

Scoping Study Report

GRANDVIEW ST & HAWKS AVE SIDEWALK SHAFTSBURY STP BP21(19)

SHAFTSBURY, VERMONT

October 31, 2023



Submitted to:

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1 SUMMARY

The objective of this study is to plan for safe and accessible facilities for pedestrians on Grandview Street and Hawks Avenue, with connectivity into North Bennington. This is a residential area immediately adjacent to the village in North Bennington.

Grandview Street and Hawks Avenue are both two-lanes wide, with no shoulders. There are no existing sidewalks or dedicated bicycle facilities between the residential neighborhoods on these streets and the North Bennington village. There is a sidewalk along both sides of Main Street in North Bennington into the village, as well as a sidewalk along the east side of Bank Street south of Hawks Avenue. Bicycles are able to travel within the travel-way (as a shared lane) on both streets due to low vehicular traffic. The intent of this project is to increase safety and accessibility for pedestrians.

Characteristics of the project area were reviewed including right-of-way, roadway features, traffic data, historic/archeological features, natural resources and other environmental characteristics. The archeological and historic reviews performed by Hartgen Archeological Associates indicated that the study area has low sensitivity for precontact and historic deposits. There is one structure along the study area that has historic significance, however, this structure will not be adversely impacted by pedestrian facilities within the study area.

The various public meetings held during this study highlighted general support for pedestrian improvements on Grandview Street, but not on Hawks Avenue. After the Local Concerns meeting, alternatives were developed based on design criteria and local input. The alternatives focused on serving pedestrians, minimizing permanent easements, and drainage considerations. The alternatives were compared on the basis of cost, impacts to environmental and cultural resources, permitting requirements and locally identified critical elements.

The alternatives, including various routes for a sidewalk on both streets were discussed at an Alternatives Presentation. The preferred alternative was not initially clear. This prompted the Town to send surveys to the residents of the two streets to obtain feedback on the alternatives. One follow-up meeting was held to review the survey results. The Selectboard ultimately chose a preferred alternative consisting of a sidewalk along the west side of Grandview Street, connecting to the existing sidewalk network in North Bennington via Route 67, and no sidewalks on Hawks Avenue. The Selectboard also requested the inclusion of speed tables on both streets in the preferred alternative.

The estimated total project cost for these preferred alternative improvements is \$805,000 based on a 2027 construction cost estimate of \$625,000. The Town may choose to phase the improvements based on available funding for a given year. If phasing is selected, the project would begin at the south end with the connection to North Bennington and moving north along Grandview. The project can be divided into two or three phases,

depending on financing. The speed tables are estimated at \$8,000 for Hawks Avenue and \$20,000 for Grandview Street and could be installed with local funding in the next few years.

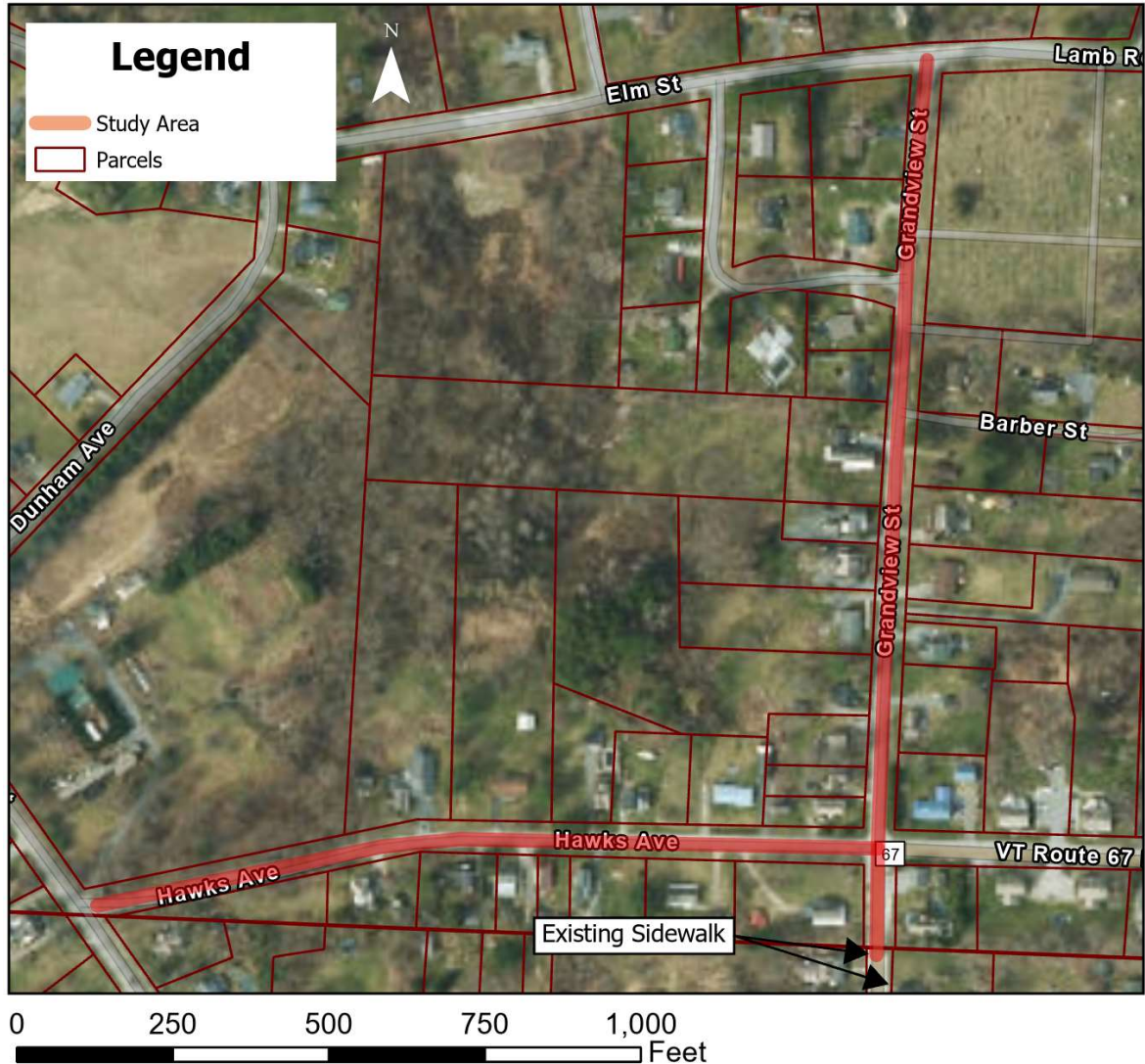
The Town should apply to the VTrans Transportation Alternatives Program in December 2023, or the VTrans Bicycle & Pedestrian Program in summer 2024, for design and construction funds to implement the preferred alternative project after local endorsement of this study.

2 EXISTING CONDITIONS

2.1 PROJECT STUDY AREA

The study area for the project was defined by the Town and is shown in **Figure 2.1**. The study area includes the full length of Grandview Street and Hawks Avenue, as well as the connection to the existing sidewalk on Main Street in North Bennington.

Figure 2.1: Project Study Area



Grandview Street is a hill (up to approximately 15% slope) from the intersection with Hawks Avenue to the cemetery driveway, at which point it levels out to a gentle incline to the intersection with Elm Street. Hawks Avenue is a flatter road, with a gentle decline from the intersection with Grandview Street to the intersection with Bank Street.

There are some street trees and landscaping along both roads. Impacts to trees and landscaping are discussed in Section 4.

2.2 LAND USES

According to the Shaftsbury Town Plan, dated December 2, 2019, the study area is within the “Village Residential” district. The purpose of this district is to provide for compact residential development, relieving pressure to develop rural areas of the Town, promoting efficiency of infrastructure and municipal services, and reinforcing historic development patterns.

2.3 EXISTING TRANSPORTATION FACILITIES

The study area includes three roads:

- Grandview Street is a local road, approximately 21 feet wide with no shoulder.
- Hawks Avenue is a local road, approximately 21 feet wide with no shoulder.
- Route 67 is a State highway with a functional classification of Minor Arterial. The road is approximately 21 feet wide with no shoulder.

The speed limit within the study area is 25 mph.

There are existing sidewalks along both sides of Main Street in North Bennington, and along the east side Bank Street at the intersection with Hawks Avenue. The existing sidewalks on Main Street are 5 feet wide concrete and raised with a granite curb. The surface is in good condition as these sidewalks were installed approximately 5 years ago. The existing sidewalk on Bank Street is asphalt, approximately 5 feet wide, and appears to be in good condition.

2.4 TRAFFIC DATA

The Annual Average Daily Traffic (AADT) counts, as published by the Vermont Agency of Transportation (VTrans), are shown in **Table 2.1** below. Data was obtained from VTrans for crashes compiled for the 2019-2023 period. There were no crashes recorded in the study area.

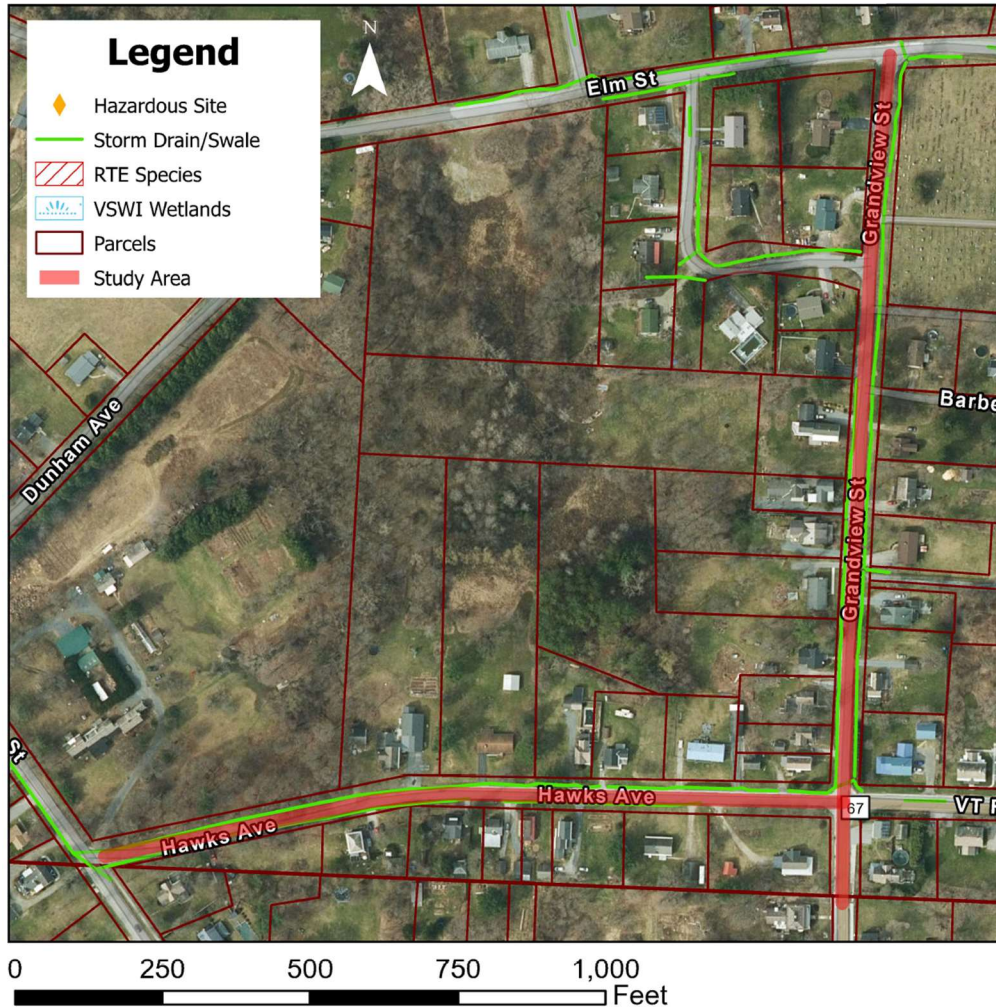
Table 2.1: Annual Average Daily Traffic Counts

Street Name	Beginning Reference	Ending Reference	2022 AADT
Grandview St	N/A	N/A	N/A
Hawks Ave	Bank Street	Route 67E	617
Route 67	N.Bennington Town Line	VT 7A	4,600

2.5 NATURAL AND CULTURAL RESOURCES

The Vermont Natural Resource Atlas was used to identify natural resources within and adjacent to the study area. These natural resources are presented in **Figure 2.2**. The Atlas does not provide accurate locations for all natural resources; however, it does provide a guide as to what natural resources will require further review during final design. A summary of the natural resources present in the study area is provided herein.

Figure 2.2: Natural Resources and Environmental Features



2.5.1. WETLANDS

There are no mapped wetlands within the study area and no potential unmapped wetlands were observed during a site visit.

2.5.2. SURFACE WATERS

There are no surface waters within the study area.

2.5.3. FLOODPLAINS

There are no mapped floodplains within the study area.

2.5.4. STORMWATER

There are no impaired rivers, streams, lakes, or ponds within the study area. There are no stormwater permits issued in or around the project area. Stormwater permit requirements for the potential pedestrian facilities will be discussed in Section 4.

Stormwater conveyance is primarily via swales along both sides of the two roads. There are culverts across the intersection of Grandview Street and Hawks Street, and the intersection of Hawks Street and Bank Street. There are also culverts at driveways.

