

The Village of North Bennington

Sidewalk Scoping Study

STP EH11(3)

Final Report



Submitted by:

Broadreach Planning & Design

In conjunction with

**Lamoureux & Dickinson Consulting Engineers, Inc.
Heritage Landscapes, LLC.**

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Attachment 1: Preliminary Historic Aboveground Resource Assessment

Attachment 2: Bank & Main Street Intersection Plans

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I. OVERVIEW

A. INTRODUCTION

The Village of North Bennington (the Village) obtained an Enhancement Grant to study the best methods of adding or updating sidewalks in its village center and enhance aesthetics. The project study area extends along Main Street from the Village line with Shaftsbury south to the intersection with Prospect/West Streets. The Village contracted with a consultant team led by Broadreach Planning & Design (BRPD) Team to assist with the study. **Figure 1** shows the approximate extent of the study area. Because of the recent installation of a new sidewalk along the east side of Main Street between Bank Street and Sage Street as part of the Bank/Main Street intersection improvements, the BRPD Team only looked at the possible relocation of the truck loading space and the addition of greenspace in this portion of the study area. BRPD also suggested during the initial discussions with the Village that they expand the study area to include School Street. Additionally, the BRPD Team considered methods of increasing bicycling mobility within the study area as possible during the course of the work.

The project was developed through a collaborative effort between the North Bennington Sidewalk Study Advisory Committee, the BRPD Team and the public.

This introduction is followed by the five additional sections as listed:

- II. Recommendations,
- III. Potential Impacts
- IV. Phasing,
- V. Initial Estimates of Probable Construction Costs, and
- VI. Implementation.

The first part of the report after this introduction presents the recommendations of the Study, the most important part of this report. Additional information on potential impacts, phasing, costs and implementation follows the recommendations, along with additional support and background information in the appendices.

The report is formatted for double-sided printing; blank pages are intentional.

B. STUDY PROCESS

To begin work on the project, the Village, with the assistance of the Agency of Transportation (VTrans), contracted with a team led by Broadreach Planning & Design and including Lamoureux & Dickinson Consulting Engineers, Inc. and Heritage Landscapes, LLC to assist in the work, after a solicitation from qualified consultants.

After an initial meeting with the Village's Project Steering Committee (PSC), the Broadreach Planning & Design Team began Task B of their scope of work: to analyze the existing conditions in the Study Areas. They also met again with the PSC to understand in more

detail their concerns, questions and suggestions on where improvements might be located and what the issues associated with the improvements were. The initial existing conditions work continued with a public work session that was used by the BRPD Team to verify the existing conditions information and gather comments from the community on the proposed path. At the end of the work on this Task, the BRPD Team produced a *Task B Summary* describing in detail the existing conditions in the study area. **Appendix A** is a copy of the final *Task B Summary*; the main body of this final report incorporates portions of the *Task B Summary*.

After the completion of the work on Task B, the BRPD Team, with assistance from the PSC, developed a set of alternatives during a team work session. The team considered as many different options of upgrading the sidewalk system and aesthetics as possible during their work session. As part of the analysis work after the work session, the BRPD Team reviewed the potential impacts, benefits and likelihood of gaining necessary permits for the various alternatives. The BRPD Team summarized the numerous alternatives that they considered and analyzed in the *Task E Summary*. **Appendix B** is a copy of the final *Task E Summary*; the main body of this final report incorporates portions of the *Task E Summary*. After further reviewing and refining the alternatives with the PSC, the BRPD Team assisted with an “Alternatives” public work session to review the alternatives and begin the selection of a preferred alternatives.

After the PSC confirmed the results of the second public work session, the BRPD Team completed work on a draft report summarizing the existing conditions, the alternatives and the preferred improvements to the sidewalk system. The draft summary report included full copies of the *Task B* and *Task E Summaries* as part of the appendix. The BRPD also solicited review comments from VTrans and other relevant agencies. The BRPD Team presented the draft final report and recommendations at a third public work session to receive comments before finalizing the recommendations and report. **Appendix C** contains copies of the notices and notes from the various public work sessions.

C. PURPOSE & NEED

The purpose of this project is to create a consistent, complete, inviting sidewalk system in the North Bennington Village Center.

The need for the project can be readily seen by:

- The gaps in the existing sidewalk system;
- The trails adjacent to the roadway where pedestrians are walking where there are no sidewalks;
- The defects in the existing sidewalk at more than half of the driveways which make them impassable for those with walking challenges;
- The variety of surfaces of existing sidewalks, many of which are not level and difficult to navigate; and
- The total lack of bicycle accommodations within the center of the Study Area.

C. PROJECTED USERS

1. OVERVIEW

The Village would like to improve walking and bicycling conditions for as many pedestrians and bicyclists of all ages and abilities as possible. This means that as much as possible, the improvements should be usable by school children, elderly citizens and those with disabilities. They should also enhance conditions for skilled bicyclists.

The following sections provide more information on the abilities and needs of the different types of pedestrians and bicyclists.

2. PEDESTRIANS

Pedestrians vary significantly in their skills, experience and willingness to walk different distances. Strong determining factors for pedestrians are the time and mobility required to reach their destinations. Time and mobility constraints also dictate the pedestrian's usable geographic space; few pedestrians will venture more than one mile from point to point; most actually will only undertake trips shorter than ½ mile, unless the trip is recreational.

There are three basic pedestrian user groups:

- Active pedestrians,
- Basic pedestrians, and
- Circumscribed pedestrians.

Active pedestrians use sidewalks or the road system regularly for transportation, as well as for fitness. They know and generally follow the rules of the road. Basic pedestrians include the majority of older children and healthy adult pedestrians. Circumscribed pedestrians are those whose speed and mobility are extremely limited. In all cases, when walking on roads, pedestrians should walk FACING on-coming traffic on the left side of the road.

3. BICYCLISTS

Among bicyclists, there are three typical user groups:

- Advanced bicyclists,
- Basic bicyclists, and
- Beginner bicyclists or children.

Advanced bicyclists are highly experienced bicycle riders who feel comfortable riding their bikes in heavy traffic and typically prefer to ride on roadways, even when off-road facilities are available.

Basic bicyclists comprise the largest category of bicycle riders, including older children, inexperienced adult riders, occasional bicycle commuters, recreational adult bicyclists, and experienced riders who still fear or dislike riding in urban traffic conditions. Basic bicyclists are reasonably competent in handling their bicycles and they generally understand the rules of the road, but they ride at more moderate speeds and are generally uncomfortable on busy streets unless a striped, obstacle-free shoulder is provided and traffic volumes are low.

Beginner bicyclists have the weakest bicycling skills. Beginner bicyclists ride more slowly, don't always understand the rules of the road, and are typically uncomfortable riding with motor vehicles. They are best accommodated on low-speed local roads and multi user paths or even sidewalks for the very young where there are few, if any driveway crossings.

When riding on roadways, bicyclists should always ride with traffic on the right side of the road. Unless the road is clear, bicyclists should ride single file.

D. EXISTING CONDITIONS

1. OVERVIEW

The BRPD Team conducted an extensive inventory and analysis of the existing conditions within the Study Area. **Appendix A** contains a summary of the work; **Figure 2** graphically show the information. The following sections summarize the more important aspects of the existing conditions. **Figure 3** shows a summary of the issues and opportunities noted while examining the existing conditions.

