located just north of the Post Office and will improve the safety of people walking to and from the Post Office, the church, Library, Town Hall and the

Municipal Offices. The second crosswalk along Main Street is located in front of the Ricard building (#314) and provides access to the village green and gazebo. The third crosswalk on Main Street is proposed in front of the Roth building (#266) and provides a crossing for pedestrians in the Village's main commercial area. The crosswalk proposed along Brook Road is located in front of the Dollmeyer building (#76) and accommodates school-age children entering/exiting from an informal path that leads to the Elementary School.

8. **RESTRIPING AND RELOCATING ROAD SPACE** is proposed along Main Street, Flat Iron Road, and Brook Road from Dump Hill Road to Main Street. Due to the controversy that surrounded the installation of sidewalks, as well as a variety of constraints, from



Right-of-Way and property owner issues to slopes and grading, shoulders as walkways were determined to be a more viable option. Currently, the roads in the study area do not have continuous white edge stripes (fog lines) to distinguish shoulders from the travel lanes; and, in some places, striping

does not exist at all, including the yellow centerline. Flat Iron Road, shown in the picture at left, is a good example. It's orientation and lack of striping encourages increased vehicle speeds. Thus, travel lane widths are proposed to be drawn 9 feet wide, whereby increasing the shoulder widths and encouraging slower, more cautious driving.

### Additional Opportunities

Several opportunities were discussed in the preliminary planning stage, which are not presented on the conceptual plan. These opportunities are viable options for the Village and should continually be discussed and considered for implementation. These include:

- Adding sidewalks throughout the project area, specifically along Brook Road and School Road, to improve pedestrian safety, especially that of school children accessing the Elementary School. A variety of sidewalk materials can be considered instead of concrete or asphalt to achieve a more natural look, such as gravel fines, Surpak, and PolyPavement (natural soil pavement);
- Considering speed humps instead of speed tables in close proximity to houses, or throughout the entire project area. Speed humps take up less room, result in similar reductions in speed, are less likely to impact drainage, and cost less to build;
- Adding a new pedestrian stairwell leading up to the Town Offices/Parking Area to encourage use of the free municipal parking lot and to improve pedestrian safety;
- Reconfiguring the Town Office/municipal parking lot with a center island, trees, and pedestrian amenities (i.e. crosswalks) to improve function, aesthetics and pedestrian safety;
- Reconfiguring/reducing curb radii at the intersection of Brook Road and Main Street;
- Reconfiguring/reducing curb radii at the intersection of Brook Road and Flat Iron Road;
- Reconfiguring, or "T"-ing the intersection of Flat Iron Road and Main Street – adding new landscaping and street trees;
- Converting Flat Iron Road to a 1-way road east in combination with converting Brook Road to a 1-way road west, from Main Street to Flat Iron Road intersection;
- Reconfiguring the intersection of Flat Iron Road and Brook Road (if 1-way option is implemented) with a landscaped curbed island to calm traffic and allow crossing distance for pedestrians to decrease;



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- Defining the existing pathway through woods to elementary school, with signs and enhanced safety elements, such as mulch; and,
  - Implementing a flashing yellow light at the intersection of School Road and Brook Road to help slow traffic and warn motorists of the school crossing.

## UTILITY IMPACTS

This section provides an overview of existing utility infrastructure in the study area (see *Utility Infrastructure Map* in Appendix D). Potential conflict areas have been identified. It is important that the conceptual plans be reviewed in detail for drainage and stormwater design and other engineering as a next step prior to implementation. An engineer will be able to determine the potential for problems related with the design or construction of the improvements and can recommend appropriate mitigation methods.

### Drainage Facilities

Existing drainage structures such as catch basins and culverts are located in several locations throughout the project area. Generally, these structures will not be affected by the proposed enhancements. One area that will require review by an engineer during the development of construction documents is at the second proposed light fixture on Brook Road, where a culvert is located next to the proposed light, approximately 225 feet east from the center line on Main Street. Alternatively, this light could be moved to avoid any problems.

Currently, no areas within the project limits experience drainage problems and periodic ponding, nor do any culverts house breeding populations. However, during the development of construction documents and implementation of the pedestrian improvements, drainage should always be considered and minor grading may be necessary to address future problems.

### Water

There is no municipal water in the project area. However, there are thirteen wells located within the project limits. The wells are comprised of three types: bedrock, shallow and dry.

There are eight bedrock wells. The first is located in front of the Grossman property (#565) along the right of way 14 feet from the east side of Main Street. The second well is 41 feet north on the west side of Main Street in front of the Mosley property (#580). It is approximately 12 feet from the road. The next well is approximately 419 feet north on the west side of Main Street in front of the Groom property (#508). It is approximately 12 feet from the road. The fourth well is approximately 355 feet north on the west side of Main Street in front of the Cota property (#440). It is approximately 11 feet from the road. Continuing north on Main Street approximately 1048 feet, the fifth well is located 10 feet from the road in front of the Roth property (#242).



There are two bedrock wells within the project limits on Brook Road. The first is approximately 70 feet east of the intersection of Flat Iron Road and Brook Road on the north side of Brook Road. It is 13 feet from the road in front of the Connell property (#141). The second bedrock well on Brook Road is approximately 700 feet east. It is approximately 12 feet from the south side of the road in front of the Neil property (#264).

There is only one shallow well within the scope of the project. It is located on Brook Road just east of the Lassner property (#166). The well is approximately 4 feet from the south side of Brook Road.

There are four dry wells located throughout the project area: one on Main Street and the other three on Brook Road. The well on Main Street is located in front of the Stewart property (#439). It is approximately 11 feet from the east side of the street. The well itself is approximately 5 feet by 6 feet.

The first shallow well on Brook Road is located approximately 25 feet east of the proposed textured intersection. It is approximately 10 feet from the south side of the road. The well itself is approximately 8 feet by 7 feet. The other two shallow wells are approximately 18 feet east in front of the Thompson property (#136). They are both circular wells with an approximate diameter of three feet. The wells are approximately 8 feet from the south side of the road and 4 feet from one another. Wells located within the project area will not be affected by the proposed enhancements. However, it is recommended that an engineer review the plans during the next phase of the project.

### Sewer System

There are twenty manholes throughout the project area. The manholes on Main Street start just north of the Fuller Hill Road and Main Street intersection. The manholes continue north on Main Street and are located just east of the centerline. The manholes on Brook Road start approximately 28 feet east from the centerline on Main Street. The next manhole is approximately 154 feet east on Brook Road just south of the centerline. The next manhole is located on the north side of Brook Road just east of the Flat Iron Road and Brook Road intersection. The manholes continue east on the north side of Brook Road along the right of way. The manholes on Flat Iron Road start approximately 93 feet east of the Main Street and Flat Iron Road intersection. The manholes are located on the south side of the road. Manholes within the project area are not in conflict with the proposed improvements.

The sewer line on Main Street starts just north of the Fuller Hill Road and Main Street intersection. The line runs approximately 507 feet north on Main Street along the east side of the road. The line branches east and west to service properties along Main Street. The line first branches approximately 14 feet north of its start to the east to the Stewart property (#439). It then branches 13 feet north to the west to the Cota property (#440). The line branches approximately 71 feet north to the east to the Lobel property (#417). The line then branches approximately 170 feet north to the east to the Town Hall (#413). It then branches approximately 3 feet north to the west to Barn Apartments/Miserendino (#392). The line continues north approximately 104 feet and branches west to the Ryan property (#374). The sewer line then branches approximately 26 feet north to the east to the Town of Warren property (#28). The line continues north approximately 97 feet where it ends. From the end of this sewer line approximately 74 feet north on Main Street just east of the center line another sewer line goes west across Main Street.

The first sewer line on Flat Iron Road starts approximately 21 feet east of the triangle at the Main Street and Flat Iron Road intersection. It is located on the south side of the road and the line extends to the Warren United Church (#339). The second sewer line starts 215 feet east from the previous line. It runs along the south side of Flat Iron Road for approximately 309 feet. The line branches 26 feet east to the south to the Simpson property (#70). The line continues east for approximately 128 feet where it branches south to the Norton property (#96). The line then continues 92 feet east where it branches southeast to the Thompson property (#136). The sewer line continues east and crosses over to the north side of Brook Road for approximately 702 feet where the line then crosses to the south side of Brook Road and runs approximately 71 feet. The line on Brook Road first branches approximately 395 feet east to the north to the Perellie property (#203). The line continues east for approximately 334 feet where it branches north to the Krushenik property (#251). The sewer line continues east for approximately 64 feet to its end. Approximately 8 feet west of the end the line branches to cross to the south side of Brook Road. The line then branches to the Neil property (#264) and to the Bergman property (#294). The sewer lines will not be in conflict with the proposed enhancements. However, it is recommended that an engineer review the plans during the next phase of the project.

#### Electric and Telephone

Other utilities in the area include electric lines owned and maintained by Green Mountain Power and telephone lines owned and maintained by Champlain Valley Telecom. The Village electric and telephone lines located throughout the project area are primarily on overhead wires



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and utility poles. More specifically, the utility poles on Main Street start on the west side of the street in front of the Dawson property (#630) and run north on Main Street for approximately 126 feet and then cross over to the east side of Main Street. The utility poles run north on Main Street for approximately 2349 feet and then cross over to the west side of Main Street just south of the bridge.