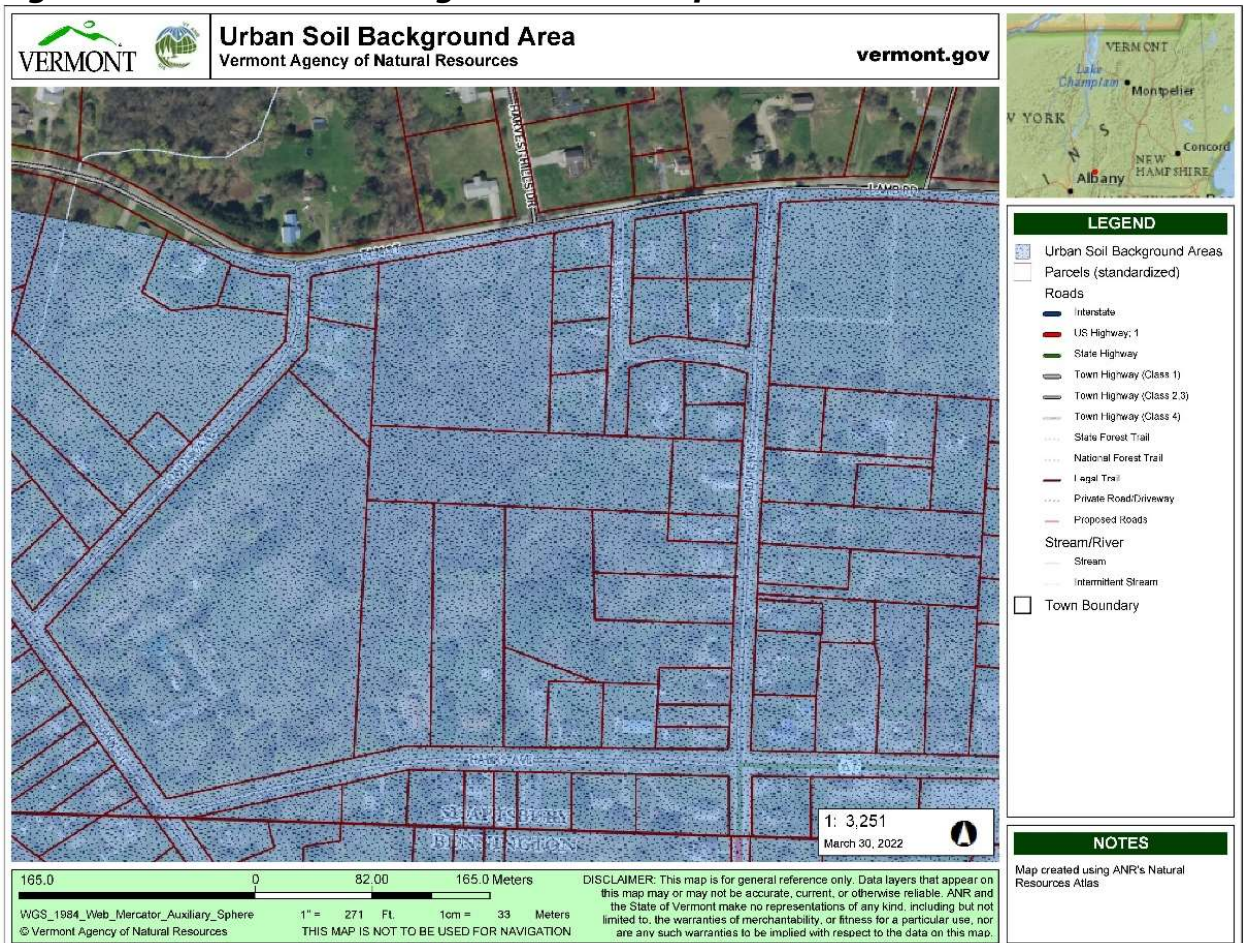
2.5.5. RARE, THREATENED AND ENDANGERED SPECIES

There are no rare, threatened, or endangered species located within or adjacent to the study area. The study area is within the known ranges of the federally threatened northern long-eared bat or the Indiana bat. The project will need to be reviewed with US Fish & Wildlife during the NEPA process for other threatened and endangered species, as well as for tree cutting requirements.

2.5.6. HAZARDOUS MATERIAL SITES

There are no hazardous waste sites in or adjacent to the study area. The entirety of the study area is designated as an Urban Soil Background area. **Figure 2.3** shows the Urban Soil Background area.

Figure 2.3: Urban Soil Background Area Map



2.5.7. AGRICULTURAL LAND

The study area contains Statewide and Prime agricultural soils. As pedestrian improvements are generally located within proximity to the edge of the road and within the Town right-of-way, the soils impacted are typically previously disturbed soils. Based on previous discussions with the Vermont Agency of Agriculture, there is typically no impact to the agricultural soils if the project is located directly adjacent to an existing road.

2.5.8. HISTORIC, ARCHEOLOGICAL AND ARCHITECTURAL RESOURCES

An Archeological Resource Assessment was completed in March 2023 by Hartgen Archeological Associates, Inc. The report indicates “due to the low precontact sensitivity and low potential for finding significant historic period archeological deposits, no further work is recommended”. The complete report is included as **Appendix A**.

A Historic Resources Identification was completed in March 2023 by Hartgen Archeological Associates, Inc. The report indicates that there is one structure within the study area that is individually National Register eligible but notes that a pedestrian facility is not likely to affect this structure. The complete report is included as **Appendix B**.

2.6 RIGHT-OF-WAY

The public road right-of-way (ROW) was determined by a licensed land surveyor reviewing this project. The right-of-way widths for all roads in the study area is 49.5 feet (3 rods), as shown in **Figure 2.4**. The right-of-way impacts will be discussed in Section 4.

2.7 UTILITIES

There are multiple utilities within the study area including overhead electric, phone and cable, and underground storm drains, sewer, and water. The utility poles are owned and maintained by Green Mountain Power. The storm drains and culverts (not including driveway culverts) are owned and maintained by the Town of Shaftsbury. The water system is owned and maintained by the Village of North Bennington. The sewer system is owned and maintained by the Town of Bennington.

Typically, existing underground utilities will not be impacted by the proposed improvements due to the limited depth of sidewalk facilities. Manholes and water valve boxes may require height adjustment. Catch basins may require adjustment or relocation if they conflict with a proposed curb or sidewalk. Culverts may require extensions to accommodate a new sidewalk.

The distance from the edge of the road to utility poles varies throughout the project area. In some areas, the poles appear to be set back far enough from the road to allow for the new sidewalk; however, some relocations will likely be necessary. Anticipated pole relocations will be discussed in Section 4.

Figure 2.4A: Right-of-Way Map (Grandview St)

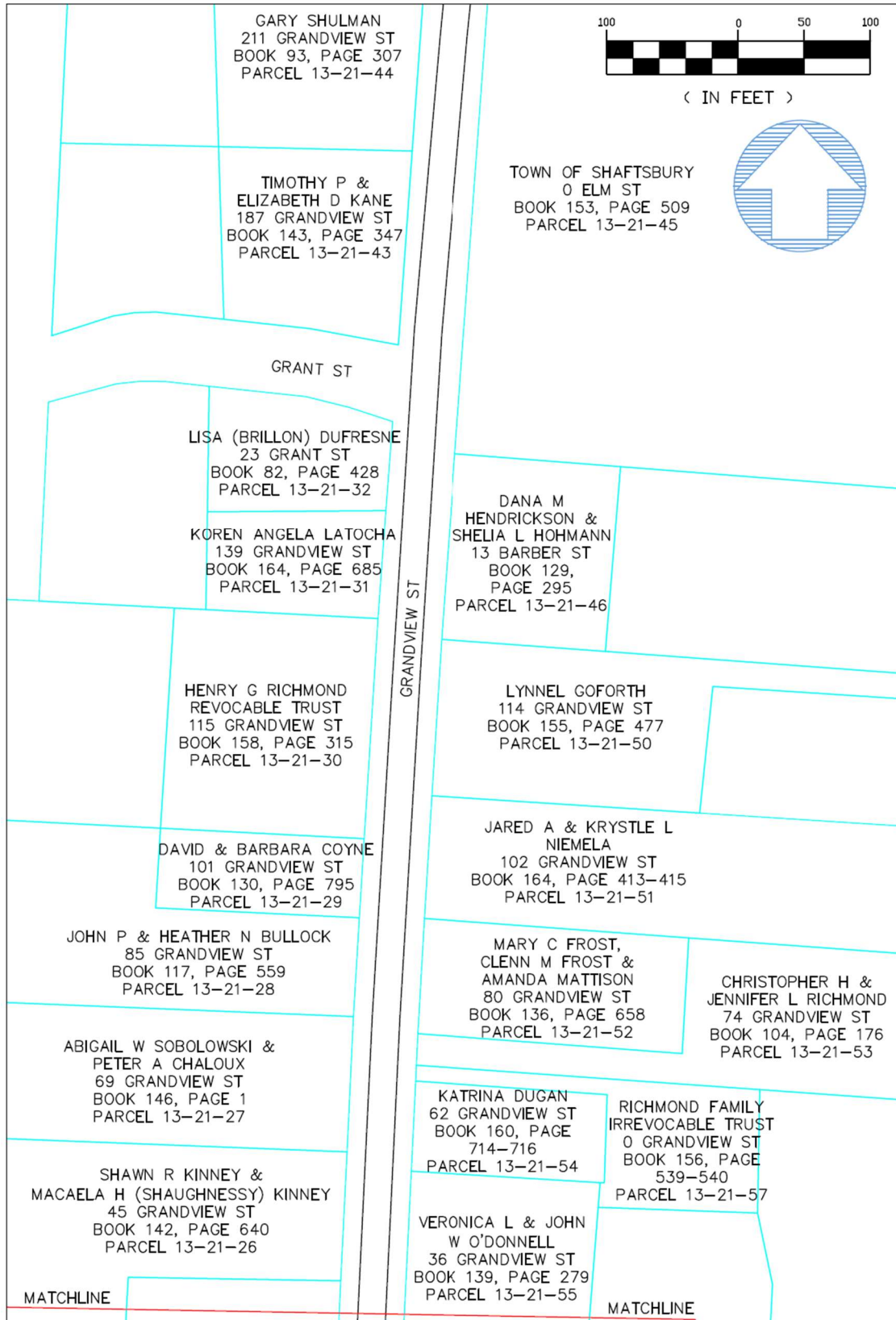
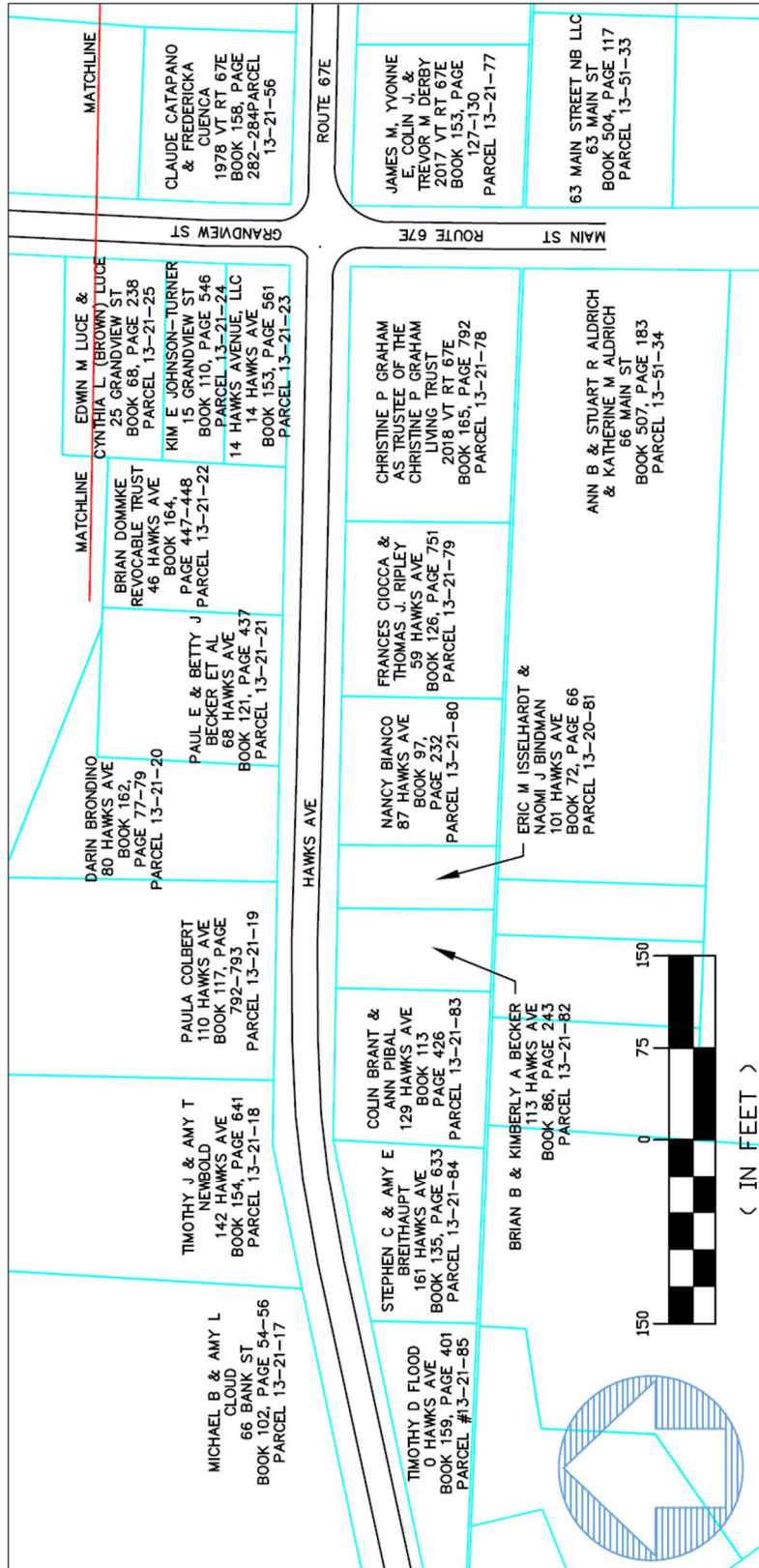


Figure 2.4B: Right-of-Way Map (Hawks Ave)



3 PUBLIC INVOLVEMENT

Developing a Purpose and Need Statement requires obtaining input from multiple sources, reviewing the existing characteristics of the area, and reviewing local and regional plans to identify the relationship of the planned improvements to these plans.

A Project Kick-off Meeting was held with the Town to discuss the project, identify goals, and brainstorm possible alternatives. The information obtained at this meeting was used to prepare for the public meetings. The discussions focused on improving pedestrian safety and connectivity between the residential neighborhoods and the North Bennington village, while minimizing impacts to adjacent properties.

3.1 LOCAL CONCERNS MEETING

A Local Concerns Meeting was conducted on September 14, 2022 to discuss the project and obtain input from the public regarding the purpose and need for the project. A copy of the meeting minutes is included as **Appendix C**.

The participants discussed the lack of pedestrian facilities on Grandview Street and related safety concerns. The discussion highlighted that residents on Hawks Avenue did not feel a sidewalk was necessary there. There was also discussion regarding the schedule of potential improvements and the possibility of short term solutions.

3.2 PURPOSE AND NEED

The following Purpose and Need Statement was developed based on input from the Town and the public:

Purpose: To provide safe and accessible facilities to accommodate existing pedestrian traffic flow between the residential neighborhoods along Grandview Street and Hawks Avenue and various points of interest in North Bennington village.