2. TRANSPORTATION & UTILITY FACILITIES

Main Street serves as the main road through the village of North Bennington. The northern section of Main Street (from Houghton Street north to the Shaftsbury Town Line) is a portion of VT Route 67 and is classified as a Minor Arterial by the Vermont Agency of Transportation (VTTrans). The southern section of Main Street (from Prospect Street north to Houghton Street) is a portion of VT Route 67A and is also classified as a Minor Arterial by VTTrans. School Street and the other streets in the study area are classified as local streets.

Main Street is curbed on both sides with 12-foot wide travel lanes in both directions south of the railroad tracks and with 10.5-foot wide travel lanes north of the tracks to the village line. Vehicles currently park on the east side of Main Street from Houghton Street north to Depot Street. The available width between the curb and the white line begins at 7.5 ft and narrows to 5 ft from Houghton Street north over a distance of approximately 400 ft; from that point north to Depot Street the space available for parking tapers from 5 ft to 3.8 ft. Pavement on Main Street is in good condition.

The Village owns and maintains the streets in the study area.

The northern section of Main Street had an Average Annual Daily Traffic (AADT) volume of 3,100 vehicles per day (vpd) when counted by VTrans in 2010. The southern section of Main Street had an AADT of 7,300 vpd in 2010. The posted speed limit on all streets in the study area is 25 mph. Main Street from Houghton Street north to the Shaftsbury Town Line is a high crash segment on the VTrans 2003-2007 high crash listing.

According to a Sanborn Map of North Bennington dated January 1928, the right-of-way width for Main Street from Houghton Street north to the town line is 45 feet wide. Between Houghton and Sage Street, the right-of-way varies from 45 feet to 55 feet wide. Between Sage Street and Prospect Street the right-of-way also varies and is approximately 100 feet wide. The first portion of School Street south of Bank Street (approximately 160 feet) has a right-of-way of 35 feet wide. The remaining portion of School Street to West Street has a 30-foot wide right-of-way.

Most of the roadways in the study area already have sidewalks along portions of one side or the other. The condition and width of the sidewalks vary tremendously, from a brand new concrete sidewalk between Sage and Bank Streets on the east side of Main Street, to buckled asphalt paving on Main Street between Bank Street and Depot Street and on School Street, to very old marble remnants north of the railroad crossing on Main Street.

The Vermont Railway crosses Main Street north of Depot Street at a signalized railroad crossing consisting of lights but no gates. Trains cross Main Street twice during the day, the first time at about 1 PM and the second time at about 3:30 PM.

All of the roadways in the project area have utility poles with overhead lines power and communication lines located almost directly along the edge of the roadway pavement, most often within the existing sidewalks. Municipal sewer or water pipes also underlie Main Street and the other streets in the study area.

3. NATURAL RESOURCES

The Paran Creek runs outside the eastern edge of the study area. It feeds millponds on the southeast side of study area north and south of Prospect Street. The Study Area slopes gradually from north to south. The drop is approximately 50 feet from the Shaftsbury Town line to the intersection of Main and Prospect Streets.

There are no other relevant natural resources located within the Study Area.

4. CULTURAL RESOURCES

Most of the Study Area is included in a historic district listed on the National Register of Historic Places.

The Village currently has six pallets of marble in storage that were previously used for sidewalks.

An initial review of archeological information shows that the area does not seem to be sensitive for archeological resources. Even if it is found that the area is sensitive for archeological resources, it may already be disturbed through previous road and utility construction in the study area.

II. RECOMMENDATIONS

A. OVERVIEW

During the development and review of various alternative solutions for meeting the purpose and need of the project, the BRPD Team divided the study area into four separate sections in order to provide some organized framework:

- North Main Street between the Village line and the railroad crossing,
- Mid Main Street between the railroad crossing and the Bank/Houghton Streets intersection,
- South Main Street between the Bank/Houghton Streets intersection and the Prospect/West Streets intersection, and
- School Street.

Figures 4a, 4b and **4c** show the location of these sections along with the recommendations for each. **Table 1** presents the various aspects, impacts and other elements of the various recommendations, as well as for the do-nothing alternative. **Appendix B** includes a description of the various alternatives that were initially developed and analyzed as part of the process of developing these recommendations.

B. RECOMMENDED ACTIONS

1. MAIN STREET – VILLAGE LINE TO THE RAILROAD

Recommendation 1a: North Main Street East Side Sidewalk & Greenspace - Add a four-foot sidewalk to the east side of Main Street from the Village line to the railroad crossing, generally separated from the edge of the roadway pavement by a greenspace of at least three feet wide and wider if possible. As part of the installation of the sidewalk, the existing marble remnants of an earlier sidewalk would be removed and stored for future municipal use. Additionally, install a five-foot wide concrete sidewalk section between the roadway curb and the new sidewalk as extensions of the three walkways leading to the front doors of the existing houses. These extensions will create five-foot wide level pads that will allow the four-foot sidewalks to meet ADA requirements.



Moving from north to south, the following additional provisions would be part of this project:

- Removing the smaller section of a cracked marble sidewalk leading to the front door of northernmost house and relaying the remaining piece to provide more room for the new wider sidewalk.
- Shifting the sidewalk closer to the roadway as it goes around the large ash tree to avoid damaging the roots to the greatest extent possible.
- Cutting the bank on the first property north of the railroad to allow the placement of the sidewalk away from the edge of, but at a similar elevation to the roadway.
- Lowering at least two water valve covers and incorporating them into the sidewalk if needed.
- Leveling the grades adjacent to driveways to allow an easy transition between the sidewalk and the driveways.

Recommendation 1b: North Main Street West Side Sidewalk & Curb - Add a four-foot wide sidewalk to the west side of Main Street directly adjacent to the roadway and add a curb along the side of the road. Add at least two five-foot square level areas along the sidewalk no more than 200 feet apart to meet ADA requirements. Moving from north to south, it would also include these provisions:

- Providing a transition from the northern end of the sidewalk to either the street or a path on the adjacent property in Shaftsbury.
- Trimming the hedge covering the existing marble sidewalk on the northernmost property in the winter to allow room for the new sidewalk.
- Working around the existing historic pillars adjacent to the driveway on the northernmost property.

- Removing the existing sidewalk in poor condition in front of the property just north of the railroad.
- Replacing the existing curb just to the north of the railroad.



2. MAIN STREET – RAILROAD CROSSING TO BANK STREET

Recommendation 2a: Roadway Regrading South of the Railroad

Remove the top layers of the asphalt on Main Street just south of the railroad crossing and repave it at a lower elevation to remove the small rise. This will thus allow stormwater to drain away from the railroad and towards the curb rather than into the dip in the road created by the railroad crossing. Depending on the success of this effort, it may be



necessary to raise the newer sidewalk sections at the railroad crossing to eliminate the ponding water that now gathers on the sidewalk when it rains or snows.

Recommendation 2b: Main Street East-Side Near Depot Street New Sidewalk & Greenspace



Replace the existing asphalt sidewalk between Depot Street and the railroad with a new five-foot wide, concrete sidewalk and a new curb along the existing curb alignment. The curb will eliminate the potential for on-street parking north of Depot Street but this should be reinforced with the addition of a NO PARKING sign. Contractors should use care when setting forms for the concrete sidewalk adjacent to the existing trees. Relocate the existing crosswalk so that it is

directly in front of the post office door.