The utility poles on Brook Road start 136 feet east of Main Street. The poles run along the north side of the road east for 1136 feet and then cross over to the south side just east of the Neil (#264)/Bergman (#294) property line.

The utility poles on Flat Iron Road start 42 feet east of the intersection and run along the south side of the road for 184 feet.

For most of the project area, the existing utility poles do not appear to be in conflict with the proposed pedestrian enhancements. However, utility poles should always be considered and minor construction changes may be necessary to address any future problems,

There are three locations within the project area where the electrical lines are underground. From the utility pole just north of the pump station the line runs 9 feet south and then turns east crossing over the ROW. The other two underground lines are located on Flat Iron Road. The line runs from Hiram Inc. (#43) on the north side of the road to the utility pole on the south side of the road in front of the pump station. The third underground line runs from the previously mentioned utility pole to the storage tank. The electrical and telephone lines do not appear to be in conflict with the proposed enhancements. However, it is recommended that an engineer review the plans during the next phase of the project.

#### Conclusion

Impact to utility infrastructure will be minimal or non-existent in the project area. We therefore believe that the project as proposed is permissible from a State and Federal perspective.

## NATURAL AND CULTURAL RESOURCE DOCUMENTATION

There are different permitting requirements for the proposed pedestrian enhancements, depending on the funding source that will be used. The use of Federal funds has more restrictive provisions, potentially necessitating national level permits for such things as wetland impacts, which involve permitting through the Army Corps of Engineers, or overall environmental impacts that would require an assessment of impacts as defined by the National Environmental Policy Act (NEPA).

For each of the following natural and cultural resources, all available information was reviewed for potential impacts in the project area. As the proposed enhancements progress to construction documents, it may be necessary to further investigate possible impacts to the resources present in the project area. Following the resource discussion, Table I summarizes the potential constraints and indicates which impacts may require further research.

### Wetlands

National Wetland Inventory (NWI) data in GIS format was obtained from the Vermont Center for Geographic Information (VCGI) to determine the possible location of wetlands in the study area. Wetlands are classified into three categories by the Vermont Wetland Rules. The first two classes (Class I and Class II) are considered "significant" and are protected by the Vermont Wetland Rules. All uses which are not allowed in Class I and II wetlands require review by the Vermont Agency of Natural Resources Wetlands Office through a Conditional Use Determination. Class III wetlands are either considered not significant for producing any wetland functions or have not been mapped on the NWI maps. Class III wetlands are not protected under the Vermont Wetland Rules, but may be protected by other federal, state or local regulations. The NWI data source obtained from VCGI identifies Class I and Class II wetlands. According to this GIS data, there are no Class I or Class II wetlands existing in the project area that would be adversely affected. Moreover, the VCGI data for Class III wetlands indicates that there are none present in the study area (see *Natural and Cultural Resources Map* in Appendix E).

### Significant Habitat

The GIS data layer, ENDANGER, obtained from VCGI, indicates the known presence of rare, threatened or endangered species and significant communities. These rare plants and animals are tracked



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because they have very particular habitat requirements, are at the edges of their ranges, are vulnerable to disturbance or collection, or have difficulty reproducing. According to this data, there are no known resources present within the project vicinity that would be adversely affected. Nor are there other known habitats, such as deer wintering areas, that will be affected by the proposed enhancements, as identified by VCGI GIS data (see *Natural and Cultural Resources Map* in Appendix E).

#### Flood Hazards

The GIS data layer FEMA, obtained from VCGI, identifies the region's flood plains in a flood hazard boundary map. This source indicates that portions of the proposed design alternatives are located within the floodway or areas susceptible to any kind of significant flooding (see *Natural and Cultural Resources Map* in Appendix E). However, the proposed improvements would not be of concern to the state because they would not obstruct the flow in the floodway, nor would they affect the flood-carrying capacity of the area.

#### Historic Resources

If Federal or State funds are procured to construct the proposed enhancements, it is necessary to document that there will be either no effect or no adverse impact on the historic resources. This also includes impacts to historic slate or marble sidewalks, street trees, and retaining walls. Adverse impact means a change in a historic property's or historic resource's integrity of location, design, setting, materials, workmanship, feeling, and association resulting from: physical destruction, damage or alteration; introduction of incongruous or incompatible effects such as isolation of a historic structure from its historic setting; new property uses; or new visual, audible or atmospheric elements.

The study area is located within the Warren Village Historic District, which is listed on the National Register of Historic Places, and contains several historic homes and buildings. The National Register of Historic Places is the list of historic resources in the United States of America that are considered worthy of preservation. This federal program is administered in Vermont by the Vermont Division for Historic Preservation and the National Park Service (U.S. Department of the Interior).

The proposed enhancements will not directly alter or have an adverse impact on the historic resources in the Village. There will be no disturbance to the historic buildings, nor will the enhancements change the integrity of the Village character. It is recommended, however, that the Village utilize materials appropriate to the setting,

such as brick pavers or cobblestones, where feasible and not cost prohibitive. During the construction document phase, it is also suggested that a historian review the project area and the plans to make a determination as to any potential impacts. This determination will satisfy the requirements for Federal and State regulations and any future funding.

#### Hazardous Wastes

According to the *Vermont Active Hazardous Sites List* offered by the Vermont Department of Environmental Conservation Waste Management Division (DECWMD), as well as the EnvironHazmat\_HAZSITES GIS layer, which is provided by the Vermont Center for Geographic Information and originated by the DECWMD, there are no known hazardous material sites located within the project limits (see *Natural and Cultural Resources Map* in Appendix E).

#### Archaeological Resources

The project area does not have any sensitive archaeological areas and will have no effect on significant prehistoric or historic archaeological sites, as confirmed by the Archaeological Resources Assessment conducted by the University of Vermont Consulting Archaeology Program (see the *Archaeological Resources Assessment* in Appendix F for a more detailed report on Archaeological Resources).

#### Public Land

According to GIS data (PUBLAND) obtained from Vermont Center for Geographic Information, there are no public lands located within the project area (see *Natural and Cultural Resources Map* in Appendix E).

#### Conclusion

Natural and cultural resources are minimal or non-existent in the project area; therefore, there will be no adverse impact. We believe the project as proposed is permissible from a State and Federal environmental perspective.



TABLE 1 – PROJECT CONSTRAINT SUMMARY

	NOT PRESENT	MINIMAL OR NO IMPACT	FURTHER STUDY MAY BE NECESSARY
<b>NATURAL/CULTURAL RESOURCE</b>			
Wetlands	X		
Significant Habitat	X		
Flood Hazard		X	
Historic Resources		X	
Hazardous Waste Sites	X		
Archaeological Resources	X		
Public Land	X		
<b>UTILITIES</b>			
Drainage Facilities			X
Water/Sewer		X	
Gas/Electric/Telephone		X	

## COST ESTIMATES

The preliminary cost estimate for the conceptual design is presented in Table 2 below. It is important to note that none of these specific improvements have been engineered, so the costs for the schematic designs are based only on current quotes from respective retail companies and a comparison with similar projects. When fully engineered and implemented they may vary considerably from this initial estimate. Moreover, at this point in the design development, there is no need for right-of-way or property acquisition. If during the development of construction documents that this should become necessary, it is entirely possible that the final, built costs of the project could be as much as twice the current estimates. However, the preliminary estimates will provide the Village with reasonable figures to use for planning purposes, including budgeting for infrastructure replacement costs and maintenance. Although regional and state funding may be used for the development of the project, maintenance of the facilities including winter snow and ice remains the responsibility of the Village. A good rule of thumb, according to the VTrans Bicycle & Pedestrian Manual, is that 3-5% of infrastructure replacement costs should be spent on annual maintenance (e.g. if you spend \$100,000 to construct the enhancements, then \$5,000 should be budgeted for maintenance each year).