Need: In an area where many residents, including children, walk to the village for school, work, and other reasons, there are no dedicated pedestrian facilities. This leads to pedestrians traveling on the road with no place to step off the road when vehicles pass due to the large drainage ditches on both sides. This project is necessary to increase safety and accessibility for all users.

3.3 ALTERNATIVES PRESENTATION

An Alternatives Presentation was conducted on April 27, 2023 to present the alternatives, obtain input from the public regarding the proposed alternatives, and select an alternative.

Four alternatives, plus a “no-build” alternative, were presented. Two alternatives focused on Grandview Street and two alternatives focused on Hawks Avenue. Speed tables were also discussed as add-ons to the sidewalk projects on both streets.

Similar to the Local Concerns Meeting, there was a clear preference for a sidewalk on Grandview Street and not on Hawks Avenue. The participants discussed some of the potential impacts, such as landscaping and drainage. There was also another discussion on the project schedule and the need for pedestrian improvements in a timelier manner. At the end of the meeting, the Selectboard decided not to endorse an alternative yet based on a desire to send out a survey to residents to gauge preferences.

Following the Alternatives Presentation, the Town sent a survey to all property owners in the study area to obtain feedback on the alternatives. The surveys asked for the alternative preference and whether a speed table was desired. The results were as follows:

- Hawks Avenue (13 sent, 11 respondents):
 - Sidewalk Alternative: 8 “no sidewalk”, 1 “no preference”, and 1 each for the two Hawks Ave sidewalk alternatives.
 - Speed Table: 6 “yes”, 5 “no”
- Grandview Street (17 sent, 11 respondents):
 - Sidewalk Alternative: 0 “no sidewalk”, 1 “no preference”, 7 “Alternative 1”, and 3 “Alternative 2”
 - Speed Table: 9 “yes”, 1 “no”, 1 “undecided”

Additional public discussion was conducted as part of a regular Selectboard meeting on May 15, 2023. Based on the results of the survey, the Selectboard voted to endorse Alternative 1 on Grandview Street, and no sidewalks on Hawks Avenue. The Selectboard also requested to include speed tables on both streets. The meeting minutes for both meetings are included as **Appendix D**.

3.4 RELATIONSHIP TO LOCAL AND REGIONAL PLANS

The Shaftsbury Town Plan does not discuss pedestrian facilities. The Bennington County Regional Commission (BCRC) Regional Plan contain goals and policies in support of the proposed improvements. The BCRC Regional Plan contains the following policies and goals:

- *Goal: Provide a safe, convenient, and efficient transportation system that includes a well-maintained network of roads and bridges and expanded opportunities for walking, bicycling, public transportation, and rail and air transport.*
- *Policy: Encourage and assist with the development and maintenance of safe and convenient pedestrian routes in downtowns, village centers, hamlets, neighborhoods, and all areas of concentrated development. Traffic calming techniques should be used in these areas to reduce vehicle speed and enhance safety.*

4 EVALUATION OF ALTERNATIVES

There are several factors that influence the development of alternatives, including public input, current and future uses, and existing conditions. The critical design elements defined by the review of existing conditions, uses and local input are as follows:

- Minimize permanent easements.
- Minimize road crossings.
- Minimize permitting requirements.

4.1 ALTERNATIVES DEVELOPMENT

The alternatives include various alignments, consideration for both pedestrians and bicycles, and a “no build” alternative. These alignments are generally described as follows:

- Alternative 0: No Build
- Alternative 1: Grandview St – West Side
- Alternative 2: Grandview St – East Side
- Alternative 3: Hawks Ave – South Side
- Alternative 4: Hawks Ave – North Side

Additional input from the Town included a preference for concrete surfaces over asphalt surfaces and an option for speed tables.

4.1.1. ALTERNATIVE 0: NO BUILD

The “no build” alternative must be considered for all projects funded by the Federal Highway Administrative Act to comply with the National Environmental Policy Act (NEPA). The “no build” alternative would consist of doing nothing. There would be no construction, no signage installed, and no pavement markings installed. The “no build” alternative would not increase safety for pedestrians and bicycles as there would be no improvement to the existing condition. As the “no build” alternative does not satisfy the Purpose and Need Statement, this alternative is not recommended.

4.1.2. ALTERNATIVE 1: GRANDVIEW ST – WEST SIDE

The proposed alignment for Alternative 1 is along the west side of Grandview Street, continuing south along the west side of Route 67 to the North Bennington sidewalk network, as shown in **Figure 4.1**, included in **Appendix E**. The impacts and considerations of Alternative 1 include:

- The proposed facility is a 5-foot wide ADA compliant concrete sidewalk.
- There is insufficient space within the existing right-of-way for a grass edge zone on the southern portion of Grandview Street, therefore the sidewalk will need to be

directly adjacent to the road in this area. Curbing is required where the sidewalk is directly adjacent to the road shoulder.

- On the northern portion of Grandview Street, the sidewalk may be separated from the road by a 5-foot wide grass edge zone with a slight swale.
- The marked crosswalk across Hawks Avenue will be at a controlled intersection.
- A new storm drain system will be required along the curbed portion of sidewalk as the existing drainage swale will be filled in for the sidewalk installation.
- There are a few landscaping impacts, including the removal of a few trees and shrubs. During public meetings, some residents stated it would be acceptable to remove trees and landscaping along their properties for a sidewalk. Landscaping and tree removal should be discussed during final design, when the extents of removal are known.
- Four utility poles may require relocation.
- Temporary easements may be required for the parcels Grandview Street (specifically on the northern end of the road), due to the proximity of sidewalk construction to the edge of the right-of-way.

4.1.3. ALTERNATIVE 2: GRANDVIEW ST – EAST SIDE

The proposed alignment for Alternative 2 is along the east side of Grandview Street, and continuing south along the west side of Route 67 to the North Bennington sidewalk network, as shown in **Figure 4.2**, included in **Appendix E**. The impacts and considerations of Alternative 2 include:

- The proposed facility is a 5-foot wide ADA compliant concrete sidewalk.
- There is insufficient space within the existing right-of-way for a grass edge zone on the east side of Grandview Street, therefore the sidewalk will need to be directly adjacent to the road in this area. Curbing is required where the sidewalk is directly adjacent to the road shoulder.
- The two marked crosswalks across Grandview Street and Hawks Avenue will be at a controlled intersection.
- A new storm drain system will be required along a majority of sidewalk as the existing drainage swale will be filled in for the sidewalk installation.
- There are a few landscaping impacts, including the removal of a few trees and shrubs. During public meetings, some residents stated it would be acceptable to remove trees and landscaping along their properties for a sidewalk. Landscaping and tree removal should be discussed during final design, when the extents of removal are known.
- Four utility poles and one fire hydrant may require relocation.

4.1.4. ALTERNATIVE 3: HAWKS AVE – SOUTH SIDE

The proposed alignment for Alternative 3 is along the south side of Hawks Avenue, as shown in **Figure 4.3**, included in **Appendix E**. The impacts and considerations of Alternative 3 include:

- The proposed facility is a 5-foot wide ADA compliant concrete sidewalk.
- There is insufficient space within the existing right-of-way for a grass edge zone on the very westerly portion of Hawks Avenue, therefore the sidewalk will need to be directly adjacent to the road in this area. Curbing is required where the sidewalk is directly adjacent to the road shoulder.
- Along the majority of Hawks Avenue, the sidewalk may be separated from the road by a 5-foot wide grass edge zone with a slight swale.
- A new storm drain system will be required along the curbed portion of sidewalk.
- There are a few landscaping impacts, including the removal of a few trees and shrubs. Only one of the trees proposed for removal is adjacent to a historically significant property. Landscaping and tree removal should be discussed during final design, when the extents of removal are known.
- Six utility poles and one hydrant may require relocation.
- Temporary easements may be required for the parcels Hawks Avenue (specifically on the western end of the road), due to the proximity of sidewalk construction to the edge of the right-of-way.

4.1.5. ALTERNATIVE 4: HAWKS AVE – NORTH SIDE

The proposed alignment for Alternative 4 is along the north side of Hawks Avenue, as shown in **Figure 4.4**, included in **Appendix E**. The impacts and considerations of Alternative 4 include:

- The proposed facility is a 5-foot wide ADA compliant concrete sidewalk.
- The sidewalk would be separated from the road by a 5-foot wide grass edge zone with a slight swale.
- A new storm drain pipe and catch basin will be required at the intersection with Bank Street.
- There are a few landscaping impacts, including the removal of a few trees and shrubs. Landscaping and tree removal should be discussed during final design, when the extents of removal are known.
- Two utility poles and one hydrant may require relocation.
- Temporary easements may be required for the parcels Hawks Avenue (specifically on the eastern end of the road), due to the proximity of sidewalk construction to the edge of the right-of-way.

4.2 EVALUATION MATRIX

An evaluation matrix was prepared to compare the alternatives and is presented in **Table 4.1** on the following page. The evaluation matrix includes factors such as impacts, local issues, permitting and cost.

4.3 PREFERRED ALTERNATIVE

Based on input from the public and the Town, the Selectboard endorsed Alternative 1, which includes a sidewalk along the west side of Grandview Street, and Alternative 0, which is no-

build on Hawks Avenue. This alternative is summarized below and shown in **Figure 4.4**, included in **Appendix E**.

- Approximately 1,400 linear feet of new ADA compliant 5-foot-wide concrete sidewalk.
- Approximately 890 linear feet of new granite curb.
- New crosswalk across Hawks Avenue with ADA compliant landings.
- Approximately 750 linear feet of new storm drain with catch basins.
- Speed tables on Grandview Street and Hawks Avenue

Table 4.1: Evaluation Matrix

Criteria	No Build	Grandview Street		Hawks Avenue	
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
Impacts					
ROW Acquisition	None	Moderate	Minimal	Minimal	Minimal
Stormwater/Drainage	None	Significant	Significant	Minimal	Minimal
Utility Relocation	None	Moderate	Moderate	Significant	Minimal
Archeological & Historic	None	None	None	None	None
Prime Agriculture Soils	None	None	None	None	None
Hazardous Materials	None	None	None	None	None
Floodplains	None	None	None	None	None
T&E Species	None	None	None	None	None
Wetlands	None	None	None	None	None
Local & Regional Issues					
Road Crossings	No Change	1	2	0	2
Maintenance	No Change	Moderate	Moderate	Minimal	Minimal
Character	No Change	Minimal	Minimal	Minimal	Minimal
Conformance to Town/Regional Plan	No	Yes	Yes	Yes	Yes
Satisfies Purpose & Need	No	Yes	Yes	Yes	Yes
Permits/Approvals					
19 V.S.A. 1111 Access Permit	No	Yes	Yes	Yes	Yes
Act 250	No	No	No	No	No
Floodplain	No	No	No	No	No
Stream Alteration	No	No	No	No	No
Stormwater Discharge	No	No	No	No	No
Stormwater Construction	No	No	No	No	No
Shoreline	No	No	No	No	No
Wetlands	No	No	No	No	No
Cost					
Total Project Cost Estimate (2023)	\$0	\$665,000	\$805,000	\$440,000	\$440,000

4.4 DESIGN CONSIDERATIONS

The anticipated impacts of the preferred alternative are summarized in **Figure 4.4**, and further discussed below.

4.4.1. NATURAL RESOURCE IMPACTS

There are Statewide and Prime agricultural soils within the preferred alternative. As the improvements are located within the public right-of-way adjacent to State and town roadways, the soils impacted are likely previously disturbed. As noted in Section 2, there is typically no impact to the agricultural soils if the project is located directly adjacent to an existing road.

4.4.2. HAZARDOUS SITE REMEDIATION

The proposed project area is located in an Urban Soil Background Area, which means that excess soil removed from this portion of the project area must be utilized as fill within an Urban Soil Background Area or disposed of as hazardous waste. If the material is utilized outside of the project area(s), the site(s) must be reviewed under the VTrans Off-Site Exemption Record. If a site does not qualify for an exemption, an Off-Site Activity Form must be submitted for review to the VTrans Environmental Section. Another option is to test the soil to determine if it is contaminated and if not, it can be used as clean fill.

Based on preliminary calculations, the material to be removed from the project area would be approximately 650 cubic yards. It may be possible for the Town to utilize this material elsewhere within an Urban Soil Background area for other projects or perform testing during construction to determine if the soil is contaminated.

4.4.3. UTILITY IMPACTS

The preferred alternative may require the relocation of approximately 4 utility poles on Grandview Street. This will need to be further evaluated during final design, including coordination with the utility companies.

The preferred alternative may require the vertical adjustment of sewer manhole covers and/or valve and curb boxes within the limits of the new sidewalk to match proposed grades.

4.4.4. ARCHEOLOGICAL IMPACTS

The project area was determined to have low potential for archeological sensitivity. The project would also not impact historic structures adjacent to the sidewalk; however, efforts should be made to minimize impact to these properties.

4.4.5. RIGHT-OF-WAY IMPACTS

The Town intends to keep the proposed sidewalk within the existing right-of-way. No permanent easements are anticipated for the preferred alternative.

Temporary easements are often obtained to a distance of approximately 10 feet behind the existing sidewalk. However, some municipalities routinely construct sidewalk or pathway facilities up to the existing right-of-way with no impact to private property. The need for temporary easements will be determined during final design, through consultation with the Town staff.

4.4.6. PERMITTING

The permitting requirements for the proposed pathway were previously presented in **Table 4.1** and are further described herein.

A VTrans access permit (VSA 1111) will be required for the sidewalk and crossing within the State right-of-way on Route 67.

If the total impervious area planned, new and/or redeveloped, exceeds one-half acre, a Stormwater Discharge Permit is required. The preferred alternative is approximately 0.16 acres of impervious area; therefore, a Stormwater Discharge Permit should not be required.

A Construction General Permit will be required if the total earth disturbance is 1 acre or more. The preliminary estimate for earth disturbance is approximately 0.35 acres for the preferred alternative. It does not appear that a Construction General Permit will be required, however, this should be re-evaluated during final design.

If Federal funding is utilized, an environmental analysis will be required in accordance with the National Environmental Policy Act (NEPA). It is likely that the project would qualify for a Categorical Exclusion as it is not anticipated to have a significant effect upon natural and cultural resources, nor a significant environmental impact.

4.4.7. TRAFFIC CONTROL

The construction of the proposed improvements will require work within the travel way and along the shoulder of the road. The VTrans Work Zone Safety and Mobility Policy and Guidance provides a process to determine the project significance and a checklist to determine traffic control needs.