Recommendation 2c: Mid Main Street East-Side New Sidewalk



Replace the asphalt sidewalk close to the Bank Street intersection with a concrete sidewalk a minimum of five feet wide adjacent to a new curb. The sidewalk should be designed to blend well with the existing concrete in front of the Kevin's Restaurant property to the north and the new sidewalks to the south installed as part of the Bank Street intersection upgrade project.

The existing, extra asphalt that would remain between the new

sidewalk and the existing commercial building just north of Memorial Park should be removed and replaced with greenspace. The grading of this area will need to be carefully considered because the height of the new curb and sidewalk could put it at or slightly above the level of the southernmost door on the building. It may be necessary to install a small drain inlet in the space between the building and the sidewalk if positive drainage south to the park cannot be achieved. The cross slope of the sidewalk in this area and adjacent to the hedge in Memorial Park may actually need to be away from the curb. The hedge itself should be trimmed back further, but it should not need to be removed. The forms for the concrete should be carefully installed adjacent to the hedge so as to minimize damage to the hedge's roots.

Recommendation 2d: Mid Main Street West-Side Post Office New Sidewalk

Replace the existing asphalt and concrete sidewalks on the west side of Main Street by the post office with a new, five-foot wide concrete sidewalk adjacent to a new concrete curb. The sidewalk should include ramps down to the post office driveways meeting ADA requirements. In addition, the existing IN driveway to the post office adjacent to the railroad should be narrowed to be no more than 14 feet wide. The difference in grade between the existing roadway and the driveway elevation on the OUT drive should be taken up, as needed, by a small lip on the driveway at the edge of the sidewalk away from the roadway.



Work with the post office and/or the land owner to encourage the removal of most of the asphalt in front of the building and its replacement with greenspace, as well as the reorganization of the parking lot to include angle parking close to Main Street on the railroad side of the IN parking lot north of the building.

Recommendation 2e: Mid Main Street West-Side Sidewalk Driveway Replacement

Replace the ramps to the driveways on the west side of the street with new, concrete, five-foot wide sidewalks that would lessen the slope on the ramps down to the driveways, making them ADA compliant. As the existing sidewalks between the new driveway ramps deteriorate, they would be replaced by new five-foot side concrete sidewalks as well.



3. MAIN STREET BETWEEN BANK STREET & WEST STREET

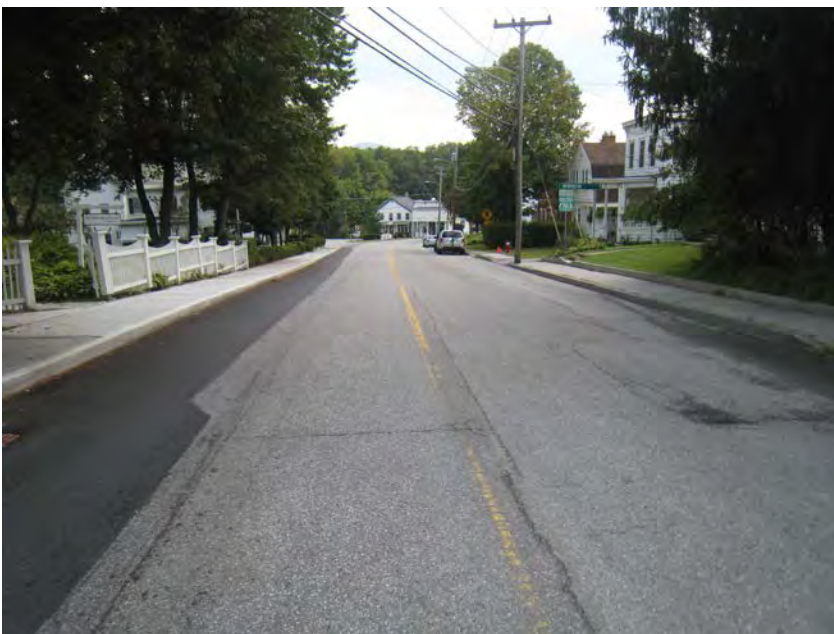
Recommendation 3a: West Side Sidewalk Replacement



Replace the existing concrete and asphalt sidewalk on the west side of south Main Street with a new, four-foot wide concrete sidewalk and new curb, if needed. The sidewalk should be separated from the curb by a greenspace approximately one foot wide so that utility poles could remain in their current set locations. Handle the difference in grade on the property side on

either end of the sidewalk section by adding small stone or concrete retaining walls. Extend the existing walkways from the front of the houses to the curb with five-foot wide concrete sections, eliminating the one-foot greenspace, to create four five-foot square pads along this portion of sidewalk. Modify as needed several sidewalks or stairs to the houses to allow for the greenspace and for the four sections of the sidewalk to be expanded to a full five-foot width.

Recommendation 3b: South Main Street Parallel Curbs



Add a new curb to the west of the existing curb on the east side of the road. The new curb should be installed so that it is parallel to the curb on the west side of the road, creating two consistent eleven-foot wide travel lanes and a paved shoulder at least three feet wide on the east side. The area between the existing curb and the new curb will be converted to

greenspace. The new greenspace would start at less than a foot in width at the northern end and widen to approximately seven feet at the southern end.

The existing truck loading zone now located along the east side of lower Main Street in this area will be relocated to Sage Street to the east of the fire hydrant. The curb on the north side of Sage Street west of the fire hydrant should be re-installed in a straight line to allow trucks to park parallel and closer to the curb than the existing curved curb allows.

The existing one-way eastbound traffic flow on Sage Street would be extended to Main Street, so that no vehicles would be exiting Sage Street onto Main Street. The curbing near the intersection with Main Street would be extended outwards so that it aligns more with the existing painted white line, converting asphalt to greenspace. The parallel parking along the south side of Sage Street adjacent to Powers Market would be converted



to angled parking, increasing the number of spaces and creating easily reached parking spaces from the intersection of Sage Street and Main Street.

Recommendation 3c: South Main Street Lincoln Square Expansion

Add additional greenspace to the narrow northern end of the existing lawn of Lincoln Square, expanding the greenspace approximately 55 feet further to the north and widening it to the west by approximately three feet. Add curbing to the edges of the new and existing edges of the Square, with the exception of the western edge of the existing Square adjacent to Main Street. This option would help define traffic movements at the Sage Street intersection better by eliminating the dangerous turns into



the parking spaces in front of Powers Market from the north side of the square against the designated flow of traffic. Maintain a westbound-only side turn lane approximately 12 foot wide between the new greenspace and the end of the existing Lincoln Square lawn to allow southbound turns.

Add crosswalks between the end of the sidewalk in front of Powell’s Market and the new extension of Lincoln Square, continuing the crosswalk across Main Street to the west curb. Upgrade the existing crosswalks along the southern end of Lincoln Square.

4. MAIN STREET BICYCLE, AESTHETIC, & PEDESTRIAN UPGRADES

Recommendation 4: Additional Upgrades - Undertake additional measures to increase mobility for bicyclists on Main Street, either as a group or individually.