TABLE 2 – PRELIMINARY COST ESTIMATES

ITEM	SIZE/ QUANTITY	UNIT PRICE (installed)	TOTAL PRICE	OPTIONAL PRICING
<b>Site Work</b>				
Demolish and replace existing sidewalk ramps with ADA compliant ramps	12	\$1,000.00 each	\$12,000.00	
Textured/streetprint crosswalks (4 total)	864 s.f.	\$5.00 s.f.	\$4,320.00	
<i>Option for brick/concrete paver crosswalks</i>	<i>864 s.f.</i>	<i>\$16.00 s.f.</i>		<i>\$13,824.00</i>
<i>Option for standard 12" striped/painted crosswalks</i>	<i>216 l.f.</i>	<i>\$1.35 l.f.</i>		<i>\$291.60</i>
Raised intersection with textured pavement/streetprint (1 total)	1	\$25,000.00 each	\$25,000.00	



ITEM	SIZE/ QUANTITY	UNIT PRICE (installed)	TOTAL PRICE	OPTIONAL PRICING
<i>Option for brick/concrete pavers</i>	1	\$65,000.00 each		\$65,000.00
Speed tables with textured Streetprint/2 catch basins	6	\$8,500.00 each	\$51,000.00	
<i>Option for brick/concrete paver /2 catch basins</i>	6	\$12,000.00 each		\$72,000.00
<i>Option for speed hump</i>	6	\$2,500.00 each		\$15,000.00
4" pavement striping	14,900 l.f.	\$0.50 l.f.	\$7,450.00	
<b>Landscaping</b>				
Landscape Improvements/ Plantings		Allowance	\$10,000.00	
<b>Lighting</b>				
Lamp post	18	\$1,400.00 each	\$25,200.00	
Lamp post wiring & conduit	18	\$1,100.00 each	\$19,800.00	
<b>Signs</b>				
MUTCD signs		(standard reflective pricing)		
Yield (R1-2)	1	\$64.95 each	\$64.95	
Speed Plaque (W13-1)	3	\$38.95 each	\$116.85	
Speed Table/Hump (W17-1)	3	\$76.95 each	\$230.85	
Next 1 MILE (W7- 3a)	2	\$38.95 each	\$77.90	
Pedestrian Crossing (W11-2)	4	\$76.95 each	\$307.80	
Next 500 FT (W16- 4)	3	\$38.95 each	\$116.85	
School Advance Warning (S1-1)	2	\$76.95 each	\$153.90	
Ahead (W16-9p)	2	\$24.50 each	\$49.00	
8' Galvanized posts	10	\$20.10 each	\$201.00	
Directional Parking Signs	2	\$21.95 each	\$43.90	
Kiosk/information sign	1	\$2,000.00 each	\$2,000.00	
Gateway signs	3	\$5,000.00 each	\$15,000.00	

The Warren Village Pedestrian Enhancement Plan  
Feasibility Report

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ITEM	SIZE/ QUANTITY	UNIT PRICE (installed)	TOTAL PRICE	OPTIONAL PRICING
<b>Additional items</b>				
Benches (at sitting area)	2	\$900.00 each	\$1,800.00	
<b>TOTAL</b>		Sub-total	\$174,933.00	
		20% Contingency	\$34,986.60	
		20% Engineering/Planning/Design	\$34,986.60	
		15% Municipal Oversight	\$26,239.95	
		20% Construction Inspection	\$34,986.60	
		<b>Total</b>	<b>\$306,132.75</b>	

Prepared by LandWorks, Middlebury, VT May 2004, Revised August 2004





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## FUNDING

There are several funding options that Warren can explore to help finance the proposed enhancements:

### Federal

- *Statewide Transportation Improvement Program (STIP)* - The STIP is a staged, multi year, statewide, intermodal program of transportation projects, which are consistent with the Statewide Long Range Transportation Plan and its planning processes. STIP covers efforts for bike/pedestrian programs and enhancement programs. The STIP Coordinator participates in developing a strategy for using the federal FHWA and FTA funding available to the state.

### State

- The *Transportation Enhancement Program* through the Agency of Transportation provides grants for projects that enhance the transportation system including: sidewalks, bike paths (on and off road), historic preservation, scenic easements, rail trails, environmental mitigation and more.
- The *Bicycle and Pedestrian Program* through the Agency of Transportation provides monies for projects that improve the environment for bicycles and pedestrians in Vermont. Funding is divided between two categories: (1) Technical Assistance for preliminary planning of potential projects and (2) Project Construction for design, acquisition of right-of-way and construction of approved bike and pedestrian projects.
- The *Town Highway Grant Program* through the Agency of Transportation assist towns with maintenance of their class 1, 2, and 3 roads. Each town shall use the monies apportioned to it solely for town highway construction, improvement, and maintenance purposes.
- The *Urban and Community Forestry Program* through the Division of Forest, Parks, and Recreation provides *Trees for Local Communities Grants* for tree planting, maintenance, planning and education projects.
- *Village Center Designation*, as provided for in 24 V.S.A. chapter 76A, was created by the legislature to recognize and encourage local efforts to revitalize Vermont's traditional village centers. Communities that have been designated as village centers are entitled to a number of benefits and grant money through the Vermont Division of Historic Preservation. This includes money for

long-term revitalization activities such as transportation related improvements (i.e. sidewalks, landscaping, benches, traffic calming enhancements and other transportation improvements).

#### Local

- *Town Capital Budget* – the town can fund pedestrian and bike projects, roadway striping and minor improvements through the capital budget.
- *Initiate a small fund* on a yearly budgeting basis for pedestrian, streetscape, and traffic calming improvements. Alternatively, build a specific transportation enhancement program into a 20-year Capital Improvement Plan, with a commitment to the costs attached. Augment the fund by additional annual contributions from the budget, to be voted on at Town Meeting. Remove the option of spending the fund for purposes other than pedestrian, streetscape, and traffic calming improvements.
- *Private fundraising* could also fund transportation enhancement efforts.
- *Special Districts* – the town can identify areas or districts, such as a lighting district, where a special tax is levied on property owners who will benefit from the specific improvements. The funds generated from this district can be used to construct and maintain improvements (paving, sidewalks, street trees, and street furniture).



## PHASING AND TIMING

The suggested timing of the enhancements proposed on the plan and in this report is indicated in the implementation table that follows.

*TABLE 3 – IMPLEMENTATION SCHEDULE*

Proposed Enhancement	PHASE I (1-3 years)	PHASE II (4-5 years)	PHASE III (5 or more years)
ADA compliant sidewalk ramps		X	
Speed tables/Speed humps	X <sup>1</sup>		
Raised, textured intersection			X <sup>1</sup>
Landscaping treatments		X	
Lighting			X <sup>1</sup>
Traffic control signs			
Pedestrian crossing, speed table	Implement at time of associated construction (i.e. speed table, crosswalk)		
Yield		X	
School Crossing	X		
Directional parking signs			X
Kiosk/information sign			X
Gateways		X	
Textured pedestrian crossings	X		
Restriping and relocating road space	X		
Benches/sitting area		X	

<sup>1</sup> Assuming all advanced study (i.e. engineering, drainage) has been completed and satisfactory.

## PROJECT VIABILITY

Based on review of the project area, natural and cultural resources, utility and other existing infrastructure, discussions with key local and state representatives and public input regarding the enhancements, this project is feasible and would be an excellent expenditure of public funds. Some details that will need to be further addressed as the project moves forward include:

- (1) Drainage – throughout the project area, existing drainage, culverts, and stormwater outfall points were avoided as much as possible to help minimize the need for engineering and potential construction costs. However, there may still be some impact on the stormwater system and it is important that the conceptual plans be reviewed in detail by an engineer for drainage and stormwater design as a next step prior to implementation. An engineer will be able to determine the potential for standing water problems related with the design or construction of the improvements, as well as disruptions to runoff and infiltration, and can recommend appropriate drainage and stormwater conveyance techniques. The Mad River is an important resource in the Village and special attention to treatment of water runoff is required if additional asphalt is to be incorporated, with particular emphasis on the speed tables. Proper stormwater management and erosion control, especially due to the study areas close proximity to the Mad River and other streams, is absolutely critical to the health of the River;
- (2) Lighting – initial review indicates that adjacent trees, fences, drainage and other infrastructure will not be impacted from the proposed lighting. However, in the next phase of work an engineer will need to review the conceptual plan to verify that undergrounding the power will not impact existing utility infrastructure (i.e. sewer lines, electrical lines).
- (3) Traffic control devices – the project area should be studied in greater detail in terms of traffic signing to determine if certain devices need to be changed or relocated to adapt to the changing environment, which will result from the new enhancements. Signs might need to be eliminated, consolidated and/or relocated for less visual clutter, and safer driving; and,
- (4) Coordination – although all proposed enhancements are located within the public right-of-way, coordination between private property owners and local and state officials will be important to ensure a timely and efficient implementation process.



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The potential for use of the proposed enhancements is high based on the Village and citizen's desire to create a more aesthetically pleasing and pedestrian friendly environment. It is difficult to quantify the number of people who will benefit from the various enhancements, but the results of the public meetings, existing land use patterns in the Village and the location of the proposed improvements signify that many people will benefit from them every day as they travel throughout the project area. Ultimately, the proposed enhancements in the Village will create a sense of entry and welcome to the Village, will reduce traffic congestion, will encourage and improve pedestrian circulation and safety, and will have a positive effect on the economic vitality and quality of life in Warren Village.

## **APPENDIX**

Appendix A Location Map

Appendix B Public Meeting Handout and Notes

Appendix C Conceptual Enhancement Plan

Appendix D Utilities and Infrastructure Map

Appendix E Natural and Cultural Resources Map

Appendix F Archaeological Resources Assessment – University of  
Vermont Consulting Archaeology Program

This will be your group for the workshop  
(i.e. red group, blue group, etc.)



# WELCOME TO THE WARREN VILLAGE PEDESTRIAN AND SIDEWALK PROJECT PUBLIC WORKSHOP!

July 1, 2002

## *Thanks for taking part!*

We are just beginning and need your help in the planning process. Our charge is to:

- (1) locate pedestrian and sidewalk routes throughout the Village,
- (2) recommend related streetscape enhancements and traffic calming techniques for a safer, more pedestrian friendly environment,
- (3) update and expand where necessary the 1996 Warren Village Improvement Plan, and
- (4) prepare a formal report identifying the sidewalk alternatives and streetscape enhancements, which the village will submit for future grants and funding.