The project significance is based on a variety of factors, including speed limit, AADT, multi-project interaction, project location, non-automobile modes, duration of project, level of impact to high-volume or critical traffic generators, and network reliability. The assessment for this project is as follows:

- Speed Limit: 25 mph
- AADT: Approximately <5,000
- Multi-Project Interaction: Unknown at this time, designer may need to consider coordination needs with other projects in the vicinity.
- Project Location: Village
- Non-Automobile Modes: Low to moderate volume of bicycle and pedestrian traffic
- Duration of Project: One Construction Season
- Level of Impact to High-Volume/Critical Traffic Generators: Low
- Network reliability: High

Based on the preliminary evaluation above, this project will likely fall into Category D, which is not considered a significant impact. The Traffic Management Plan (TMP) Checklist is required, along with a Temporary Traffic Control Plan. Transportation Operation and Public Information Plans are likely not required but shall be confirmed

with the checklist. A preliminary TMP Checklist is included in **Appendix F**. As the project moves through final design and into construction, the TMP Checklist should be revised and updated as required.

The project-specific traffic plan will be developed during the design phase of the project to address any potential lane closures or road closures, as well as typical construction signage. Grandview Street is a low traffic road and one-way alternating traffic can be maintained throughout construction with flaggers. There would be a minimal impact on Route 67 for the sidewalk extension to North Bennington; however, this would only require one-way alternating traffic for a short duration. All lane closures shall comply with the current Manual of Uniform Traffic Control Devices (and its latest revisions) for signage and flaggers.

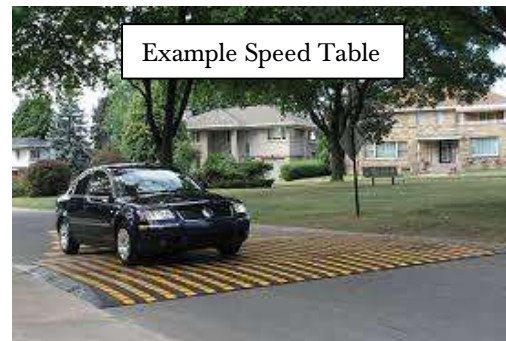
When no sidewalk exists within the construction area, pedestrians and bicyclists use the shoulder. A temporary circulation path shall be made available when the shoulder is closed due to construction activities. The temporary circulation path shall match the level of accessibility that exists prior to the shoulder closure.

4.4.8. SPEED TABLES

During the public meetings, there was much discussion regarding vehicle speeds in regard to pedestrian safety. Speed tables were discussed as an option for improving safety in the short term, considering that a larger sidewalk project will likely take several years to design and construct.

According to the Federal Highway Administration, for speed reduction, “raised measures tend to have the most predictable speed impacts”. Speed humps and tables are commonly used on residential streets to reduce speeds; however, they can create noise issues if the table is too severe.

A speed table is different from a speed bump that may be found in parking lots. It is long and broad, in either a parabolic or trapezoidal shape. Speed tables require adequate sight distance and should not be installed on grades steeper than 10%. Consideration also must be given to bus routes and emergency routes. In these cases, the speed table should be designed with input from the bus and emergency service operators. Other design considerations include proximity to driveways/intersections and drainage.



On Hawks Avenue, the running slope of the road is minimal and with no sidewalk or curb being installed, drainage is not an issue as stormwater can runoff the edge of the road into the drainage swales. There is also existing lighting on Hawks Avenue. The remaining considerations that apply to siting a speed table on Hawks Avenue are sight

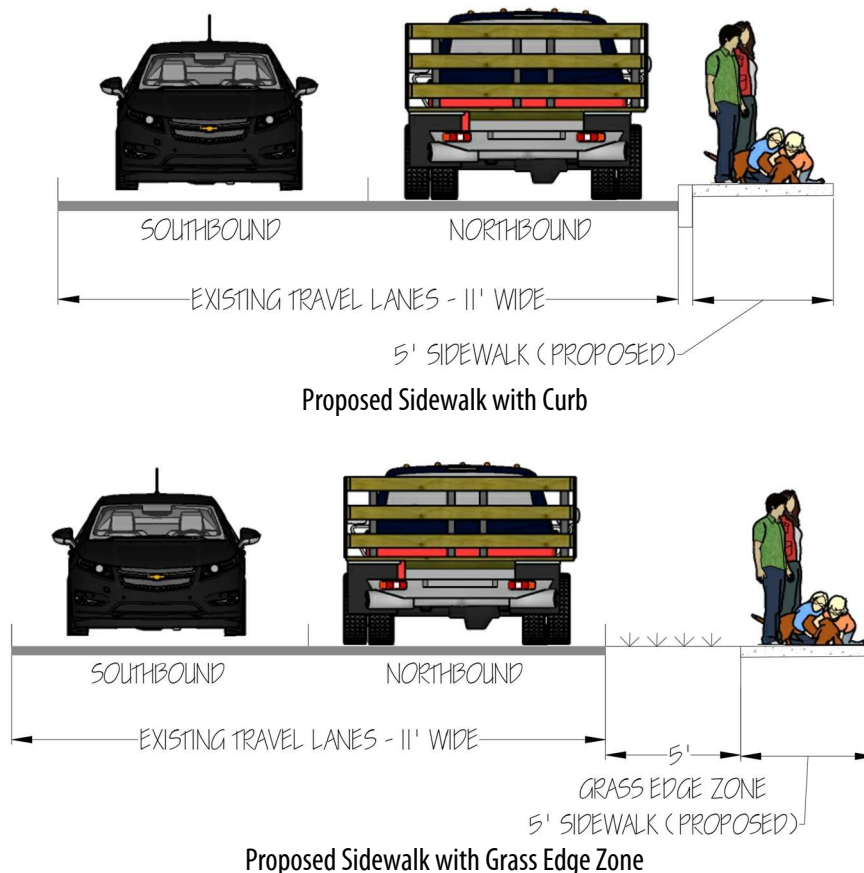
distance, proximity to driveways/intersections, and bus/emergency routes. The table should be sited in between 46 to 68 Hawks Avenue to allow for adequate sight distance and distance from driveways.

On Grandview Street, the running slope ranges from slight to approximately 15%. The northern portion of the road is flatter. The slope transitions approximately at the driveway to the cemetery, where it increases to approximately 10%. Moving south, the slope varies from 5-15%. There is a section of road between the driveways to 36 Grandview Street and 62 Grandview Street that appears to be approximately 6-7% slope. This would be the best site for the speed table, but the slope should be confirmed prior to any construction. This location also provides adequate site distance and separation from driveways. If the speed table is installed on Grandview Street, the conceptual drainage plan would need to be modified to include a catch basin on the upgradient side of the speed table for drainage. In addition, a light would be necessary at this location, which would include a new electrical service.

4.5 TYPICAL CROSS SECTION

The preferred alternative includes a new 5-foot-wide sidewalk with a grass edge zone, or with vertical granite curb. The proposed typical cross section is shown in **Figure 4.5**.

Figure 4.5: Typical Cross Sections



4.6 TOTAL PROJECT COST ESTIMATE

The preliminary cost estimate presented in **Table 4.2** has been prepared for the preferred alternatives as described previously in this section (excluding speed tables). As shown, the preliminary construction cost estimate for the preferred alternative is \$515,000 based on construction in 2023. This estimate includes a 25% contingency.

Table 4.3 presents the total project costs for the preferred alternatives (excluding speed tables). Based on a funding application in 2023, the project will not likely reach construction until 2027. As such, the construction cost estimate has been inflated. The average annual inflation over the past five years is approximately 4%; however, the inflation in 2022 was approximately 5%. Therefore, for planning purposes a 5% annual inflation was used. The total project cost is estimated at \$805,000 based on a construction cost estimate of \$625,000 for construction in 2027.

Table 4.2: Preliminary Construction Cost Estimate

Item No	Item Description	Estimated Quantity	Units	Unit Price	Estimated Cost
1	Clearing and Grubbing	1	LS	\$ 12,000.00	\$ 12,000.00
2	Bituminous Concrete Pavement	120	TON	\$ 150.00	\$ 18,000.00
3	Precast Concrete Catch Basin	4	EA	\$ 4,500.00	\$ 18,000.00
4	Storm Drain - 18" HDPE	750	LF	\$ 90.00	\$ 67,500.00
5	Driveway Culvert	110	LF	\$ 80.00	\$ 8,800.00
6	Detectable Warning Surface	20	SF	\$ 60.00	\$ 1,200.00
7	Concrete Sidewalk	780	SY	\$ 125.00	\$ 97,500.00
8	Granite Curb	890	LF	\$ 55.00	\$ 48,950.00
9	Crosswalk, Waterborne Paint	30	LF	\$ 6.00	\$ 180.00
10	Flagger	1300	MHRS	\$ 45.00	\$ 58,500.00
11	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000.00
12	Restoration	1	LS	\$ 8,000.00	\$ 8,000.00
13	Mobilization/Demobilization	1	LS	\$ 61,370.00	\$ 61,370.00
	Subtotal Construction Cost				\$ 410,000.00
	Contingencies (25%)				\$ 105,000.00
	Total Project Cost (2023)				\$ 515,000.00

Notes:

1. Construction costs are preliminary and are not based on detailed plans and specifications. Actual cost may vary substantially from these estimates. Contingencies are based on approximately 25% of the construction cost at the preliminary planning stage.
2. The Engineering News Record Construction Cost Index was 13425 in July 2023.

Table 4.3: Preliminary Total Project Cost Estimate

DESCRIPTION	TOTAL COST
Construction Cost (2023) with 25% Contingency ¹	\$515,000
Construction Cost (2027) with 25% Contingency	\$625,000
Engineering:	
Design Phase Engineering ²	\$100,000
Construction Phase Engineering ²	\$75,000
Right-of-Way ³	\$5,000
Total Project Cost (2027)	\$805,000

Notes:

1. Construction costs are shown in **Table 4.2**. The construction cost includes 25% contingency.
2. Engineering costs are estimated at approximately 20% of the construction cost for the design phase and 15% of the construction cost for the construction phase.
3. Right-of-way costs are estimated based on similar sized projects.

The speed tables are not included in the costs presented above. According to the Federal Highway Administration, the typical cost of speed tables is in the range of \$5,000 to \$20,000. The Hawks Avenue speed table is simple and does not require the installation of lighting. The construction cost for this table is estimated in the \$5,000-\$8,000 range. The Grandview Street speed table requires a catch basin for drainage and a light, which will increase the cost. The construction cost for this table is estimated in the \$15,000-\$20,000 range.

5 FISCAL IMPLEMENTATION

As presented in Section 4, the proposed project consists of the following improvements:

- Approximately 1,400 linear feet of new ADA compliant 5-foot-wide concrete sidewalk.
- Approximately 890 linear feet of new granite curb.
- New crosswalk across Hawks Avenue with ADA compliant landings.
- Approximately 750 linear feet of new storm drain with catch basins.

The estimated total project cost for these improvements is \$805,000 based on a 2027 construction cost estimate of \$625,000. The construction costs were inflated by 5% per year to estimate construction costs in the future, with non-construction costs increased accordingly. This cost does not include the speed tables.

The estimated construction cost for the two speed tables is \$30,000 based on construction in 2024, or \$35,000 based on construction in 2027. If the speed tables are considered as a short term project separate from the sidewalk improvements, engineering and contingency should be added to the 2024 estimate. This would result in an estimated total project cost of approximately \$45,000-\$50,000 in 2024 for both speed tables.

5.1 FUNDING ALTERNATIVES

The Town of Shaftsbury does not have the funds to finance the entire improvement project locally as a single project. The options for funding include grants, long-term debt or phasing. The VTrans Bicycle and Pedestrian Program, administered by the VTrans Municipal Assistance Bureau, provided funding for this report and is the most likely funding source for design and construction if the Town chooses to pursue grant funding.

The proposed project is an eligible project under the Bicycle and Pedestrian Program. The funding shares are 80% Federal/State and 20% local. However, if a project funded under this program does not proceed to construction, any funds provided for the preliminary and design phases are subject to being paid back by the municipality. Grant applications are accepted annually and are generally due in June.

The Transportation Alternatives Program, also administered by the Municipal Assistance Bureau, is an option for funding design. As the maximum Federal award under the Transportation Alternatives Program is limited to \$600,000, this is not an option for funding the construction phase for the entire route. The Transportation Alternatives Program has an award range of \$20,000 to \$600,000 and the local match is 20%. A minimum of 50% of the local match must be a cash expenditure, with the remainder of the local match as “in-kind” services; however, an in-kind match is not required, and the entire local match may be a cash expenditure. The use of “in-kind” services requires approval from VTrans and is not guaranteed. Grant applications are accepted annually and are generally due in November.

The speed tables are eligible for funding under both the Bicycle and Pedestrian Program and the Transportation Alternatives Program if they are part of the sidewalk project. However, if the speed tables are a standalone project, they would not be eligible for funding under either program.

5.2 PHASING CONSIDERATIONS

The Town may consider phasing the project for financial reasons. Typically, there may be a logical point at which to end a phased project; however, in this case, there is no location along Grandview Street that is better to end the phase. Therefore, the phases could be solely determined by available funding. It is important to note that VTrans funding does require a logical termination to each “project”; therefore, if the project is phased, each phase would need to have a logical termination point.

Phase 1 would begin at the existing sidewalk in North Bennington and continue north along Route 67, crossing Hawks Avenue, and continue north on Grandview Street as far as funding allows. Ideally, a phased project would terminate at a driveway where the curb and sidewalk would be tapered down to match the driveway grade. This would eliminate any potential safety issues in the interim of the phasing.

Additionally, the speed tables could be installed with local funding in the next few years.

5.3 PROJECT SCHEDULE

The proposed project schedule for the sidewalk project funded through the VTrans Transportation Alternatives Program is shown in **Table 5.1**. This schedule can also be easily adjusted to accommodate any funding award date as the general timeline will remain the same.

Table 5.1: Proposed Project Schedule

Project Task	Date
Receive Approval of Scoping Study	January 2024
Town Approval of Grant Application	May 2024
Submit Grant Application	June 2024
Receive Notice of Grant Award	August 2024
Grant Agreement Executed	December 2024
Procurement for Design Services	January 2025
Design, Permitting & Right-of-Way	2025-2027
Bidding	Winter 2026/2027
Construction	2027

APPENDIX A

ARCHEOLOGICAL RESOURCE ASSESSMENT



HARTGEN

archeological associates inc

ARCHEOLOGICAL RESOURCE ASSESSMENT

Shaftsbury STP BP 21 (19)

Town of Shaftsbury
Bennington County, Vermont

HAA # 5930-11

Submitted to:

Dufresne Group
1996 Depot Street
Manchester Center, VT 05255

Prepared by:

Hartgen Archeological Associates, Inc.