- Add shared lane markings (sharrows) approximately every 300 feet to Main Street in both directions between the Prospect/West Streets intersection and the Village line north of the railroad. A sharrows is a new symbol that notifies both motorists and bicyclists that the roadway is shared and that bicyclists can be expected to be riding in the travel lane.
- Add “Share the Road” signs to Main Street on the travel lanes departing from each of the intersections to notify both motorists and bicyclists that they are sharing the road in the Village Center.
- Add bicycle racks near the Depot, Lincoln Square, and other strategic locations around the Village.
- Add street trees along both sides of Main Street and School Street in appropriate spaces to increase the eventual enclosure of the street and the restoration of the former tree-lined streets in the Village.
- Add new pedestrian scale light fixtures to the existing utility poles between the Bank Street intersection and the railroad to create more pedestrian scale streetscape along Main Street.
- Add gateway treatments at the northern and southern ends of the Study Area along Main Street.
- Instigate recommendations of the Bennington Informational Sign System Committee as they relate to North Bennington.
- Create a Pedestrian Zone on Main Street between Lincoln Square and the railroad tracks. A pedestrian zone is an area along a roadway where motorists should expect pedestrians to be present, including pedestrians crossing the road. There can still be specific crosswalks designated within a pedestrian zone but pedestrians can also cross the roadway outside of crosswalks. When not in a crosswalk, pedestrians do not have the right-of-way and should be careful to watch for oncoming motor vehicles. The pedestrian zone should be designated by warning signs prior to entering the zone and at the entrance to the zone on either end of Main Street as well as Bank and Houghton Streets.

5. SCHOOL STREET

Recommendation 5: School Street Sidewalk & New Curb - Install a new five-foot wide, concrete sidewalk on the west side of the street with a greenspace a minimum of two foot wide between the sidewalk and a new concrete curb. The new sidewalk will replace the existing asphalt sidewalk. The existing utility poles could remain in their current locations,

situated in the new greenspace. As needed, shorten or extend several of the existing sidewalks or stairways leading to the houses, especially near the south end of School Street.

At the southern end, move the sidewalk adjacent to the curb, eliminating the greenspace in front of the southernmost lot on School Street. This will minimize the amount of the cut into the bank in front of the house. Remove the invasive species that are growing at the corner adjacent to the lilac, opening the visibility of the corner. Street, replace the existing stairs with a five-foot square level pad with an eight percent ramp leading north up the slight hill on School Street, extending long enough to bring the sidewalk up to its typical elevation flush with the top of the new curb. This would also require the installation of an eight percent ramp replacing the existing stairs and sidewalk on West Street heading towards Church Street.

Other aspects of this recommendation include:

- The addition of a depressed curb in front of the new accessibility ramp that leads into the School's gym; and
- The removal of the existing sidewalk on the east side of the street adjacent to the church that is in poor condition and encourages pedestrians to cross School Street at inappropriate locations.



Directly at the corner at the intersection with West



6. OTHER RECOMMENDATIONS OUTSIDE OF THE STUDY AREA

West Street Sidewalks: Extend the existing asphalt sidewalk on the south side of the street west towards Park Street. The existing crab apple trees along the side of the road appear to be in poor condition and could be removed to allow room for the sidewalk; if removed, the trees should be replaced with new, more vigorous trees. On the north side of West Street, the new, regraded sidewalk could continue west to Church Street, maintaining the existing greenspace between the sidewalk and the road.

Bank Street Sidewalk: Remove and replace the existing marble sidewalk west of School Street with concrete sidewalks in the same location. If there is insufficient room to allow for a continuous five-foot wide sidewalk, the walk could be replaced with a four-foot wide sidewalk with five-foot square pads at least every two hundred feet.

Houghton Street: The existing old sidewalk on the south side of Houghton close to Main Street should be replaced with a new concrete sidewalk. If possible, widen the sidewalk to five feet; if this is not possible, add five-foot square level pads at least every 200 feet. The construction crew should take care removing the old sidewalk and installing the new one around the existing trees.

C. VIABILITY

1. AMERICANS WITH DISABILITIES ACT

The BRPD Team developed each of the recommendations to be in compliance with the requirements of the Americans with Disabilities Act. Several of the recommendations are meant to specifically address current areas of the Village that are not now in compliance.

2. EXISTING MARBLE SIDEWALKS

The existing marble sidewalks do not provide an acceptable walking surface and are not suitable for continued use as sidewalks. The surface of the marble is smooth and becomes very slick when it is wet, either during summer rains or under winter snow. The irregularity of the surface also creates problems in winter for snow and ice clearing.

Because the marble is a part of the historic nature of the Village and the Historic District, the Village has been stockpiling the marble as it has been removed from other areas. There has been some reuse of marble pieces embedded in concrete as sidewalk surfacing, but the marble pieces are still slick and sometimes difficult for pedestrians to use.

According to Village representatives, the stockpiled marble must be used by the Village and cannot be given to private individuals within the historic district for their use. This needs to be verified. If indeed, the Village cannot donate the marble to private users within the historic district, some of the marble can be used in Memorial park as benches and barriers along Houghton Road to keep cars off the grass at the edge of the road. Other marble pieces may be used at the Depot to add outdoor seating or bases for sculptures. It may also

be possible to donate some marble pieces to artists for use in the creation of new sculptures for placement within the historic district.

3. ON STREET PARKING

The Village does not restrict parking along the east side of Main Street north of the Bank Street intersection. The area available for parking is quite narrow and is almost non-existent near the intersection with Depot Street. The limited on-street parking area induces many motorists to park off the road surface, typically blocking the sidewalk. The proposed modifications at the northern end are meant to eliminate this potential, ensuring the new sidewalks, once installed, will remain open and available to pedestrians.

4. VTRANS REVIEW

The BRPD Team developed the recommendations in this study following the guidance in the *Vermont Pedestrian and Bicycle Facility Planning and Design Manual*. The VTrans Enhancement Grant manager reviewed the final report and indicated that it was appropriate. No other VTrans staff provided comments when offered the chance to review the final draft. Consequently, the Village should consult with VTrans again before undertaking modifications within the Route 67 or Route 67A right-of-ways.

III. POTENTIAL IMPACTS OF THE PROPOSED RECOMMENDATIONS

Figure 5 shows the location of the various features of the recommendations as well as the various issues that the Village will need to address prior to or during their implementation.

A. LAND USE

The recommended additions, replacements and revisions should have no impact on the adjacent land uses. In almost every instance, sidewalks are already in existence at or near the location of the recommended improvements; the recommendations are not introducing a new element into the existing fabric of the village.

The additional greenspace will create a minor change in the existing conditions but it is not a change that will induce other modifications to the surrounding land uses.

B. TRANSPORTATION FACILITIES

The upgrades and additions to the sidewalk system, as well as the improvements for bicycle mobility, will expand the overall usefulness of the transportation network in the Village. The elimination of the parking along Main Street near Depot Street will help overall circulation on the road. The suggested modifications to the parking at the post office will also help circulation in post office parking lot, which will help offset the removal of the parking potential on Main Street across from the post office parking area.

The reduction in the width of Main Street south of Bank Street should not reduce the circulation potential on the roadway or impact current snow plowing conditions.

Overall, the recommendations should improve circulation in the Village area.

C. UTILITIES

The upgrades to the sidewalk system should not require the relocation of the utility poles for the overhead lines.

As the various recommendatons are implemented, the location of underground utility lines needs to be verified and the installation should include measures to protect those utilities that are underneath or in close proximity to the improvements. Additionally, water valve covers that are within or near the construction area of the recommended improvements will also need to be brought to the new grades, which in most cases will be lower than they are now.

D. NATURAL RESOURCES

The proposed recommendations will have no impacts on natural resources.

E. CULTURAL RESOURCES

The recommendations should not have impacts on historic or archeological resources.

IV. PHASING

A. OVERVIEW

Several of the recommendations are of more immediate importance than others. Based on the observations of the BRPD Team along with the input of the Steering Committee and the public, the Team suggests the following general prioritization of the recommendations. The Village should use these recommendations as guidelines; individual funding opportunities and additional input from the residents and businesses may suggest modifications.