## TONIGHT'S AGENDA:

### 6:30 pm - Site Walk

A walking tour of Main Street and the entire project area hosted by the Planning Commission.

### 7:30 pm - Opening Remarks and Project Discussion

The Planning Commission will present a brief overview of the history, status, and direction of the Pedestrian and Sidewalk Project, as well as an historical perspective. David Raphael, lead designer for the project, will introduce enhancement, pedestrian and sidewalk concepts and set the stage for small group discussion

### 8:00 pm - Small Group Discussion

Convene in smaller groups (i.e. red group, blue group, etc.) to discuss our two focus areas, described on back page.

### 8:45 pm - Discussion of Panel Summaries

A brief summary and discussion of small group results will be presented.

### 9:00 pm - Final Remarks

A short description of the upcoming process.

# FOCUS GROUPS FOR SMALL GROUP DISCUSSION

## PEDESTRIAN AND SIDEWALK ROUTES

Groups Red and Orange

The small groups will discuss all the possible pedestrian routes, existing and conceptual, that are appropriate for the design of sidewalks throughout the Village. From this discussion we hope to attain 3 results:

- 1) Recommendations for various sidewalk route(s) or combination of routes;
- 2) Problems and opportunities associated with each recommended route; and,
- 3) Identification of the preferred route(s) or combination of routes.

Areas of consideration for sidewalk locations include:

- environmental issues (wetlands, habitat, topography, drainage),
- land use (property ownership, roadside uses/issues),
- aesthetics (landscape, trees, views, quality of experience, historic sites).

NOTES:

## STREETSCAPE ENHANCEMENT

Groups Blue and Green

The small groups will discuss any and all ideas for a safer pedestrian environment, ways to slow traffic, opportunities to enhance businesses, and to improve the function and aesthetics of Main Street and the Village. Discussion areas include:

- 1) Existing problem areas;
- 2) Where to put crosswalks;
- 3) Where landscaping is needed;
- 4) Existing parking (concerns, benefits, etc.);
- 5) Is lighting adequate or should it be improved for pedestrian use;
- 6) How about bicyclists (should there be a bicycle lane, bike racks, etc.);
- 7) Where is signage needed, unnecessary, and where it is too much;
- 8) What special areas need to be considered (i.e. high traffic areas, vehicles traveling at unsafe speeds, more sitting or green areas, etc.);
- 9) How to utilize local artistic talent; and,
- 10) History/interpretation.

NOTES:

# *Warren Village Pedestrian and Sidewalk Project*

## *Public Workshop Results – July 1, 2002*

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### ***Pedestrian and Sidewalk Focus Group***

#### ***View of Existing Sidewalk***

- Keep existing sidewalk - perhaps additional work on parts with crosswalk
- Slope of existing curb cuts is too severe
- Extend south to covered bridge

#### ***Other Routes***

- Extend north to parking area
- How to deal with parking areas, like Warren Store
- Minimize any loss of parking spots in the village
- Better designation of ancillary parking on north end of town
- Would burying power lines help parking/sidewalk
- Skip a walk in front of Warren Store, Roth Realty, Alta – have a walk on east side across from this area all the way to municipal lot
- Consider part of Brook Rd and Flat Iron Rd to be one way streets
- Triangles in the road at three way intersections

#### ***Brook Road***

- Which side?
- Kids will still cut through the woods?
- Address private property owners concerns

#### ***School Road***

- Which side – west side best

#### ***Additional comments***

- Enhance/clarify walking path/signs from municipal parking to town hall

### ***Streetscape Enhancement Focus Group***

#### ***Overview of Suggestions***

- Sidewalks should not be purely functional, but should include aesthetics, enhancements, streetscaping – enhancements are as important as sidewalks
- Problem with yellow painted lines, silent policeman (orange barrels) – don't want anything painted that is obtrusive
- Keep historical aspect – keep it "cool" – keep it simple
- What were sidewalks historically made of? How can we incorporate this aspect?
- Keep scale geared toward the human/walking/pedestrian friendly
- Break up the sight lines for the auto
- Cars parked along road may be a form of traffic calming/slowing the driver, but does not necessarily make it safer for pedestrians
- Make sidewalks people friendly, interactive and guided
- Incorporate street furniture, benches, bike racks

- Sidewalks will change the look and feel of the village
- Growth (i.e. sidewalks) brings more development
- Look at using old LaRock property for parking (across covered bridge)
- Don't freeze Warren in an artificial time frame - Warren is unique with no defined style - don't won't anything too contrived / cutesy / architecturally based - Warren was and still is a working town and want to maintain those roots/history
- Don't pave the town!

### ***Problem areas***

- Kids take the shortest route and stay away from houses - kids tend to spread out in all directions once they exit the path on Brook Rd.
- Bridge #30 - cars travel way too fast through this area as they come down Brook Rd
- Brook Rd/Main St intersection is a critical problem area - cars, people, congestion, no crosswalks, no stop signs, too wide for people crossing, etc.
- River along Flat Iron Rd
- Area in front of Post Office, Warren Store and Pitcher Inn - lack of guidance
- Cars are using gazebo lawn for parking - should be landscaped or something done to deter this
- Poor signage to parking lots, to encourage folks to use the lots
- Lack of village parking
- Arbitrary ends of sidewalks make no sense (dangerous)
- Fuller Hill/Main St intersection is problem area
- Need to get to Rt 100 north on Main St - include on map
- Church steps are not safe

### ***Crosswalks***

- Flat Iron & Main St
- Warren Store & Pitcher Inn
- PO & Municipal lot
- Also need to cross pedestrians in front of Warren Store, Pitcher Inn and Post Office
- Flat Iron & Brook Rd
- Brook Rd & School path

### ***Landscaping***

- Old LaRock property - make it a place to go to, a destination and escape by the river
- Gazebo lawn should be enhanced to discourage parking on grass
- Landscaped island at intersection of Flat Iron & Brook Rd, or make Brook to predominant road to discourage excessive speed (see Common Rd/E.Warren Rd - Waistfield)
- Landscape triangle at north end of village
- Bring back the trees

### ***Parking***

- Underground
- Need enough to encourage/discourage growth

### ***Lighting***

- Current lighting is not at village scale – too high – too intense – highway scale
- Needs to be village scale
- Must be a logic to where it starts and stops
- Environmentally friendly – no light pollution – want to see the stars
- Not cutesy

### ***Bikes***

- Gazebo – bike rack
- Post Office needs a bike rack
- No need for bike land in village

### ***Signage***

- Better directional signs to parking lots
- Current entry signs are hard to read (like Granville's entry signs)
- Keep them aesthetically pleasing and readable/simple
- Need directional sign to Roxbury Mt
- Road signs are very hard, almost impossible to read and need to be touched up all the time – very high maintenance – like the look of them though, but not functional

### ***Local Talent***

- Design/build approach
- Get commitments
- Have design, build, landscape talent
- Yes!

### ***History***

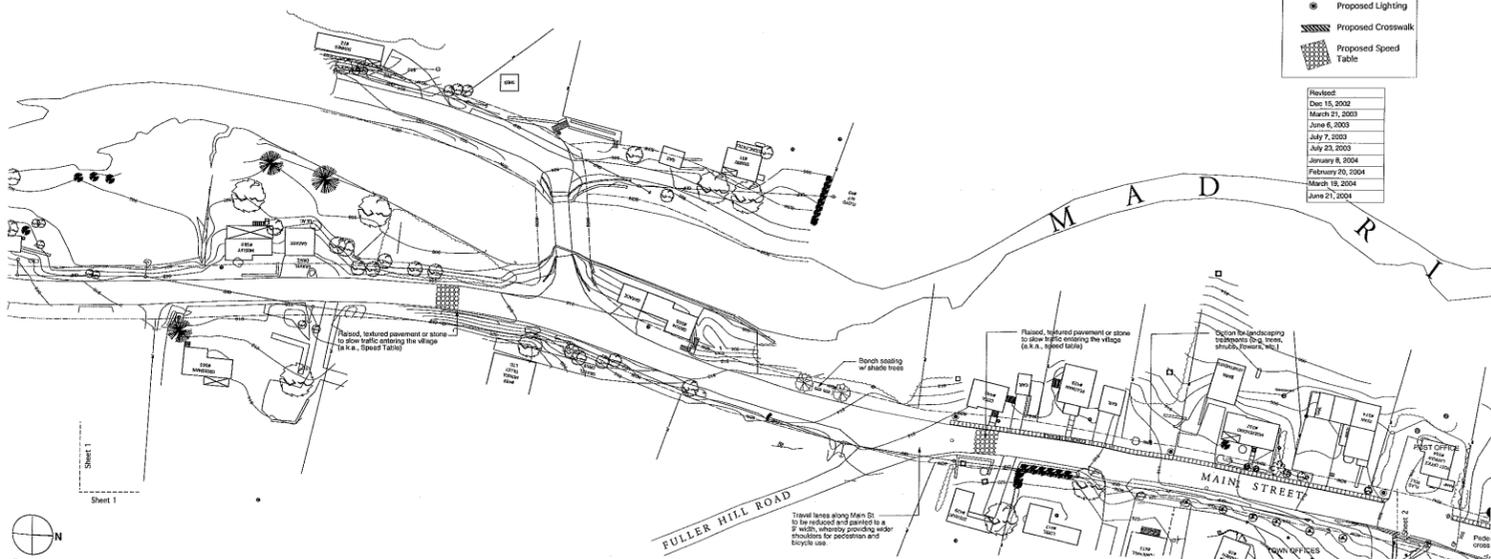
- Get the historical society involved
- Talk to Kit Hartshorn