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An ACRA Member Firm
www.acra-crm.org

March 2023

MANAGEMENT SUMMARY

VTrans Project Number: *Shaftsbury STP BP 21 (19)*

Involved State and Federal Agencies: *Vermont Agency of Transportation (VTrans)*

Phase of Survey: *Archeological Resource Assessment (ARA)*

LOCATION INFORMATION

Municipality: *Shaftsbury*

County: *Bennington*

SURVEY AREA

Length: *2710 feet (826 m)*

Width: *20 feet (6 m)*

Area: *1.24 acres (0.5 ha)*

RESULTS OF RESEARCH

Archeological sites within one and a half miles: *6*

Surveys in or adjacent: *None*

NR/NRE sites in or adjacent: *None*

Precontact Sensitivity: *Low*

Historic Sensitivity: *Low*

RECOMMENDATIONS

Due to the low precontact sensitivity and low potential for finding significant historic period archeological deposits, no further work is recommended.

Report Authors: *Brant W. Venables, Ph.D., RPA*

Date of Report: *March 2023*

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ARCHEOLOGICAL RESOURCE ASSESSMENT

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted an Archeological Resource Assessment for the proposed Shaftsbury STP BP 21 (19) project (Project) located in the Town of Shaftsbury, Bennington County, Vermont (Map 1). The Project requires approval by the Vermont Agency of Transportation (VTrans). This investigation was conducted to comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and will be reviewed by the Vermont Division for Historic Preservation (VDHP). This investigation adheres to the Vermont State Historic Preservation Office's (SHPO) *Guidelines for Conducting Archeology in Vermont* (2017).

2 Project Information

Rachel Freeman conducted a site visit on November 22, 2022 to observe and photograph existing conditions within the Project Area. The information gathered during the site visit is included in the relevant sections of the report.

2.1 Project Location

The Project is located in the Town of Shaftsbury along Hawks Avenue and Grandview Street (Map 2).

2.2 Description of the Project

The project entails a scoping study to evaluate alternatives for new sidewalks on Hawks Avenue and Grandview Street in Shaftsbury. The project area extends along the west side of Grandview Street from the north end of the existing sidewalk at the Shaftsbury/Bennington town line to Elm Street at the north end and along the south side of Hawks Avenue from Grandview Street on the east to White Creek Road at the town line on the west end.

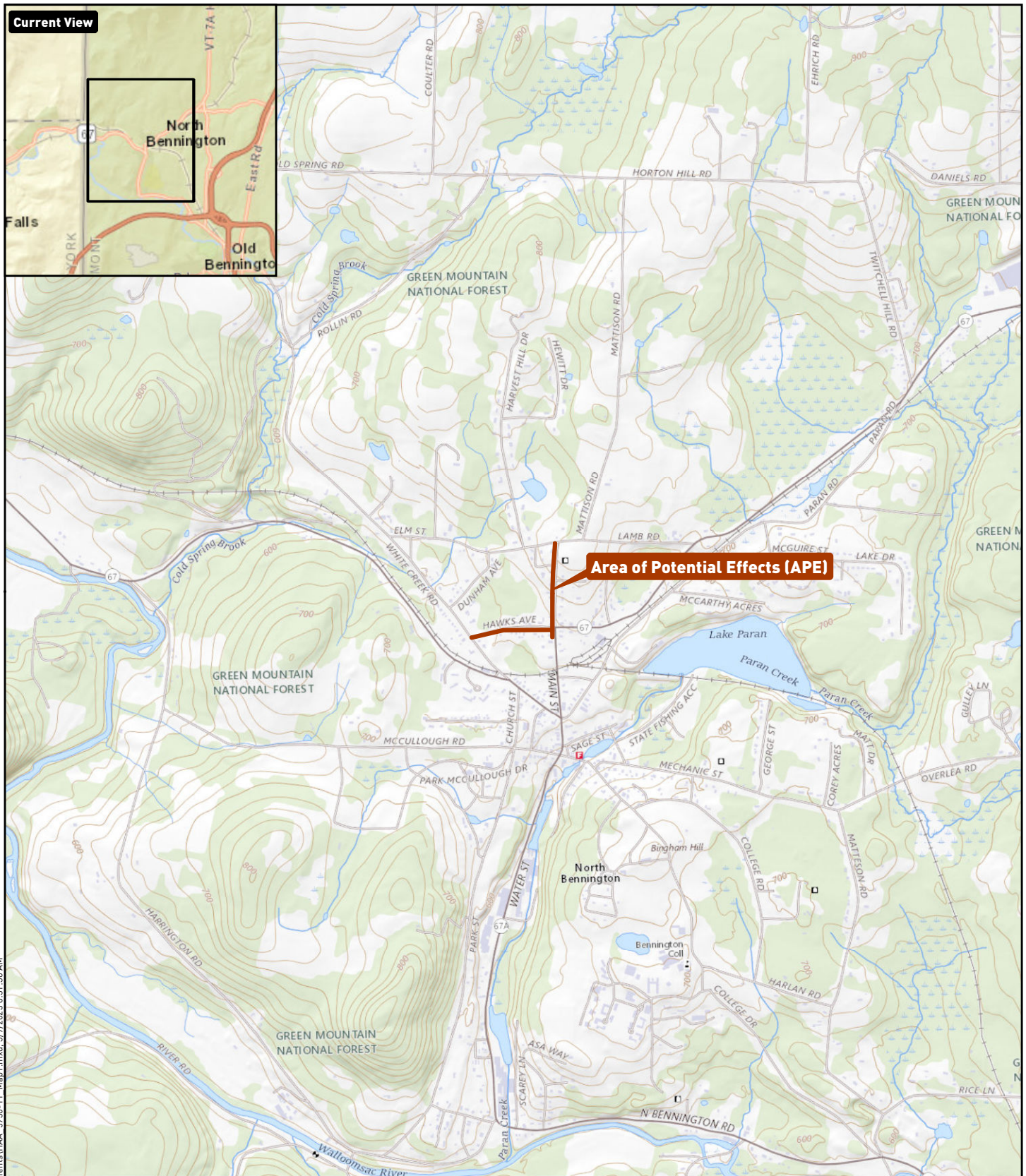
2.3 Description of the Area of Potential Effects (APE)

The area of potential effects (APE) includes all portions of the property that the proposed undertaking will directly or indirectly alter. The APE encompasses 1.24 acres (0.5 ha).

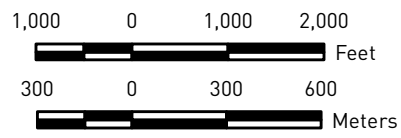
For the purpose of this study, the Project Area and APE are considered to be synonymous and the terms are used interchangeably.

3 Environmental Background

The environment of an area is significant for determining the sensitivity of the Project Area for archeological resources. Precontact and historic groups often favored level, well-drained areas near wetlands and waterways. Therefore, topography, proximity to wetlands, and soils are examined to determine if there are landforms in the Project Area that are more likely to contain archeological resources. In addition, bedrock formations may contain chert or other resources that precontact groups may have quarried. Soil conditions can provide a clue to past climatic conditions and changes in local hydrology.



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Note: Contour interval is 20 feet.

Project Location

GIS Services Accessed 3/9/2023:
 Environmental Systems Research
 Institute, Inc., World Street Map;
 USGS The National Map



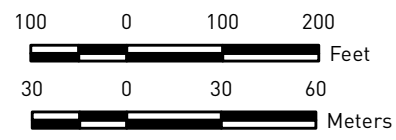
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archeological associates inc

Map 1



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Legend

- Photo Angle
- Area of Potential Effects (APE)

Project Map



Vermont Center for Geographic Information, Orthoimagery, 2022

Map 2

3.1 Present Land Use and Current Conditions

The Project area runs alongside the paved roads of Grandview Street and Hawks Avenue. In the north, the APE starts at the intersection of Grandview Street and Lamb Road (Photo 1). On the east side of the road near this intersection is the Grandview Cemetery, the earliest burial of which dates to 1767 (Town of Shaftsbury Cemetery Department 2023). The cemetery's area and some of the property adjacent south of the cemetery are distinctly higher than the present road, indicating that significant grading along this area of Grandview occurred (Photos 1 and 2). Further along Grandview, the land on either side lowers to approximately the same height as the road with an asphalt drainage ditch on the west side of the road (Photos 3 and 4). The APE then comes to an intersection with Grandview Street, Hawks Avenue, Route 67, and Main Street (Photo 5).

Hawks Avenue is slightly raised above the level of adjacent yards on either side near the intersection with Grandview (Photo 6). On the south side of Hawks Avenue are drainage ditches that begin at the Grandview Street intersection and continue the length of the road (Photos 7 – 9). Near the bend in Hawks Avenue the slope of the yard areas transition from being at or below the grade of the road to being at or above the grade of the road (Photo 8). The continued presence of the drainage ditch in this area indicates grading that lowered Hawks Avenue below the natural surface level with additional excavation to create the drainage ditch channel in this area. The Project terminates at the Hawks Avenue and Bank Street intersection. As Hawks Avenue approaches this intersection the road returns to be approximately at the same level of the adjacent yard areas (Photo 9). The drainage ditch flows into a storm drain with a fire hydrant nearby, indicating an extensive subsurface disturbance in the area (Photos 9 and 10).



Photo 1. View from the Grandview Street and Lamb Road intersection. Note the Grandview Cemetery (left). View facing south.



Photo 2. View along Grandview Street. Note the rise of the landform to the left of the road and the downward slope from the right shoulder of the road indicating significant grading occurred during the construction of the roadbed. View facing south.



Photo 3. View along Grandview Street. Note the paved drainage ditch along the shoulder. View facing south.



Photo 4. View along Grandview Street towards the intersection of Hawks Avenue (background). View facing south.



Photo 5. View of the intersection of Grandview Street (center background), Hawks Avenue (left middle ground), and Route 67 East (right middle ground). Note the large asphalt patch along the shoulder by the intersection which then transitions to gravel. View facing north.



Photo 6. Looking from Hawks Avenue towards the Grandview Street intersection. View facing east.



Photo 7. View of Hawks Avenue. Note the drainage ditches on either side of the road. View facing east.



Photo 8. View along Hawks Avenue. Note the grass drainage ditch and elevated yard, indicating the area of the road and shoulder was graded. View facing west-southwest.



Photo 9. View of Hawks Avenue (left) looking from the intersection with Bank Street. Note the fire hydrant in the foreground. A close-up view is in Photo 10. View facing east-northeast.



Photo 10. Close-up of the drainage grate and fire hydrant at the Hawks Avenue and Bank Street corner. View looking east-northeast.

3.2 Soils

Soil surveys generally characterize the types and depths of soil found in an area. This information is important in determining the appropriate methodology if and when a field study is recommended. The soil type also informs the degree of artifact visibility and likely recovery rates. For example, artifacts are more visible and easily recovered in sand than in stiff glacial clay, which will not easily pass through a screen. The soils in the area indicate that the knolls and outwash terraces of the area were formed during the last Ice Age when glaciers covered much of New England (United States Department of Agriculture (USDA) 2023).

Table 1. Soils in Project Area

Symbol	Name	Depth	Textures	Slope	Drainage	Landform
64C	Stockbridge	0 – 155cm (0 – 61in)	Loam	8 – 15%	Well drained	Knolls / Summit Knolls / Shoulder Knolls / Backslope Hills / Summit Hills / Shoulder Hills / Backslope
70B	Groton	0 – 165cm (0 – 65in)	Gravelly fine sandy loam	3 – 8%	Excessively drained	Outwash terrace

3.3 Bedrock Geology

The bedrock in the Project Area is in the Clarendon Springs Formation and Chipman Formation – Bascom Formation (Ratliff 2011). The Chipman Formation – Bascom Formation comprises dolostone and dolomitic limestone or calcite marble and calcareous sandstone. Native American groups did not typically use this formation for stone tool manufacture. The Clarendon Springs Formation comprises calcitic dolostone grading upward into more fissile calcitic dolostone containing white quartz knots near the top. Adrian Burke has previously identified Clarendon Springs formations north of Shaftsbury as a chert source utilized by Native American groups (Burke 1997). It is therefore possible the formation in this area was also a source for chert used in stone tool manufacture.

3.4 Physiography and Hydrology

The Project Area is in flat valley terrain with low hills to the west and south. Lake Paran is east of the Project's location with Paran Creek to the south. Additional unnamed creeks and ponds are located to the north and a wetland is to the east of the project. These waterways likely supported precontact occupation and were known to have been used as a power source for Shaftsbury's various mill industries in the 19th century (Town of Shaftsbury 2022).

4 Documentary Research

Hartgen conducted research at the Vermont Division for Historic Preservation (VDHP) to identify previously reported archeological sites, State and National Register (NR) properties, properties determined eligible for the NR (NRE), and previous cultural resource surveys.

4.1 Archeological Sites

The archeological site files at VDHP contained six sites within 1 ½ miles (2.4 km) of the Project Area (Table 2). Previously reported archeological sites provide an overview of the types of sites that may be present in the APE and the relationship of sites throughout the surrounding region. The precontact sites indicate consistent occupation of the area since the Early Archaic through the Late Woodland. The Burden & Sons Blast Furnace (VT-BE-0036) represents the industrial development of Vermont.