B. SHORT TERM & ON-GOING RECOMMENDATIONS

The BRPD Team suggests that the following recommendations be considered for immediate implementation as possible with continued implementation into the future until they are all completed. These recommendations address the most pressing needs in the Village center.

- School Street Sidewalk & New Curb (5)
- Mid Main Street East Side New Sidewalk Asphalt Replacement (2c)
- Aesthetics – Add Street Trees (4)

- Bicycle Circulation – Sharrows (4)
- Bicycle Circulation – Share the Road Signs (4)

C. NEAR TERM RECOMMENDATIONS

The Near Term Recommendations are those that are important but not as pressing as those in the short term list.

- North Main Street East Side Sidewalk & Greenspace (1a)
- North Main Street West Side Sidewalk & Curb (1b)
- Roadway Regrading South of the Railroad (2a)
- Main Street East Side Near Depot Street New Sidewalk and Greenspace (2b)
- South Main Street Parallel Curbs (3b)
- South Main Street Lincoln Square Expansion (3c)
- Aesthetics – Pedestrian Scale Lighting (4)
- Aesthetics – Gateways (4)
- Aesthetics – Information Sign System (4)

D. LONG TERM RECOMMENDATIONS

The following recommendations address practical needs within the study area that do not, however, present issues or deficiencies that should be addressed immediately. They should be addressed by the Village generally after the Near Term Recommendations have been implemented.

- Mid Main Street West Side Sidewalk Driveway Replacement (2e)
- Mid Main Street Post Office New Sidewalk (2d)
- South Main Street West Side Sidewalk Replacement (3a)

V. INITIAL ESTIMATES OF PROBABLE CONSTRUCTION COSTS

The following tables provide initial estimates of the probable design and construction costs for various recommendations. Each table is labeled with the specific recommendation for which it is providing the estimate. The initial estimates include a basic cost line for design work, set for these estimates at 15% except where the design work should be minimal. These initial estimates of probable construction costs are in 2011 dollars and some adjustments may be needed to account for inflation and other factors when work on the specific recommendations actually begins. The Village may be able to take advantage of costs savings as well by combining several of the projects, limiting, among other things, set up and tear down costs for the construction equipment.

Table 2: Recommendation 1a North Main Street West Side Sidewalk

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Grass Strip	\$65	LF	440	\$28,600
Remove & Salvage Marble Sidewalks	\$2,500	LS	1	\$2,500
Regrade Bank	\$500	LS	1	\$500
Adjust Grades at Driveways	\$1,000	LS	1	\$1,000
Subtotal				\$32,600
Design & Management	15%			\$4,890
Contingency	15%			\$4,890
Total				\$42,380

Table 3: Recommendation 1b North Main Street West Side Sidewalk

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	440	\$37,400
Remove & Salvage Marble Sidewalks	\$2,500	LS	1	\$2,500
Remove Existing Concrete Sidewalk & Curb	\$9	LF	175	\$1,575
Hedge Trimming	\$200	LS	1	\$200
Subtotal				\$41,675
Design & Management	15%			\$6,251
Contingency	15%			\$6,251
Total				\$54,178

Table 4: Recommendation 2a Roadway Regrading

Item Description	Unit Cost	Unit	Quantity	Cost
Initial Test Coring	\$1,000	LS	1	\$1,000
Cold Planing Existing Pavement	\$30	SY	175	\$5,250
Pavement Overlay	\$150	TON	20	\$3,000
Replace Pavement Markings	\$2	LF	200	\$400
Subtotal				\$9,650
Design & Management	15%			\$1,448
Contingency	15%			\$1,448
Total				\$12,545

Table 5: Recommendation 2b Main Street East Side Sidewalk Near Depot

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	100	\$8,500
Remove Existing Asphalt Sidewalk & Curb	\$6	LF	100	\$600
Plantings	\$1,000	LS	1	\$1,000
Subtotal				\$10,100
Design & Management	15%			\$1,515
Contingency	15%			\$1,515
Total				\$13,130

Table 6: Recommendation 2c Mid Main Street East Side New Sidewalk

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	100	\$8,500
Remove Existing Asphalt Sidewalk & Curb	\$6	LF	100	\$600
Install Drainage Improvements	\$4,000	LS	1	\$4,000
Initial Test Coring	\$1,000	LS	1	\$1,000
Remove Additional Existing Asphalt	\$25	CY	2	\$50
Backfill / Topsoil	\$50	CY	4	\$200
Seed, Fertilizer, Mulch	\$250	LS	1	\$250
Subtotal				\$14,600
Design & Management	15%			\$2,190
Contingency	15%			\$2,190
Total				\$18,980

Table 7: Recommendation 2d Mid Main Street Post Office New Sidewalk

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	100	\$8,500
Remove Existing Asphalt Sidewalk & Curb	\$6	LF	100	\$600
Subtotal				\$9,100
Design & Management	15%			\$1,365
Contingency	15%			\$1,365
Total				\$11,830

Table 8: Recommendation 2e Mid Main Street West Side Driveway Replacement

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	150	\$12,750
Remove Existing Concrete Sidewalk & Curb	\$9	LF	150	\$1,350
Subtotal				\$14,100
Design & Management	15%			\$2,115
Contingency	15%			\$2,115
Total				\$18,330

Table 9: Recommendation 3a Lower Main Street West Side Sidewalk Replacement

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	350	\$29,750
Remove Existing Concrete Sidewalk	\$4	LF	350	\$1,400
5" Concrete Walkway Extensions	\$65	LF	10	\$650
Subtotal				\$31,800
Design & Management	15%			\$4,770
Contingency	15%			\$4,770
Total				\$41,340

Table 10: Recommendation 3b Lower Main Street Parallel Curbs

Item Description	Unit Cost	Unit	Quantity	Cost
New Concrete Curb	\$50	LF	300	\$15,000
Remove Existing Asphalt	\$25	CY	25	\$625
Backfill / Topsoil	\$50	CY	50	\$2,500
Planting	\$3,000	LS	1	\$3,000
Remove Existing Curb	\$5	LF	100	\$500
Parking Striping	\$2	LF	200	\$400
Subtotal				\$22,025
Design & Management	15%			\$3,304
Contingency	15%			\$3,304
Total				\$28,633

Table 11: Recommendation 3c Lower Main Street Lincoln Square Expansion

Item Description	Unit Cost	Unit	Quantity	Cost
New Concrete Curb	\$50	LF	450	\$22,500
Remove Existing Asphalt	\$25	CY	25	\$625
Backfill / Topsoil	\$50	CY	50	\$2,500
Planting	\$1,500	LS	1	\$1,500
Subtotal				\$27,125
Design & Management	15%			\$4,069
Contingency	15%			\$4,069
Total				\$35,263

Table 12: Recommendation 4 Bicycle & Aesthetic Improvements

Item Description	Unit Cost	Unit	Quantity	Cost
Sharrow Symbols	\$100	Each	8	\$800
Street Trees	\$500	Each	50	\$25,000
Share the Road Signs	\$150	Each	6	\$900
Pedestrian Scale Light Fixtures	\$1,000	Each	16	\$16,000
Bike Racks	\$1,000	Each	4	\$4,000
Gateways	\$4,000	Each	2	\$8,000
Subtotal				\$54,700
Design & Management	5%			\$2,735
Contingency	15%			\$8,205
Total				\$65,640

Table 13: Recommendation 5 School Street Sidewalk

Item Description	Unit Cost	Unit	Quantity	Cost
5' Concrete Sidewalk with Concrete Curb	\$85	LF	500	\$42,500
Remove Existing Asphalt Sidewalk	\$1	LF	500	\$500
Remove Existing Concrete Curb	\$5	LF	500	\$2,500
Replace Stairs with Concrete ADA Ramps	\$3,000	LS	1	\$3,000
Backfill / Topsoil	\$50	CY	25	\$1,250
Subtotal				\$49,750
Design & Management	15%			\$7,463
Contingency	15%			\$7,463
Total				\$64,675

VI. IMPLEMENTATION

A. PROCEDURES

As a first step towards implementing the recommendations of this study, the Village Board of Trustees should accept and endorse the report. It will be difficult to proceed with the recommendations for the Village without this endorsement. Once the Village endorses the report, the following steps can be undertaken, but not necessarily in the order listed here.