### ***General Discussion***

- Sitting/walking area behind Warren Store
- Think about homemade/home funded project to keep it appropriate to our "Warren Village" – concrete sidewalks are not the only solution – what about meandering paths

### ***Additional Notes:***

- Put a sign on back of Granville's sign– "Welcome to Warren"
- Don't overdo the use of red brick
- Use of mixed textures
- Get church folk involved – incorporate church steps into a sidewalk up to Municipal Building

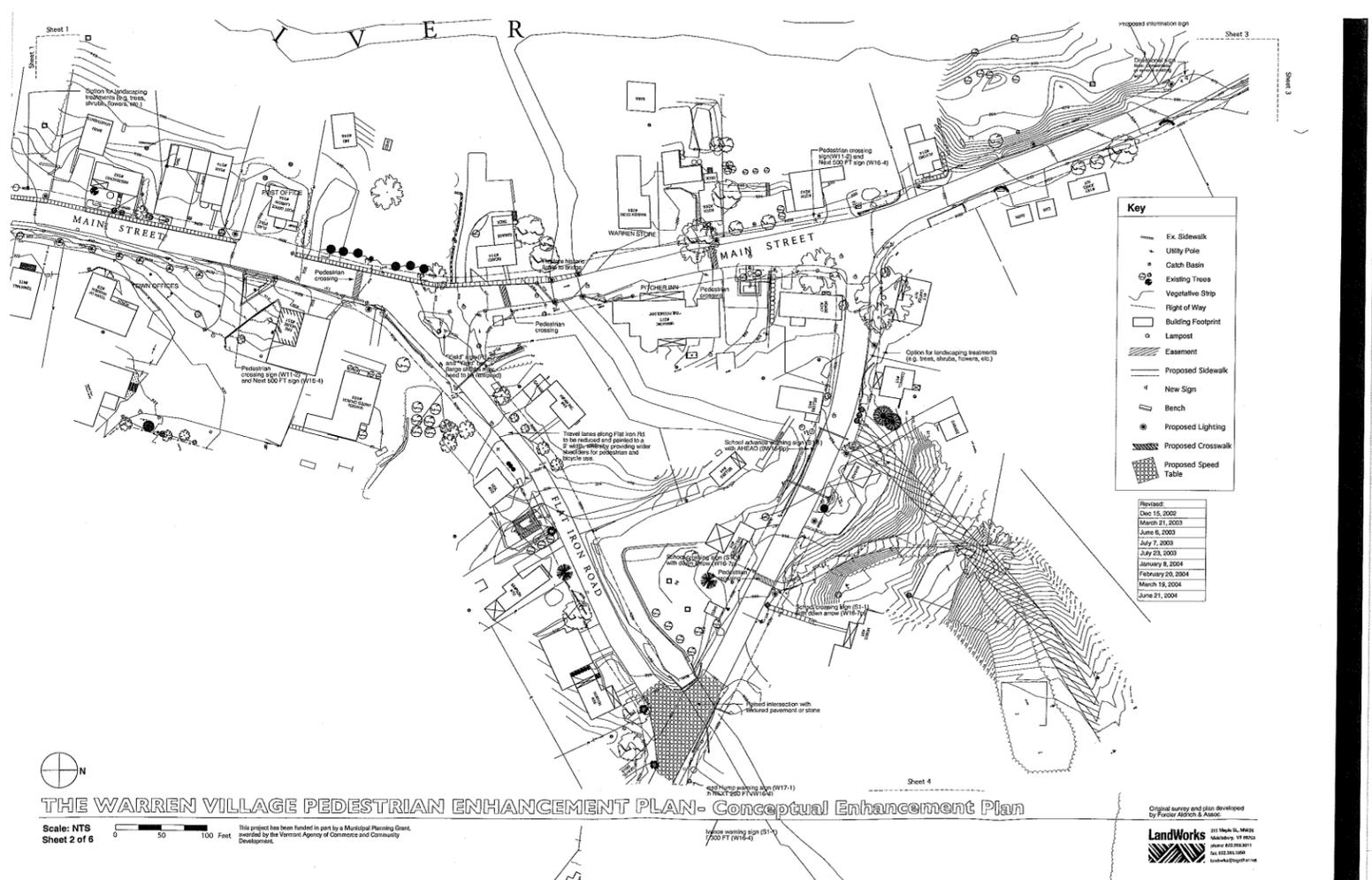


**Key**

- Ex. Sidewalk
- Utility Pole
- Catch Basin
- Existing Trees
- Vegetative Strip
- Right of Way
- Building Footprint
- Lampost
- Easement
- Proposed Sidewalk
- New Sign
- Bench
- Proposed Lighting
- Proposed Crosswalk
- Proposed Speed Table

Revised
Dec 15, 2002
March 21, 2003
June 6, 2003
July 7, 2003
July 23, 2003
January 9, 2004
February 20, 2004
March 18, 2004
June 21, 2004

**LandWorks**  
 811 Main St., #202  
 Montpelier, VT 05602  
 Phone: 802.248.4111  
 Fax: 802.248.1100  
 www.landworks.com



- Key**
- Ex. Sidewalk
  - Utility Pole
  - Catch Basin
  - Existing Trees
  - Vegetative Strip
  - Right of Way
  - Building Footprint
  - Lamppost
  - Easement
  - Proposed Sidewalk
  - New Sign
  - Bench
  - Proposed Lighting
  - Proposed Crosswalk
  - Proposed Speed Table

Revised
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March 31, 2003
June 6, 2003
July 7, 2003
2/29/2003
January 8, 2004
February 20, 2004
March 18, 2004
June 21, 2004

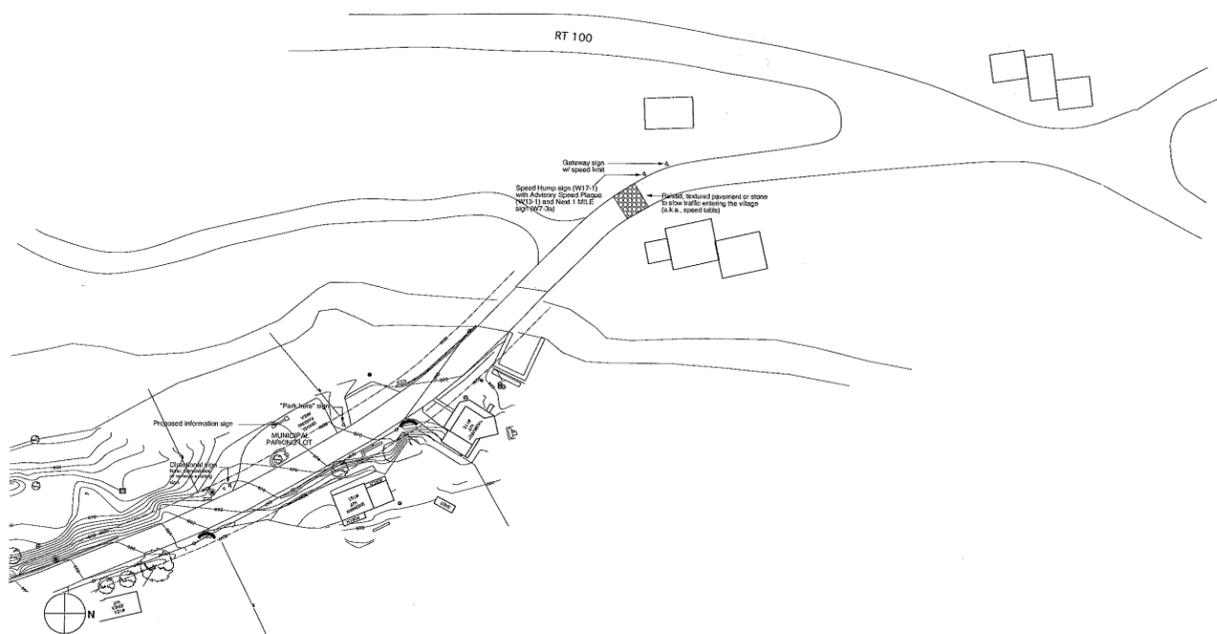


**THE WARREN VILLAGE PEDESTRIAN ENHANCEMENT PLAN- Conceptual Enhancement Plan**

Scale: NTS  
 Sheet 2 of 6  
 This project has been funded in part by a Municipal Planning Grant provided by the Vermont Agency of Commerce and Community Development.