Table 2. Vermont Archeological Inventory (VAI) sites within 1 ½ miles (2.4 km) of the Project Area

VAI Site No.	Site Identifier	Description	Proximity to Project Area
VT-BE-0027	Unnamed Site	Precontact site; artifacts include two large chert bifaces and approximately 15 projectile points found by the landowner dating to the Early, Late and Terminal Archaic and the Middle and Late Woodland.	7,400 feet south
VT-BE-0036	Burden & Sons Blast Furnace	Historic site; in 1873, at the height of Burden & Sons, this was the site of Vermont's largest capacity blast furnace. By 1900, the remains consisted of scattered slag, bricks, a dam, and a mound where the furnace was located.	6,500 feet northeast
VT-BE-0570	Unnamed Site	Precontact site; found among hearth features on a floodplain terrace of Paran Creek; artifacts include 9 Onondaga chert projectile points, 1 Cocksackie chert projectile point, 1 Cocksackie chert biface, one quartzite modified flake tool (knife), 1 Ramah Bay chert utilized flake tool, one crystal quartz scraper, one sandstone sinew stone, one unknown material debitage, two unknown chert debitage, 34 "Western Onondaga" chert debitage, 1,507 Onondaga chert debitage, 46 Cocksackie chert debitage, 53 Normanskill chert debitage, 21 quartzite debitage, four milky quartz debitage, 50 crystal quartz debitage, 26 Ramah Bay chert debitage and 134 quartzite fire-cracked rock, and several fragments of calcine bone. AMS dating of a bone indicates a Middle Woodland date.	5,900 feet northeast
VT-BE-0571	Unnamed Site	Precontact and historic site; three quartzite debitage were recovered between a historic flume/channel and a railroad line related to the late-19 th century Burden & Sons ironworks. No historic artifacts or features were identified.	6,000 feet northeast
VT-BE-0572	Unnamed Site	Precontact site; artifacts include one milky quartz drill, one small expended Normanskill chert core,	7,000 feet northeast

VAI Site No.	Site Identifier	Description	Proximity to Project Area
		one broken early-stage quartzite biface, 11 fragments of quartzite fire-cracked rock, and 129 lithic debitage specimens. The debitage includes one derived from unknown chert, 11 from Onondaga chert, 36 from Cocksackie Normanskill chert, 60 from Normanskill chert, seven from quartzite, eight from milky quartz, and one from crystal quartz. Artifacts were recovered from a previously plowed field.	
VT-BE-0573	Lake Paran Village	Precontact site; artifacts include two grey chert flakes and two fire-cracked rocks found in two loci.	1,200 feet east

4.2 Historic Properties

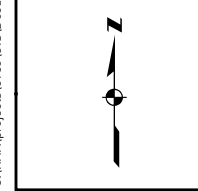
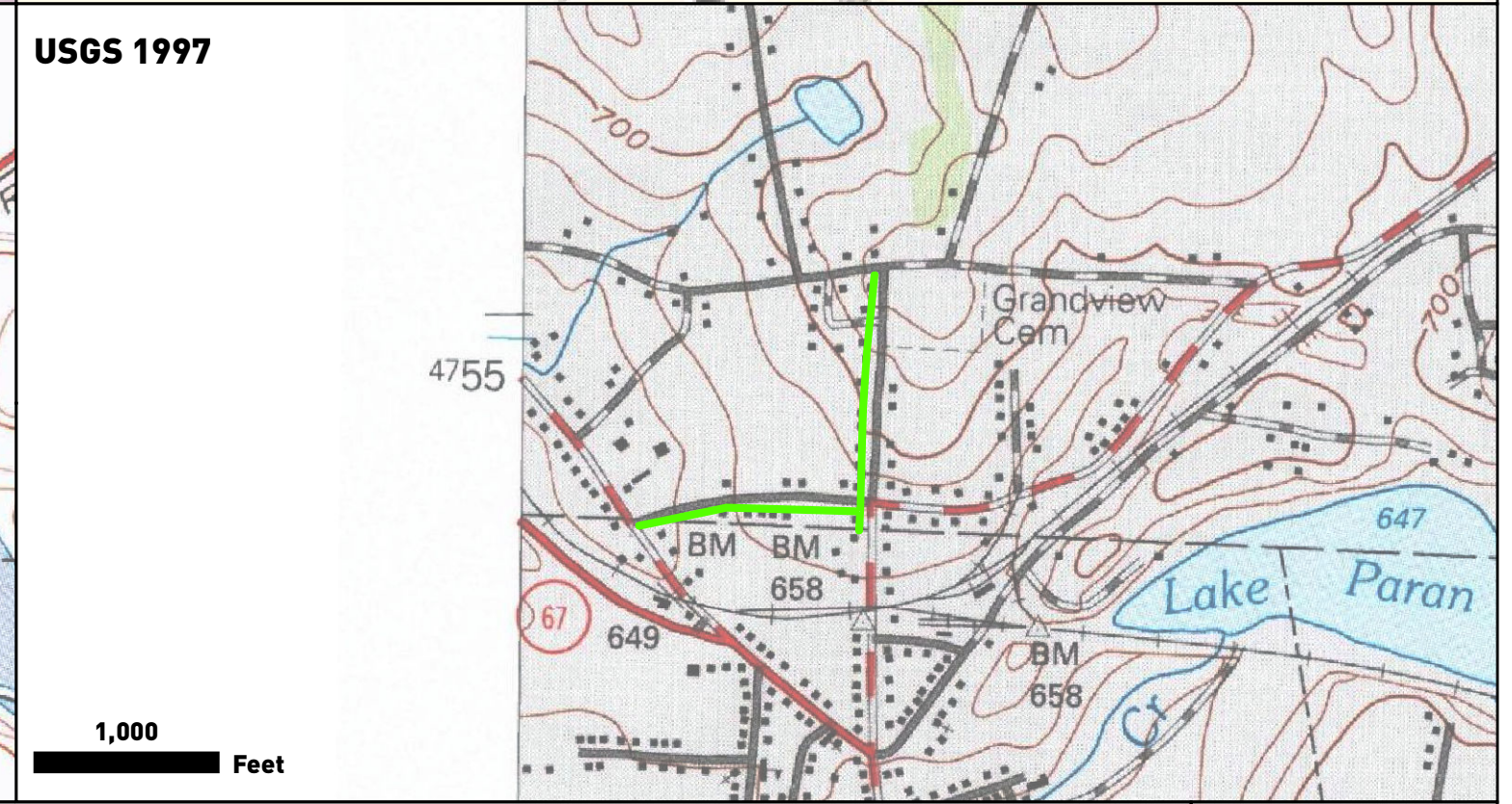
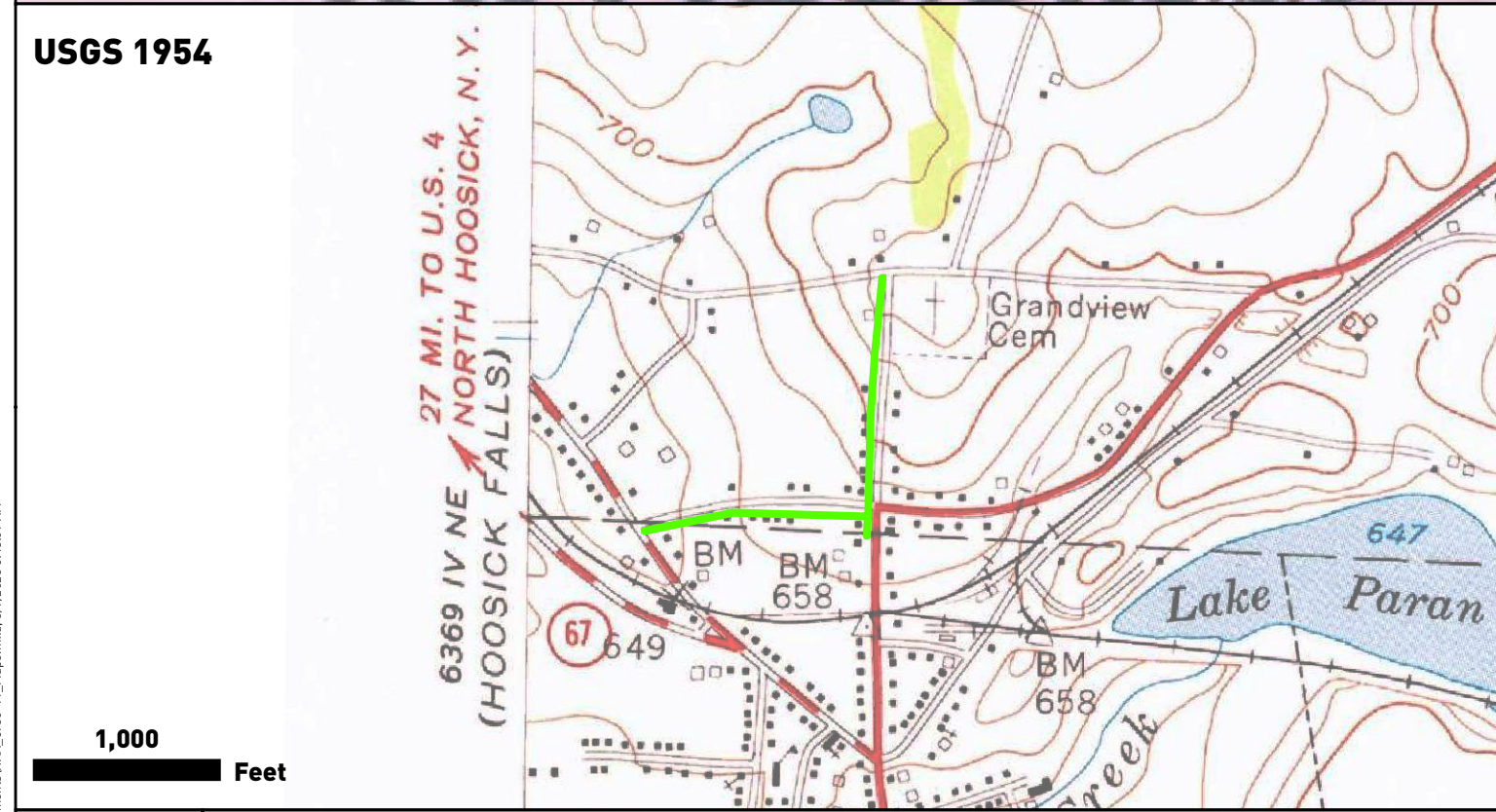
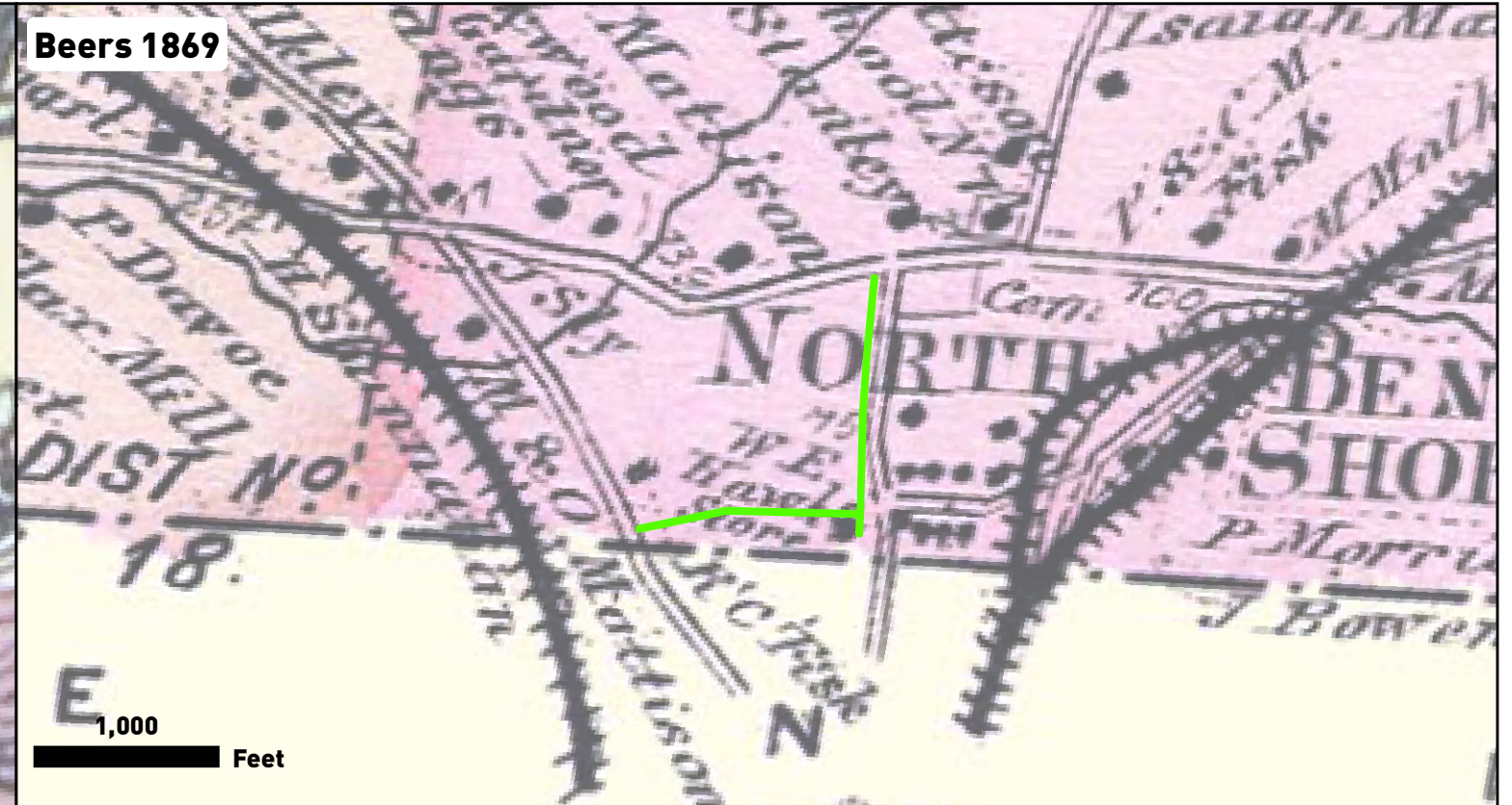
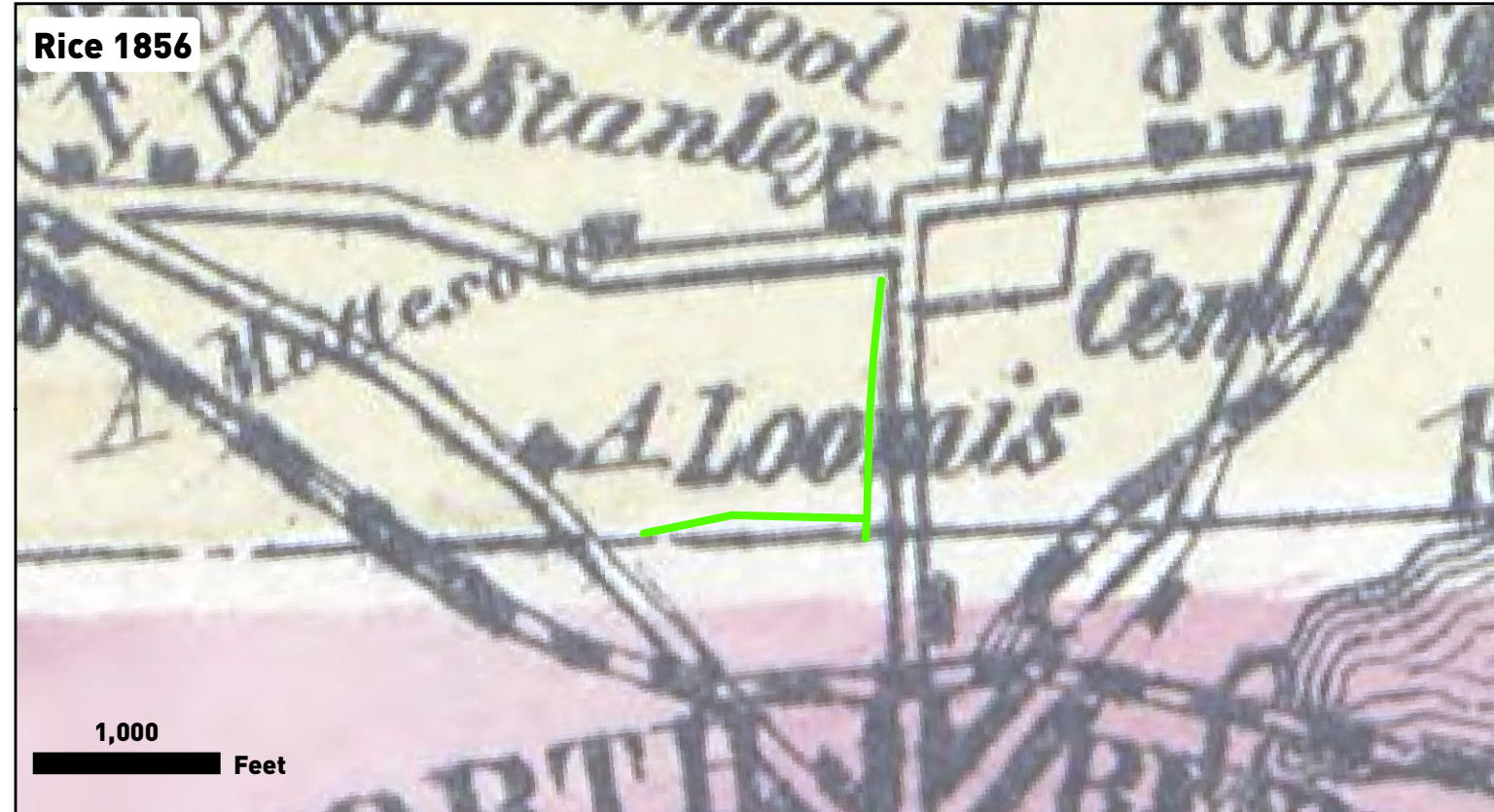
An examination of the files at VDHP identified no NR properties, no NRE properties, no properties previously determined to be ineligible, and no properties of undetermined status within the APE.