- Begin looking and applying for funding opportunities through grants, bonding or other sources the Village considers appropriate.
- Factor new signage and street trees into the yearly Village budget as possible.
- Keep the Village residents up to date on the process of implementing the recommendations.
- Work with the Village Highway Department about long term maintenance of the road striping and symbols.
- Begin a street tree planting program funded by grants, Village budgets, private donations or other appropriate sources.
- Hire a consultant to assist with the design of the initial sidewalks and the permitting processes as funds are available.
- Work with the VTrans to institute the pedestrian zones on Route 67.
- Install temporary modifications for the recommendations that include changes to the roadway, especially those near Lincoln Square, to test their long term acceptability to motorists, pedestrians and bicyclists.

B. PERMITTING

The sidewalk and traffic calming recommendations will not trigger the need to acquire a storm water discharge permit. North Bennington will need to coordinate with VTrans and obtain a permit to install the sidewalks within the Route 67 right-of-way as well as the other modifications to the Route 67 roadway – the parallel curb, the addition of sharrows, the curb extension near Depot Street and the Lincoln Square additions.

VTrans will also require warrant analysis for relocated or new crosswalks on Route 67 that this report recommends.

C. FUNDING

The addition of the road symbols and signage in the short term improvements can potentially be funded directly by the Village through their regular roadway budget. The street tree planting program could be funded by individual community donations, grants from the Vermont Urban and Community Forestry Council or other environmental funding options.

Funding for the long-term sidewalk and roadway recommendations may potentially be secured from a variety of sources. Below is a list of various funding sources in addition to the Village budget that could be used to help with the implementation of the road-related recommendations, including:

- Transportation Enhancement Program (TE) Funds: TE funds can be used to increase bicycle and pedestrian mobility, improve aesthetics along a roadway, or other projects that enhance the overall transportation experience. These funds will cover a maximum of 80 percent of the project with the remaining portions most likely coming from the project-sponsoring organization. TE funds are distributed in Vermont through a competitive grant program.
- Bicycle and Pedestrian Program: These funds cover specific bicycle and pedestrian improvement projects and are also provided via a competitive grant program. The program will be accepting new applications in 2012 for the first time in several years.
- Safe Routes to School (SRTS) Funds: The SRTS program provides funds to improve physical connections to grade and middle schools that will increase the ability of students to walk or bicycle to school. These funds also cover training and encouragement programs meant to increase the incidence of school children walking and bicycling to school. These funds could be used to assist in the striping and road widening as well as the recommended education and training programs.
- Bikes Belong Grants: These grants are given by the Bikes Belong organization to improve bicycling conditions throughout the United States. The grants are for both facilities and advocacy. The grants for 2012 are by invitation only, but it may still be possible to be invited to submit a grant. Additional information can be found at: <http://www.bikesbelong.org/grants/apply-for-a-grant/who-can-apply/>.
- Town Roadway Improvement Class 2 paving funds are also available from VTrans and administered by the VTrans Districts. North Bennington is in District 1. Other forms of State aid to local communities may also be appropriate; additional information can be found in *The "Orange Book" a Handbook for Local Officials*.
- Vermont Urban and Community Forestry Grants: These grants are currently awarded yearly and can be used for tree inventory and tree planting programs. Typically, awards for actual tree planting are given only after an inventory has been completed, but the recommendations in this report may potentially be substituted for a street tree inventory in the village area.

Several other funding sources may be available for the construction of the sidewalks, including:

- Potential health grants promoting healthy living;
- The Robert Wood Johnson Foundation;

- MCI/Worldcom Royalty Donation Program (For this and several subsequent ideas, see <http://www.americantrails.org/resources/funding/TipsFund.html>); and
- Clif Bar Sponsorship.

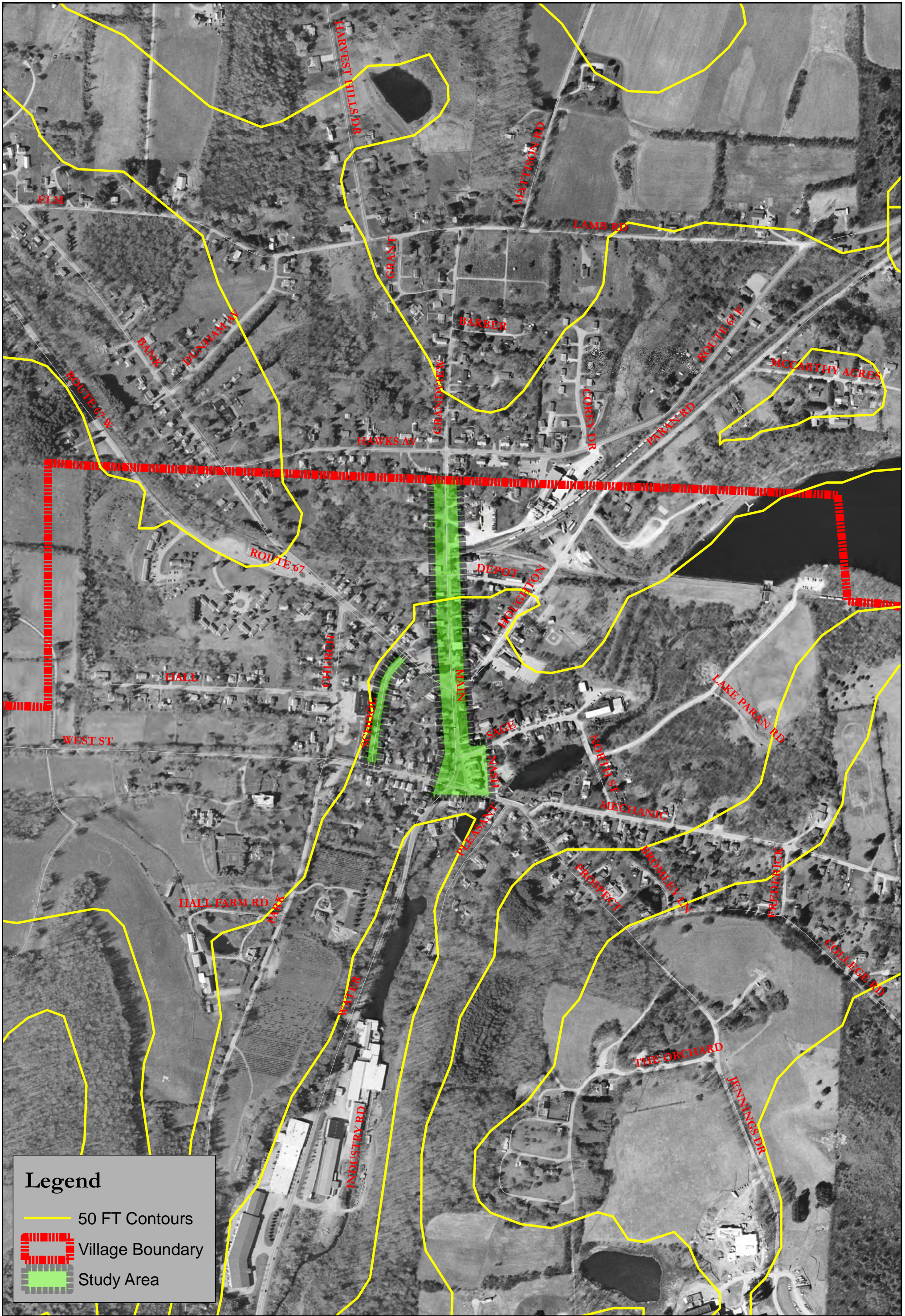
Some additional resources that may provide insight into additional funds include:

<http://www.americantrails.org/resources/funding/Funding.html>,
<http://rlch.org/>, and
<http://atfiles.org/files/pdf/bicentennialsourcebook.pdf>.




Appendix D contains a more detailed table on the various federal funding sources that could be used for the sidewalks, signage and other elements that would help to make a more interesting and community-enhancing project. The list in **Appendix D** is a general list and not all of the funding sources may be available for the particular recommendations of this report.

TABLE 1: Recommendation Details
Village of North Bennington
Sidewalk Scoping Study
October 12, 2011

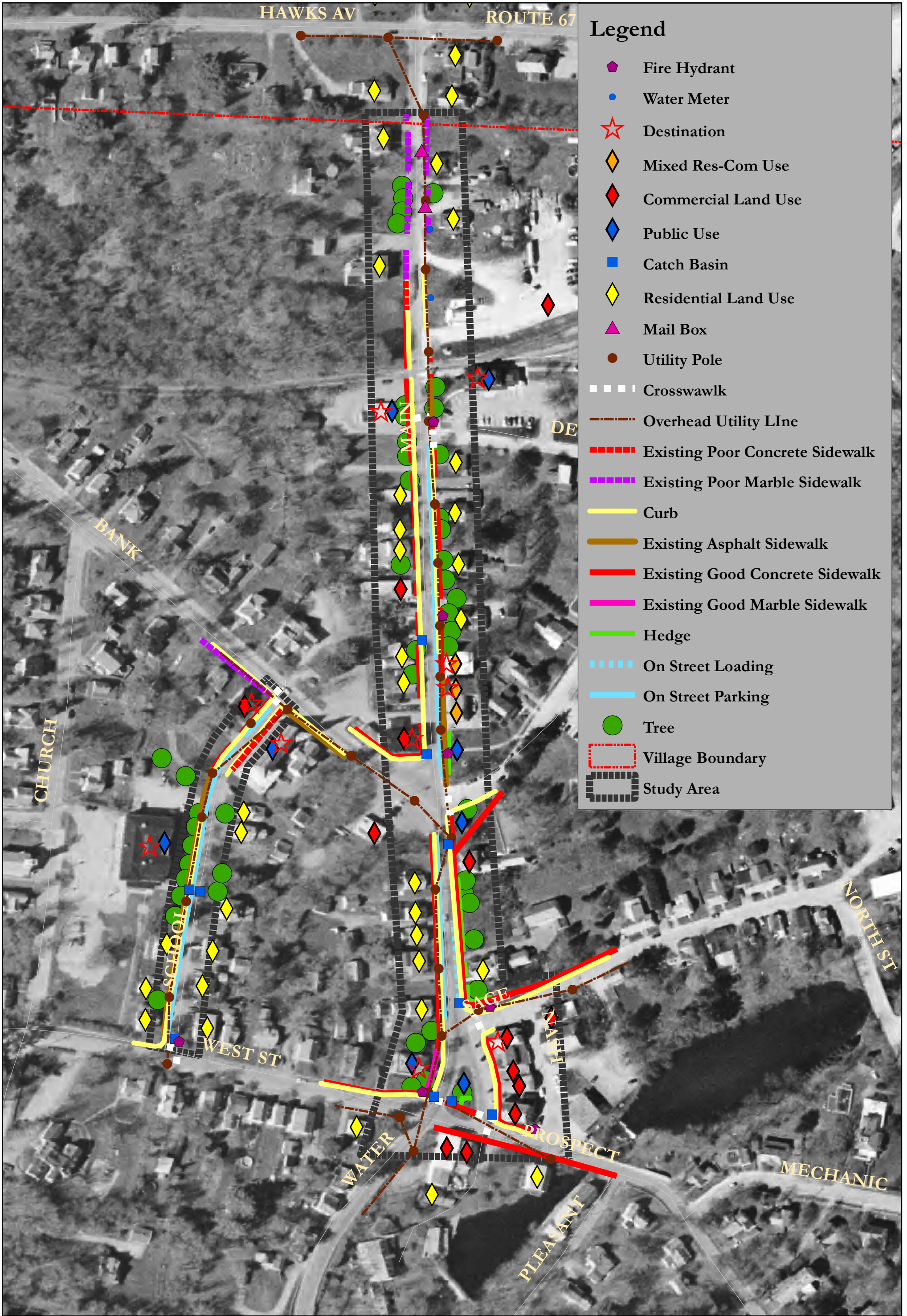
	No Action Alternative	Recommendation 1a North Main Street East Side Sidewalk & Greenspace	Recommendation 1b North Main Street West Side Sidewalk & Curb	Recommendation 2a Roadway Regrading South of the Railroad	Recommendation 2b Mid Main Street East Side New Sidewalk & Greenspace	Recommendation 2c Mid Main Street East Side New Sidewalk	Recommendation 2d Mid Main Street West Side Post Office New Sidewalk	Recommendation 2e Mid Main Street West Side Sidewalk Driveway Replacement	Recommendation 3a South Main Street West Side Sidewalk Replacement	Recommendation 3b South Main Street Parallel Curbs	Recommendation 4 Bicycle Route & Traffic Calming	Recommendation 5 School Street Sidewalk & Greenspace	
Project Description													
Approximate Length in Feet	0	440	440	350 SF	90	100	100	150	350	200	NA	490	
Permanent Private Property Easements	0	0	0	0	0	0	0	6 (?)	6(?)	0	0	4(?)	
Temporary Construction Easements	0	3	3	0	1	1	1	6	6	0	0	4	
Significant Physical Constraints	0	Large ash tree, water valves, grade change by driveways and marble sidewalk remnants	Overgrown hedges, driveway pillars, marble and concrete sidewalk remnants and degraded curbing	Existing roadway grade and railroad crossing	Existing asphalt sidewalk, road pavement and curbs	Existing asphalt sidewalks & curbs, adjacent buildings, and building downspouts	Existing concrete and asphalt sidewalks at driveway crossings	Existing concrete and asphalt sidewalks at driveway crossings	The existing sidewalk; sideslopes towards the houses; stairs or sidewalks leading to the houses	Roadway pavement between the existing and new curbs; the existing curve of the north side Sage Street curb	Overhead utility lines for trees; door opening area of parked cars for bicyclists	The slope and stairs towards West Street, the stairs and sidewalks leading to the houses	
Environmental/Cultural Constraints													
Topography	NA	Sideslope north of railroad and driveway crossing grade changes	Sideslope	Small rise that ponds water at railroad tracks	No issues	Very shallow grades near commercial buildings	No issues	Driveway crossing grade changes	Sideslope	No issues	No issues	The slopes towards West Street and the stairs	
Tree Impact	None	Ash tree root must be carefully cut, if necessary	Hedges need to be severely trimmed	None	None	None	None negative - could help provide more pervious surface around trees	None	None	None	None	None	
Utility Impacts	None	None	None	None	None	Improvements to stormwater run off	None	None	None	Construction over storm and water lines	None	No increase in stormwater run off to properties on west side of street	
Archeological Resources	No Impacts	No Impacts	No impacts	No impacts	No impacts	No Impacts	No impacts	No impacts	No Impacts	No impacts	No impacts	No impacts	
Historic Resources	No Impacts	No Impacts	No Impacts	No impacts	No Impacts	No Impacts	No impacts	No impacts	Potential impact	No Impacts	No impacts	No impacts	
Hazardous Material	NA	No	No	No	No	No	No	No	No	No	No	No	
Project Attributes													
Meets Purpose and Need Statement	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Readily Serves All Age Groups and Users	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Interaction with Roadway Motor Vehicle Traffic	High	Low	Pedestrians close to roadway	NA	Low	Low	Pedestrians close to roadway	Pedestrians close to roadway	Pedestrians close to roadway but sometimes buffered by cars	Some pedestrians close to roadway	Pedestrians close to roadway	Low	
Helps Slow Traffic	No Impact	No Impact	No Impact	No Impact	Yes, Narrows roadway	No Impact	No Impact	No Impact	No Impact	No Impact	Some slowing	Slows traffic	No Impact
Other Issues													
Other Issues		Sidewalk can transition away from roadway north of railroad crossing; house sidewalks need to be shortened; carry sidewalk across driveways, including large commercial access; carefully remove existing marble walkway pieces	Work with landowner to trim shrubs prior to sidewalk installation; carefully remove existing marble walkway pieces	Needs to be coordinated with Vtrans and railroad	Remove existing roadway pavement to create additional greenspace behind new curb;	Widen sidewalk to five feet; relocate utility poles if possible without losing existing trees; remove excess asphalt between sidewalk and buildings; check on feasibility of putting downspout into french drain below new deck	Add additional greenspace with trees west of sidewalk near paved areas at post office and car dealership	Maintain four foot width at driveways with at least three five foot square level pads to meet ADA requirements	Maintain constant five-foot width; reconstruct sidewalks and stairs to houses; maintain marble inset section of sidewalk; provide continuous concrete across driveways	Parking relocation will reduce the overall amount of parking near the Library by approximately 50 percent; additional greenspace on west side for vegetation under existing trees	Each element can be pursued independantly.	New greenspace between the sidewalk and the road provides a place for utility poles and separates the children from the vehicles on the road	