Minimum warning sign (W16-1) / 500 FT (W16-4)

Original survey and plan developed by Fucior Johnson & Assoc.  
**LandWorks**  
 211 Maple St., #202  
 Montpelier, VT 05602  
 Phone: 802.263.2811  
 Fax: 802.263.0288  
 landworks@earthlink.net



**Key**

- Ex. Sidewalk
- Utility Pole
- Catch Basin
- Existing Trees
- Vegetative Strip
- Right of Way
- Building Footprint
- Lamppost
- ▨ Easement
- Proposed Sidewalk
- New Sign
- ▭ Bench
- Proposed Lighting
- ▨ Proposed Crosswalk
- ▨ Proposed Speed Table

**Revised:**

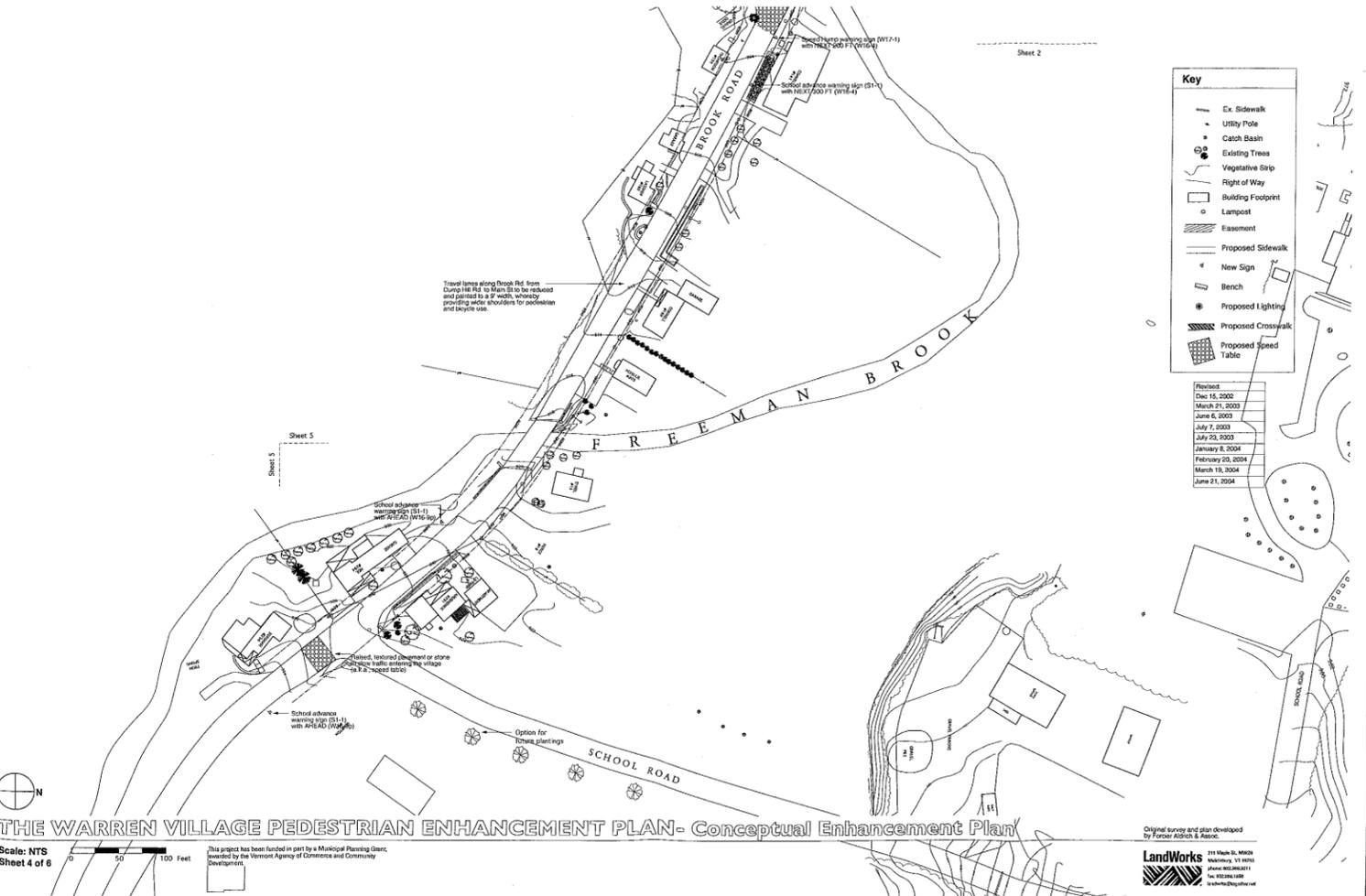
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July 7, 2003
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June 21, 2004

**THE WARREN VILLAGE PEDESTRIAN ENHANCEMENT PLAN- Conceptual Enhancement Plan**

Scale: NTS  
Sheet 3 of 6

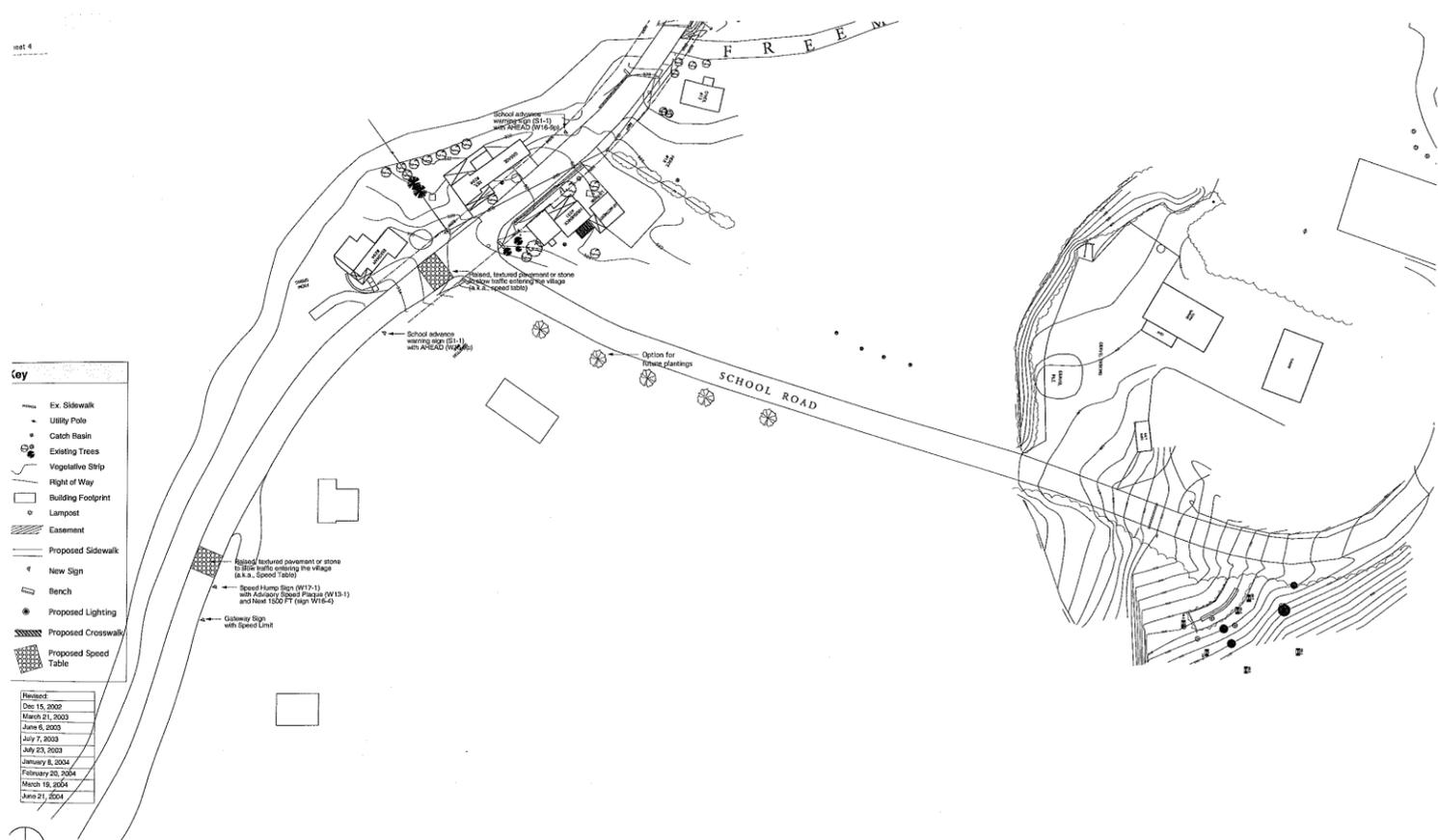
This project has been funded in part by a Municipal Planning Grant awarded by the Vermont Agency of Commerce and Community Development.

Original survey and plan developed by Francis Allison & Assoc.  
**LandWorks** 211 Main St. Suite 100  
Warren, VT 05646  
Tel: 802.246.1000  
www.landworks.com



# THE WARREN VILLAGE PEDESTRIAN ENHANCEMENT PLAN - Conceptual Enhancement Plan

Sheet 4



**THE WARREN VILLAGE PEDESTRIAN ENHANCEMENT PLAN- Conceptual Enhancement Plan**

Scale: NTS  
Sheet 5 of 6

This project has been funded in part by a Municipal Planning Grant awarded by the Vermont Agency of Commerce and Community Development.