4.3 Previous Surveys

On file at VDHP are no previous surveys within the immediate vicinity of the Project.

5 Historical Map Review

Historic maps indicate that the present roads did not take their current shape until the 20th century (Map 3). Shaftsbury was chartered in 1762, and this charter included a share of land to establish a school (Town of Shaftsbury 2022). According to the Rice 1856 and Beers 1869 maps, the immediate area of the APE was undeveloped. However, the town of Shaftsbury was well established by this time with multiple residences and School Number 7 shown on historic maps (Beers 1869; E. Rice and C.E. Harwood 1856). By the early 19th century, 18 school districts each served about 2 square miles (Town of Shaftsbury 2022). Based on the map designation of the school as “Number 7,” it is unlikely that this school dates to the initial founding of Shaftsbury. Regardless, the school and residences in this area are located south of the APE. The primary agricultural products of Shaftsbury were salts, created by burning hardwood trees to ash, sheep, and dairy farming (Town of Shaftsbury 2022).



Legend

Area of Potential Effects (APE)

Historical Maps **HARTGEN**
 archeological associates inc

1856-1997 **Map 3**

C:\HAI\projects\5930\GIS\Documents\HAA_5930-11_Map3.mxd, 3/9/2023 8:43:09 AM

6 Archeological Discussion

6.1 Precontact Archeological Sensitivity Assessment

Completing the VDHP Environmental Predictive Model provides a measure of the precontact archeological sensitivity of the project area (Appendix 1). The Project Area is sensitive for a high recorded site density (see Table 2). Points were also added for the Project Area's location near waterways that could have been used as a travel corridor and for obtaining various resources. The score was reduced due to the present roads' disturbance and Shaftsbury's modern development. The Project Area has a score of 12. A score of 32 and above is considered to indicate precontact sensitivity.

6.2 Historic Archeological Sensitivity Assessment

The historic sensitivity of an area is based primarily on proximity to previously documented historic archeological sites, map-documented structures, or other documented historical activities (e.g. battlefields).

Although Shaftsbury was founded in the mid-18th century, historic maps indicate that the area of the APE went undeveloped during the majority of the 19th century. It was not until Hawks Avenue was constructed at the turn of the century that the area of the Project began to get developed with multiple residences depicted on maps by 1954 (see Map 3). Although Grandview is present on 19th century maps there are no map documented structures on the southern side of the Grandview and Elm Street intersection. It is plausible that these undeveloped areas were used as pastures for sheep and dairy farming, a staple of Shaftsbury's economy in the 19th century. Such activities would leave little, if any, archeological remains of significance.

6.3 Archeological Potential

Archeological potential is the likelihood of locating intact archeological remains within an area. The consideration of archeological potential considers subsequent uses of an area and the impact those uses would likely have on archeological remains.

Due to the area's development during the 20th century, including the construction of Hawks Avenue, there is a low potential for finding precontact archeological deposits. The site visit indicates that at least the northern half of Grandview Street has been substantially graded. Evidence of grading to lower the road below the natural terrain level is also present along the length of Hawks Avenue. There is no historic map evidence that the area saw development or utilization that would have been likely to leave significant historic deposits. Therefore, there is a low probability of finding significant historical archeology deposits throughout the APE.

7 Recommendations

Due to the low precontact sensitivity and low potential for finding significant historic period archeological deposits, no further work is recommended.

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Appendix 1: VDHP Environmental Predictive Model

VERMONT DIVISION FOR HISTORIC PRESERVATION
Environmental Predictive Model for Locating Pre-contact Archaeological Sites

Project Name
DHP No.

County
Map No.

Staff Init.

Town
Date

Additional Information

Environmental Variable	Proximity	Value	Assigned Score
A. RIVERS and STREAMS (EXISTING or RELICT):			
1) Distance to River or Permanent Stream (measured from top of bank)	0- 90 m	12	
	90- 180 m	6	
2) Distance to Intermittent Stream	0- 90 m	8	
	90-180 m	4	
3) Confluence of River/River or River/Stream	0-90 m	12	
	90 –180 m	6	
4) Confluence of Intermittent Streams	0 – 90 m	8	
	90 – 180 m	4	
5) Falls or Rapids	0 – 90 m	8	
	90 – 180 m	4	
6) Head of Draw	0 – 90 m	8	
	90 – 180 m	4	
7) Major Floodplain/Alluvial Terrace		32	
8) Knoll or swamp island		32	
9) Stable Riverine Island		32	
B. LAKES and PONDS (EXISTING or RELICT):			
10) Distance to Pond or Lake	0- 90 m	12	
	90 -180 m	6	
11) Confluence of River or Stream	0-90 m	12	
	90 –180 m	6	
12) Lake Cove/Peninsula/Head of Bay		12	
C. WETLANDS:			
13) Distance to Wetland (wetland > one acre in size)	0- 90 m	12	
	90 -180 m	6	
14) Knoll or swamp island		32	
D. VALLEY EDGE and GLACIAL LAND FORMS:			
15) High elevated landform such as Knoll Top/Ridge Crest/ Promontory		12	
16) Valley edge features such as Kame/Outwash Terrace**		12	

17) Marine/Lake Delta Complex**		12	
18) Champlain Sea or Glacial Lake Shore Line**		32	
E. OTHER ENVIRONMENTAL FACTORS:			
19) Caves /Rockshelters		32	
20) <input type="checkbox"/> Natural Travel Corridor <input type="checkbox"/> Sole or important access to another drainage <input type="checkbox"/> Drainage divide		12	
21) Existing or Relict Spring	0 – 90 m	8	
	90 – 180 m	4	
22) Potential or Apparent Prehistoric Quarry for stone procurement	0 – 180 m	32	
23)) Special Environmental or Natural Area, such as Milton aquifer, mountain top, etc. (these may be historic or prehistoric sacred or traditional site locations and prehistoric site types as well)		32	
F. OTHER HIGH SENSITIVITY FACTORS:			
24) High Likelihood of Burials		32	
25) High Recorded Site Density		32	
26) High likelihood of containing significant site based on recorded or archival data or oral tradition		32	
G. NEGATIVE FACTORS:			
27) Excessive Slope (>15%) or Steep Erosional Slope (>20)		- 32	
28) Previously disturbed land as evaluated by a qualified archeological professional or engineer based on coring, earlier as-built plans, or obvious surface evidence (such as a gravel pit)		- 32	
** refer to 1970 Surficial Geological Map of Vermont			
			Total Score:
Other Comments :			
0- 31 = Archeologically Non- Sensitive 32+ = Archeologically Sensitive			

APPENDIX B

HISTORIC RESOURCES IDENTIFICATION

APPENDIX C

LOCAL CONCERNS MEETING MINUTES

Memo



56 Main Street, Suite 200
Springfield, VT 05156
(t) 802.674.2904
dufresnegroup.com

To: All Attendees
From: Christina Haskins, PE
Date: September 14, 2022
Re: Grandview/Hawks Pedestrian Scoping Study

The following are the minutes for the September 14, 2022 Local Concerns Meeting held at the Town Office at 6:30 PM for the above referenced project.

<u>Individual</u>	<u>Representing</u>
David Kiernan	Town of Shaftsbury (Town Administrator)
Art Whitman	Town of Shaftsbury (Selectboard)
Mark Anders	Bennington County Regional Commission
Peter Pochop	VTrans MAB
Chrissy Haskins, PE	Dufresne Group
8 Community Members (Virtual and In-Person)	

1. Chrissy presented a summary of the project area and goals, as well as an overview of the next steps and process.
2. Public Comments:
 - a. The schedule for sidewalk construction appears to be 3-4 years out. Is there any way to expedite this? Every day that goes by where children are walking on the road is a major issue.
 - i. Chrissy responded that it was possible to shorten the schedule. This is largely dependent on the environmental review (typically 8-9 months) and the right-of-way phase.
 - ii. Mark added that this is the timeline for VTrans funding. If the project was locally funded, the sidewalk could be completed much faster. Chrissy added a locally funded sidewalk could be done within 1 year.
 - iii. David noted that local funding would require a bond vote, which would not happen until 2024.
 - b. A property owner has areas in the front lawn that need attention and has been waiting for a sidewalk concept to see where the sidewalk may be located so fencing and other work can be done.
 - i. David noted that the Town ROW is 50 feet, 25 feet from the center of the road. It is preferred to keep the sidewalk in the right-of-way.
 - c. A long time resident commented that there are a lot of kids in the neighborhood and constant pedestrian traffic up and down the hill. It is hard for older or disabled people to get out of the way quickly. Kids are walking to school. The neighborhood went from mostly older residents to many young families. Residents and other users will really benefit from sidewalk improvements.

- d. Are there any short term or interim solutions? Possibly solar speed signs to slow vehicles, or other traffic calming efforts? There are so many young children using these roads.
 - i. David responded that the Town could install a portable speed sign or possibly lower the speed limit. He noted that a new ordinance is being introduced in the next few weeks that will lower the speed limit from 35 to 25. David also suggested speed tables, although these introduce plowing issues.
 - e. This is a necessity. It will be expensive, but that is not a reason to not do it. These streets need to be walkable and safe for children to walk to school. Non-economic factors will outweigh the cost. It is essential for safety. Do not fall back on interim solutions as potentially permanent solutions.
 - f. On Grandview, when someone is walking, two cars cannot pass safely. One has to stop.
 - g. Agree with the need for sidewalks and safety improvements on Grandview, but Hawks is different and does not have the same issues with ditches and topography. Grandview and Hawks should be considered separately. The biggest issue on Hawks is speed and truck traffic. There are no issues with space for pedestrians as they can step off the road onto the grass.
 - i. Art responded that Hawks provides connectivity for funding purposes. The connection to Banks is important for connectivity.
 - ii. A resident responded that Hawks is already walkable.
 - h. Hawks residents already feel connected and Hawks should not be included in the project. This would save the town money.
 - i. What can be done at the neighborhood level? Some people use the children playing signs (little green guys with flags). Two are on the hill on Grandview, but they fall over when its windy.
 - i. David responded that the Town will look at interim solutions.
 - j. Is the connection to Banks required for the project to continue? Could the other street considered be Elm?
 - i. David responded that the grant is for Grandview and Hawks. Mark confirmed the scope of the grant, but noted that another study could be completed to look at Elm.
 - k. Is an extension into North Bennington included?
 - i. Chrissy confirmed that the project does include an extension to the sidewalk network in North Bennington on Main Street.
 - l. Is speed reduction being considered on other roads (outside of this study)?
 - i. David responded that there is a list on the town website for the upcoming changes.
 - m. Would Grandview be able to be constructed faster without Hawks included? Would it be less expensive?
 - i. Chrissy noted that it would certainly be less expensive, but not faster as the project would still need to follow the VTrans funding process which has several tasks that are unrelated to project size.
 - n. Could a 3-way stop be provided at Grandview/Elm/Lamb?
 - i. The Town will consider this. It is not part of the study.
3. David reminded participants that the next meeting will be advertised on the Town's website and an email will be sent to the neighborhood list.

APPENDIX D

ALTERNATIVES PRESENTATION MINUTES

Shaftsbury Select Board Special Meeting

April 27, 2023

In person at Cole Hall and remotely via Zoom

Call to order

The meeting came to order at 6:30 p.m. Present were selectpersons Art Whitman (chair), Mike Cichanowski, Martha Cornwell, and Naomi Miller. Also present were Mark Anders, transportation planner for the Bennington County Regional Commission, and Chrissy Haskins of Dufresne Engineering.

Conflict of interest

No one reported a conflict of interest with any item on the agenda.

Grandview and Hawks Avenue sidewalk planning

Mr. Whitman noted that the Town sought and received a grant to explore placing sidewalks in the neighborhood. He said tonight's presentation on that project would offer a few options for residents and the town to consider.

Ms. Haskins presented. The goals of the project are to increase safety for pedestrians and to increase connectivity between the neighborhoods and North Bennington village.