Legend

-  50 FT Contours
-  Village Boundary
-  Study Area

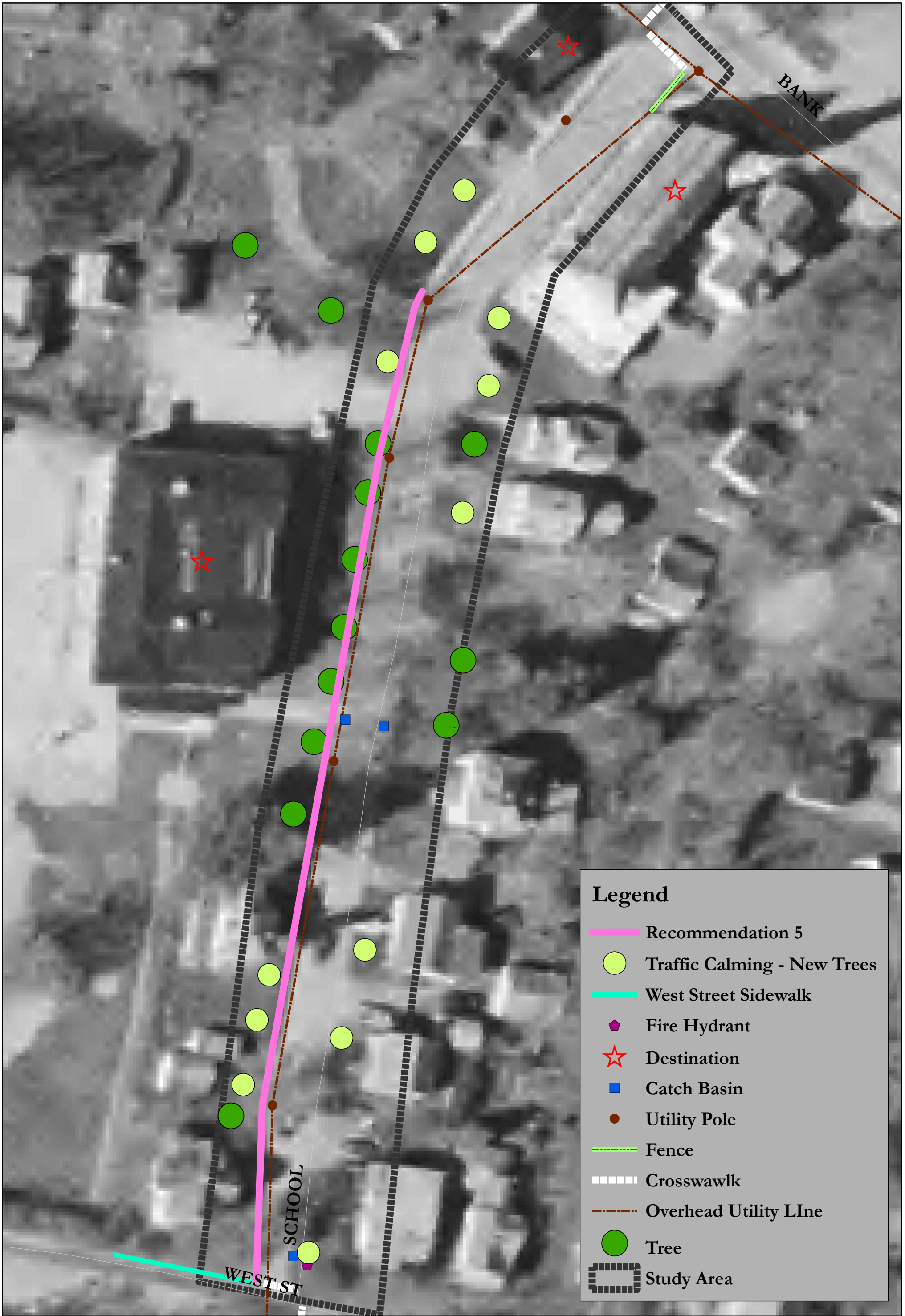




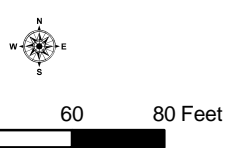








- Legend**
- Recommendation 5
 - Traffic Calming - New Trees
 - West Street Sidewalk
 - ◆ Fire Hydrant
 - ★ Destination
 - Catch Basin
 - Utility Pole
 - - - Fence
 - Crosswalk
 - · - · - Overhead Utility Line
 - Tree
 - Study Area





BROADREACH

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