Original survey and plan developed by FURBER ASSOCIATES & ASSOC.  
**LandWorks**  
 211 Main St., 4th Fl.  
 Warren, VT 05673  
 Phone: (802) 248-0111  
 Fax: (802) 248-0166  
 landworks@earthlink.net

Speed Hump Sign (W72-1) with reflective Speed Plaque (W19-1) and Next 1 MILE sign (W6-3)

Raised, natural pavement or stone to slow traffic entering the village (i.e., Speed Table)

Exitway Sign

Key	
	Ex. Sidewalk
	Utility Pole
	Catch Basin
	Existing Trees
	Vegetative Strip
	Right of Way
	Building Footprint
	Lamp Post
	Easement
	Proposed Sidewalk
	New Sign
	Bench
	Proposed Lighting
	Proposed Crosswalk
	Proposed Speed Table

Revised	
Dec 15, 2002	
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February 20, 2004	
March 18, 2004	
June 21, 2004	

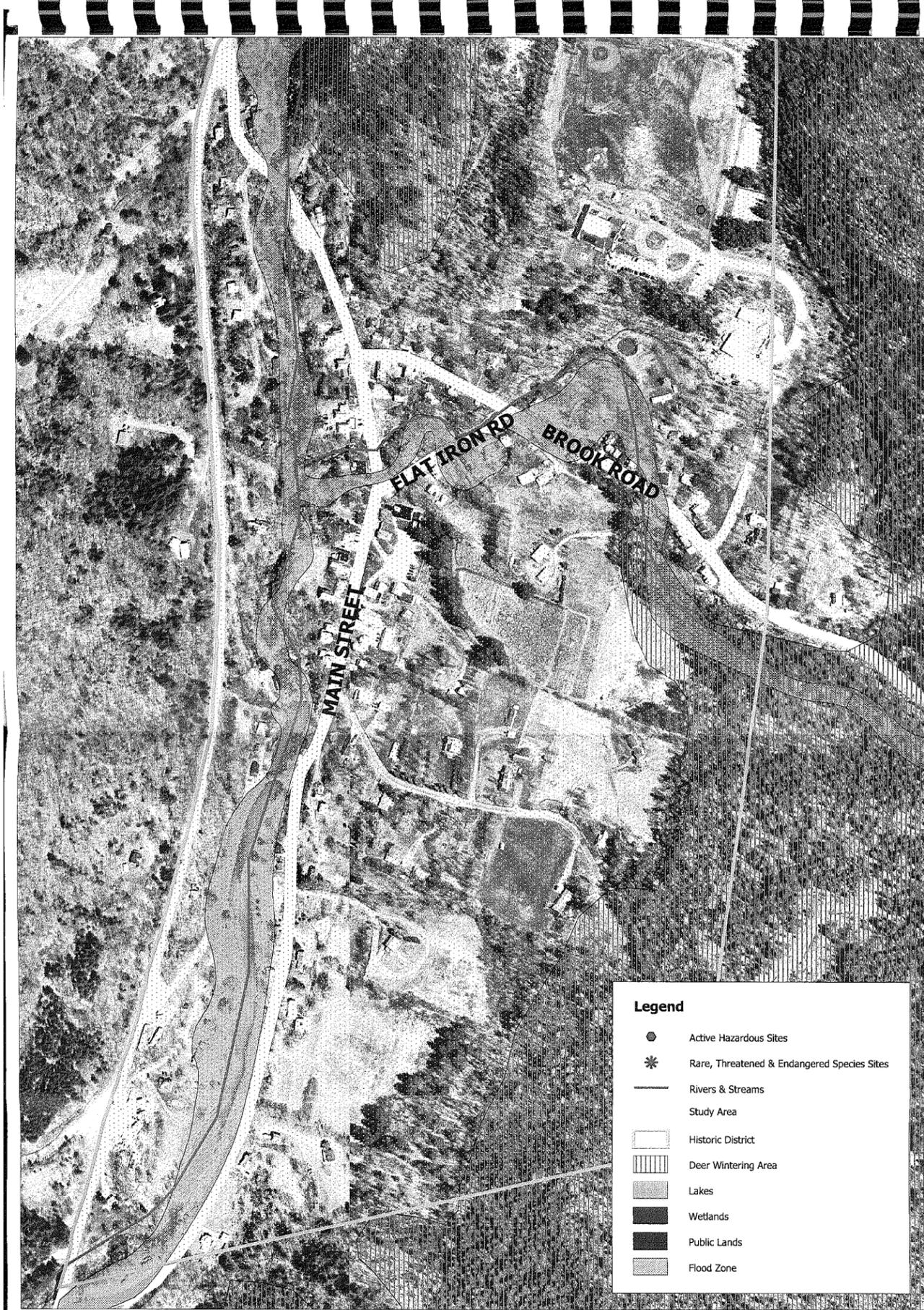


THE WARREN VILLAGE PEDESTRIAN ENHANCEMENT PLAN- Conceptual Enhancement Plan

Scale: NTS  
Sheet 6 of 6

This project has been funded in part by a Municipal Planning Grant awarded by the Vermont Agency of Commerce and Community Development.





**Natural and Cultural Resources Map**  
**The Warren Village Pedestrian Enhancement Plan**

This project has been funded in part by a Municipal Planning Grant, awarded by the Vermont Agency of Commerce and Community Development and by the Vermont Agency of Transportation, Bicycle & Pedestrian Program

Graphic Scale: 1" = 300'  
 300 0 300 Feet



DATE: 6/4/04  
 DRAWN BY: NS



*The*  
**UNIVERSITY**  
*of* **VERMONT**

CONSULTING ARCHAEOLOGY PROGRAM

May 4, 2004

Natalie A. Steen  
Associate Planner  
LandWorks  
211 Maple Street, MW 26  
Middlebury, VT 05753

**RE: Archaeological Resources Assessment for the Warren Village Enhancement Plan, Town of Warren, Washington County, Vermont**

Dear Natalie,

Attached, please find an Archaeological Resources Assessment for the Warren Village Enhancement Plan, Town of Warren, Washington County, Vermont.

No sensitive archaeological areas were identified within the proposed project's Area of Potential Effects. The proposed project will have no effect on significant prehistoric or historic archaeological sites, and no further work is recommended.

Please feel free to contact me if you have any questions.

Sincerely,

Charles Knight, Ph.D.  
Assistant Director

cc: Scott Dillon - VDHP

**Archaeological Resources Assessment for the  
Warren Village Enhancement Plan, Town of Warren, Washington County, Vermont**

Submitted to:

Natalie A. Steen  
Associate Planner  
LandWorks  
211 Maple Street, MW 26  
Middlebury, VT 05753

Submitted by:

Charles Knight, Ph.D.

University of Vermont  
Consulting Archaeology Program  
112 University Heights  
Burlington, VT 05405

Report No. 399

May 4, 2004

# **Archaeological Resources Assessment for the Warren Village Enhancement Plan, Town of Warren, Washington County, Vermont**

## **Project Description**

The Town of Warren, through the consulting engineering firm of LandWorks, proposes to construct traffic calming elements along Main Street, Brook Road, and possibly School Road, in Warren, Washington County, Vermont (Figure 1). Originally the proposed project included the construction of a pedestrian path along the west side of Main Street. However, the pedestrian path proposal has been dropped and the revised project elements will include at least six raised, textured speed tables within the existing road right-of-way, signage, a sitting bench, and various trees, shrubs, etc., in Warren Village, Vermont (Figure 2). Subsurface disturbance will be limited to the signage, sitting bench, and the planting of the various trees, shrubs, etc.

The University of Vermont Consulting Archaeology Program (UVM CAP) conducted an Archaeological Resources Assessment (ARA) of the Area of Potential Effects (APE) for the proposed project, as part of the Section 106 permitting process. No areas sensitive for prehistoric Native American sites were identified.

## **Study Goal**

The goal of an ARA (or "review") is to identify portions of a specific project's APE that have the potential for containing prehistoric and/or historic sites. An ARA is to be accomplished through a "background search" and a "field inspection" of the project area. For this study, reference materials were reviewed following established guidelines. Resources examined included the National Register of Historic Places (NRHP) files; the Historic Sites and Structures Survey; and the USGS master archaeological maps that accompany the Vermont Archaeological Inventory. Relevant town histories and nineteenth-century maps also were consulted. Based on the background research, general contexts were derived for prehistoric and historic resources in the vicinity of the study area.

## **Prehistoric Archaeological Site Potential**

There are no known prehistoric Native American archaeological sites within the proposed project's APE. In 1989, John Milner Associates carried out an assessment of archaeological sensitivity of the Mad River Valley within the Towns of Warren, Waitsfield, and Fayston (Dowd and Trubitt 1990). Their methods included a pedestrian surface reconnaissance within each town, and the surrounding areas, and limited subsurface testing (Dowd and Trubitt 1990). They concluded that several archaeologically sensitive areas exist on "the high ground at the confluence of the unnamed brook and Mad River" which is located within the village of

Warren (Dowd and Trubitt 1990:40). The unnamed brook which they identified is Freeman Brook. They also identified rock outcrops and ledges at an elevation between 1100' and 1300' on the south side of Freeman Brook as archaeologically sensitive for prehistoric Native American sites (Dowd and Trubitt 1990:40). However, these sensitive areas fall outside of the proposed project's APE. The landforms adjacent to the confluence of Freeman Brook and the Mad River occur in the backyards of private residences and will not be disturbed by the proposed project (see Figure 2). Likewise, the ledges and rock outcrops on the south side of Freeman Brook occur well outside of the proposed project's APE.

### **Historic Archaeological Site Potential**

The 1877 Beers Atlas and the 1926 USGS map indicate that the layout of Warren has changed little over the last 130 years (Figure 3). Numerous structures within the Town of Warren have been placed on the National Register of Historic Places. In 1974 the Warren covered bridge was listed on the National Register of Historic Places, while in 1992, the Warren Village Historic District was listed. The Warren Historic District is comprised of 72 structures covering the greater Warren Village area. Many of the listed structures are located adjacent to the proposed project's APE along Main Street, Flat Iron Road and Brook Road.

### **Field Inspection**

A field inspection of the proposed project's APE was undertaken on April 30, 2004 by Dr. Charles Knight, Assistant Director of the UVM CAP. The overall project area received a low sensitivity score of -32 based on the variables in the "Environmental Predictive Model for Locating Precontact Archaeological Sites," since the entire APE is within the existing road right-of-way and therefore has been disturbed in the past. Any subsurface disturbance will be limited to small, discrete areas that have been disturbed by historic activities associated with the construction of the existing roads. No areas sensitive for historic European sites or prehistoric Native American archaeological sites were identified, and the project will have no effects on significant cultural resources. No additional work is recommended.

### **Conclusions**

The Town of Warren, through the consulting engineering firm of LandWorks, proposes to construct traffic calming elements along Main Street, Brook Road, and possibly School Road, in Warren, Washington County, Vermont. Proposed project elements include at least six raised, textured speed tables within the existing road's right-of-way, signage, a sitting bench, and various trees, shrubs, etc., in Warren Village, Vermont. Subsurface disturbance will be limited to the signage, sitting bench, and the planting of the various trees, shrubs, etc.

The University of Vermont's Consulting Archaeology Program carried out an ARA of the proposed project's APE and identified two areas sensitive for prehistoric Native American sites. The project area received a sensitivity score of -32 based on the variables in the "Environmental Predictive Model for Locating Precontact Archaeological Sites," since the APE is within the existing road right-of-way and therefore has been disturbed in the past. No areas sensitive for historic European sites or prehistoric Native American archaeological sites were identified, and the project will have no effects on significant cultural resources. No additional work is recommended.

Charles Knight, Ph.D.  
Assistant Director

May 4, 2004

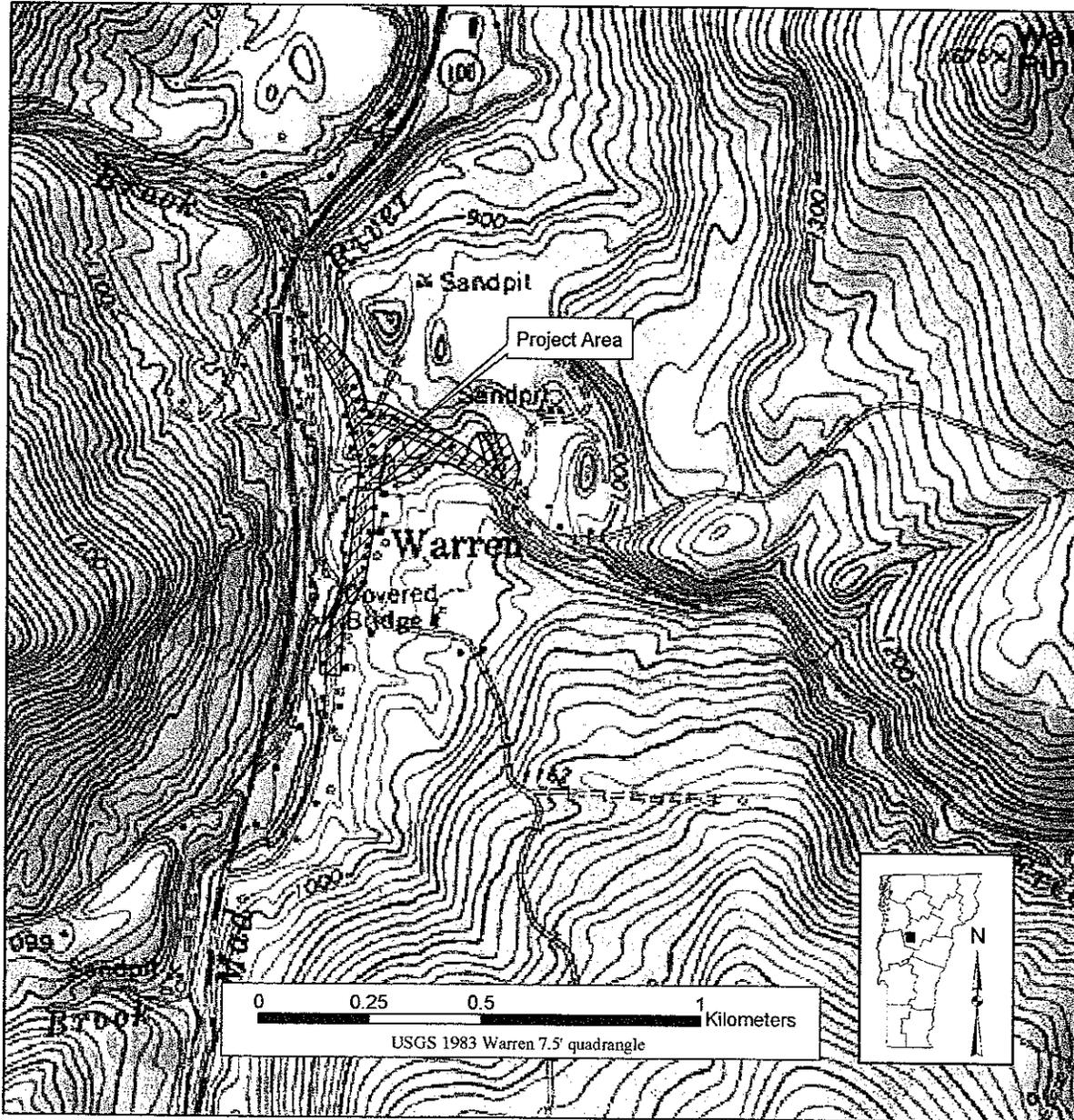
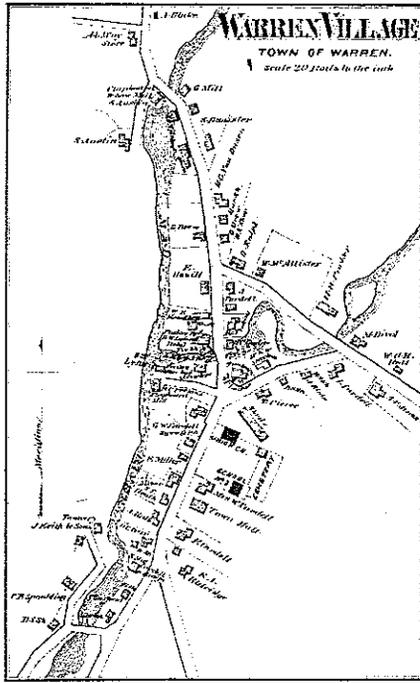
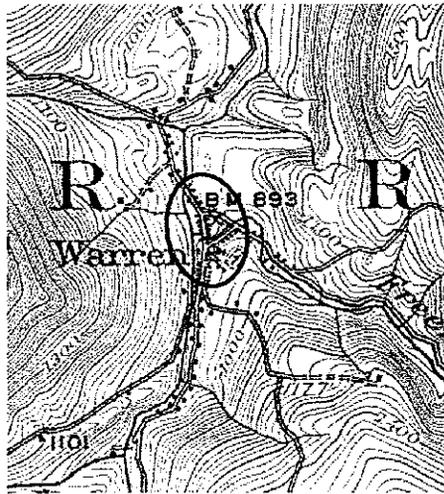


Figure 1. Map showing the location of the proposed Warren Village Enhancement Plan, Town of Warren, Washington County, Vermont.





Beers 1873



USGS Lincoln 1921

Figure 3. Historic maps showing the location of the proposed Warren Village Enhancement Plan, Town of Warren, Washington County, Vermont.

## Bibliography

Beers, F. W.

1873 *Atlas of Washington Co. Vermont.* F.W. Beers and Co., New York.

Dowd, Anne S., and Mary Beth Trubitt

1990 *Archaeology in Vermont's Mad River Valley from Paleo-Indian Times to the Present* John Milner Associates, Inc. West Chester, PA

United States Geological Survey

1921 SE/4 Lincoln 15" quadrangle. United States Geological Survey, Washington D.C.