The study found no environmental constraints of substance. (These might include wetlands, archaeological resources, endangered species, brownfield sites, and others.)

Criteria for the project were connectivity, minimizing easement requirements, and ADA compliance.

Alternatives considered included

Alternative 1: placing a five-foot sidewalk on the west side of Grandview, throughout its length lying within the right of way. Some trees and landscaping would need to come down and utility poles would need to be relocated. Storm drainage infrastructure would be required.

Alternative 2: placing the sidewalk on the east side of Grandview, within the right of way. Several trees and shrubs would need to be removed and four poles relocated. Storm drainage infrastructure would be required

Alternative 3: placing a sidewalk on the south side of Hawks Avenue. This would include curbing and would be within the right of way. This would require removal of trees and shrubs and relocation of several utility poles and perhaps a fire hydrant. Storm drainage infrastructure would be required

Alternative 4: placing a sidewalk on the north side of Hawks. There would be no curbing. Two poles and one fire hydrant might have to be relocated. It would be entirely within the right of way. Storm drainage infrastructure would be required

Speed tables were considered, but slope and lighting need to be explored.

Several criteria will be considered in ranking the alternatives, including road crossings, cost, maintenance, and others. Dufresne estimates that the alternatives, in order, would cost, in 2023 dollars, \$649,000; \$830,000; \$387,000; and \$412,000.

Next steps: the Select Board would choose a preferred alternative. Dufresne would refine that alternative. A draft report would be produced for the Town and Vtrans. A final presentation will be given and a final report will be submitted.

Questions, from the audience and selectperson, and answers followed.

If a speed table were to be placed, it would probably be placed about half-way up Grandview. A speed table could be placed on Hawks Avenue, on which there is already a street light. Each will be added as a line item in the final proposal.

A resident of the west side of Grandview said her family would be glad to have trees taken down for a sidewalk.

Mr. Whitman said the state is reviewing a request to sign Grandview regarding the presence of a blind child.

Ms. Haskins said the sidewalks would not impact water or sewer, but the storm drains could possibly impact those utilities. There are ways to work around them. All service mains would be mapped and located before the final plans were prepared.

Ms. Haskins said the new drainage system would be along the curb line on the road's edge.

Residents complained about truck traffic on Hawks Avenue. A resident asked that Hawks Avenue be made one way east to west.

A resident asked for speed tables immediately.

Mr. Whitman said signage re the 25m.p.h. speed limit will go up shortly and the new sheriff will begin enforcing the limit.

A resident said a light is needed at Grandview and Hawks.

A resident asked if there are other neighborhoods with sidewalks that might be referenced in seeking public support for a bond for the project. Mr. Kiernan noted the village sidewalk project and said he could provide present-day costs for it for discussion purposes. Mr. Kiernan said if the project were to be funded by state and federal funds, with a twenty-percent match being provided by the town, a bond might not be needed. A sinking fund could be instituted instead, since the start date would be a few years off. Mr. Anders noted that the competition for state and federal funds is high. Ms. Haskins said the project would be much less expensive if Vtrans were not involved. She also said the projects could be phased, one road at a time, and that the smaller projects might be more competitive.

Ms. Haskins said Vtrans could not fund a drainage only project (with soil rather than a sidewalk on top) because their projects have to be ADA compliant.

Ms. Haskins said the design cost would be about half, depending on what the town wants, if Vtrans funds were not used. Construction costs would also be less.

Ms. Haskins said Vtrans sometimes allows asphalt instead of concrete and sometimes does not.

Mr. Kiernan summarized next steps: survey the residents (via mail); phase 1, speed table designs and costs for both streets; phase 2, Grandview; and phase 3, Hawks.

The select board entered a discussion of the presentation. Questions included how the citizenry at large would respond to a bond request. The board wondered whether speed tables would serve to answer citizen complaints and perhaps make sidewalks unnecessary.

Mr. Kiernan said the new sheriff's office has been extremely cooperative.

The next select board meeting will be held on May 1.

Mr. Cichanowski noted that the citizen's scale at the transfer station is not functional. Mr. Kiernan said a new one will be installed. Or maybe a fee based on bag size would be better. It was agreed that the Select Board will discuss that option.

Adjournment

Ms. Cornwell moved to adjourn at 7:50 p.m. Ms. Miller seconded the motion, which passed 4-0-0.

Shaftsbury Selectboard Meeting

Monday May 15, 2023

In person at Cole Hall and remotely via Zoom

1. Call to Order

The meeting came to order at 6:30 p.m. Present were selectpersons Art Whitman (chair), Tony Krulikowski, Mike Cichanowski, and Naomi Miller. Also present was town administrator David Kiernan.

2. Conflict of Interest Statement

No one reported a conflict of interest with any item on the agenda.

3. Minutes

Ms. Miller moved to approve the minutes of the special meeting on the sidewalk project held on April 27. Mr. Cichanowski seconded the motion, which passed 3-0-1.

4. Warrants

Payroll warrant # 22, \$26,222.01. Mr. Cichanowski moved to approve the warrant. Mr. Krulikowski seconded the motion, which passed 4-0-0.

Check warrant # 37, \$24,614.22. Mr. Cichanowski moved to approve the warrant. Ms. Miller seconded the motion, which passed 4-0-0.

5. Announcements

There were none.

6. Public Comments

There were none.

7. Bill Carmada – Bennington Rescue -EMS Week

Executive Director Carmada said this is the 60th year of service by Bennington Rescue. He offered to answer any questions.

He said recruitment is better than average, with 25 active employees and two part-time employees (about 80% of the staff they'd like to have). Training requirements are significant. Compensation to the squad isn't keeping up with inflation. They are seeking grants. Most of the grants can't be used for operational expenses but are targeted for specific projects.

Training for the public will be held on May 25, including CPR and how to stop bleedingg, and a celebration for the staff will be held on May 26.

Mr. Carmada suggested townsfolk could urge their state and federal representatives to fund EMS.

Mr. Whitman noted that Shaftsbury includes funding for the squad as a line item in the budget.

8. Treasurers Report

Ms. Dexter shared the cash flow report for April. She said we are where we'd like to be for this time of year.

The reserve fund contains one item in May – water bills.

The external audit will begin in late June.

She is still hoping the town won't have to take out a line of credit, but can't be sure at this time.

9. State Hearing Scheduled - No Parking Zone VT Route 7A and Church NW Corner

A Vtrans hearing will be held later this month in Barre regarding a new no parking designation for this busy corner. A remote hearing provision will be available and will be posted on the Town's website. After approval of the change, state employees will re-stripe the corner.

10. Grandview and Hawks Sidewalk Survey

Following the special meeting on the project in April, a survey was sent to all landowners on the two streets. Mr. Kiernan shared the results.

Hawks Avenue residents do not want sidewalks (8 no, 1 no preference), and by only a small majority want a speed table (6 yes, 5 no). Mr. Kiernan has asked BCRC to evaluate vehicle use on that street. Every respondent on Grandview wants a sidewalk (11 yes, 0 no) and the large majority want a speed table. These responses will be sent to the engineer to assist them in their designing efforts. Meanwhile, sheriffs will be newly monitoring speeding in the neighborhood. (The 25 mph signs are now up.) Naomi Bindman reported she'd done her own survey on Hawks Avenue and that the real problems on Hawk Ave. are speeding, heavy truck traffic, and lack of enforcement. Most agree that a one-way street or a cul-de-sac ending at Bank St. would both be desirable. Ann Pibal asked the Select Board to consider other kinds of projects, such as limiting truck traffic, or turning it into an east-to-west boulevard with more trees and green space. Darren Brundino said there is no weight limit sign. Mr. Whitman said the Town has no jurisdiction over weight limits on Hawk Avenue. That is a State function.

At the request of Ms. Bindman each selectperson weighed in on a speed table. Mr. Kiernan said there are still a lot of questions to be answered regarding the speed table. Mr. Krulikowski said he is unsure. Mr. Cichanowski said he is not opposed to it. Ms. Miller wondered where the desire to not install speed tables comes from, but that the decision should be guided to some extent by what the residents want. Mr. Yannotti said he's had not experience with speed tables, but has talked with towns which have had them. They are effective at slowing traffic down, but deteriorate very quickly because of our wintertime conditions.

Ms. Pibal asked if the engineers could examine other options mentioned by residents of Hawk Avenue. Mr. Kiernan said he would review the grant to see if that is possible.

Mr. Kiernan said the last traffic survey on Grandview found that the average speed during the survey of 1782 vehicles was 25 m.p.h. with 72 enforceable speed violations. The same sort of survey will be done shortly by BCRC on Hawks Ave.

11. DPW Report

- Buck Hill Paving Bid will be going out shortly. It will be paid for by a Vtran Class 2 roads grant received a couple of years ago for \$153,400, \$30,000-\$40,000 of which is the Town share. Mr. Yannotti said the cost may have gone up since the grant was awarded. The seven culverts on Buck Hill will be installed by the Town. Mr. Yannotti has been waiting for the school year to end to begin that work. The Town crew will do ditching along Buck Hill in preparation for the paving.

- A bid for a Trumbull Hill Grant in Aid project to replace five culverts and do about 1000' feet of stone-lined ditching will go out shortly. The Town match is less than \$10,000.

The town crew is going to work on a box culvert on Laclair Rd. that has filled with sediment since its installation in 2008. The problem seems to be fish baffles, which will be removed (the stream does not support fish). There is a similar problem on Bennett Hill, where a stream is threatening to erode the road. A State permit has been issued.

New speed limit signs have been put up. He'll need to purchase more signs to complete the project.

Roadside mowing will start this week.

The bids will be opened at the first selectboard meeting in June.

12. Transfer Station PAYT Change in Procedure and Pricing

Mr. Kiernan said the scale has been fixed, but noted that Pownal, Bennington, and Sunderland find it efficient and accurate to charge by the bag and he'd like Shaftsbury to do the same. He said the transfer station isn't covering its own costs and an increased fee will help reduce that shortfall. Mr. Kiernan described the proposed changes, which should become effective July 1.

Mr. Kiernan will post the proposed changes on the Town website. The board can then vote after receiving public comment.

13. Appointment to Cemetery Committee: Rosemary Lindsey

Mr. Krulikowski moved to appoint Ms. Lindsey to the cemetery committee. Ms. Miller seconded the motion, which passed 4-0-0.

14. Other Business

Mr. Kiernan said perhaps issues with registering as interveners in the PUC process described by Ms. Miller can be attributed to his being the "administrator" for the EPUC site. He will look into it further.

Mr. Krulikowski thanked those who participated in Green Up Day.

Ms. Miller noted that the Town has lots of free Covid tests. She urged folks to come and take as many as they wish.

15. Review of Action Items

Mr. Kiernan will post the notice about EMT training on the town's website.

Proposed transfer station fees will be posted on the website.

The Town will follow up with Dufresne re the sidewalk survey.

Mr. Yannotti will issue two bids.

Mr. Kiernan will post the link to the hearing on the new no parking regulation at Church and Route 7A.

16. Executive Session – Personnel

Following the executive session, Mr. Cichanowski moved to appoint Cody Wilkins as a summertime Parks and Buildings Maintenance employee, graduating in September to a full-time DPW employee. Ms. Miller seconded the motion, which passed 4-0-0.

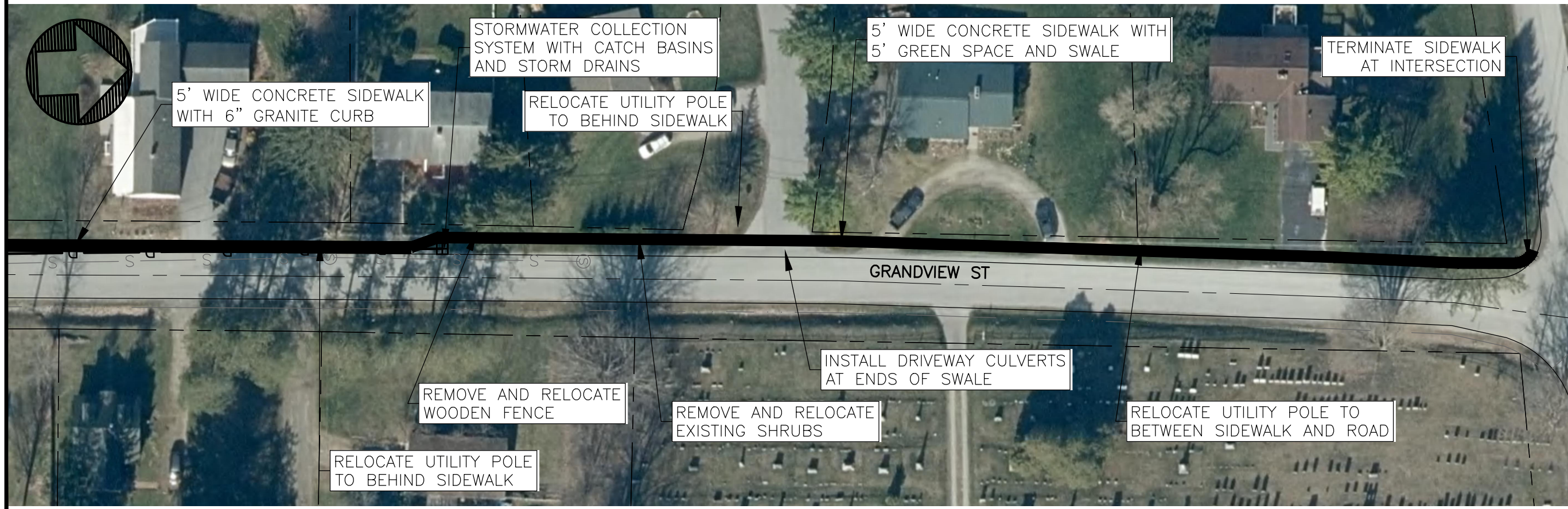
17. Adjournment

Mr. Cichanowski moved to adjourn at 7:50 p.m. Mr. Krulikowski seconded the motion, which passed 4-0-0.

APPENDIX E

ALTERNATIVE CONCEPT PLANS (FIGURES 4.1 - 4.4)

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Project #	7122011
Project Mgr.	C.M.HASKINS
Design	M.C.BISSELL
Drawn	M.C.BISSELL
Checked by	C.M.HASKINS
Date	JAN 2023
Scale	AS SHOWN
Approved by	C.M.HASKINS

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SHAFTSBURY SCOPING STUDY

GRANDVIEW STREET
ALTERNATIVE 1

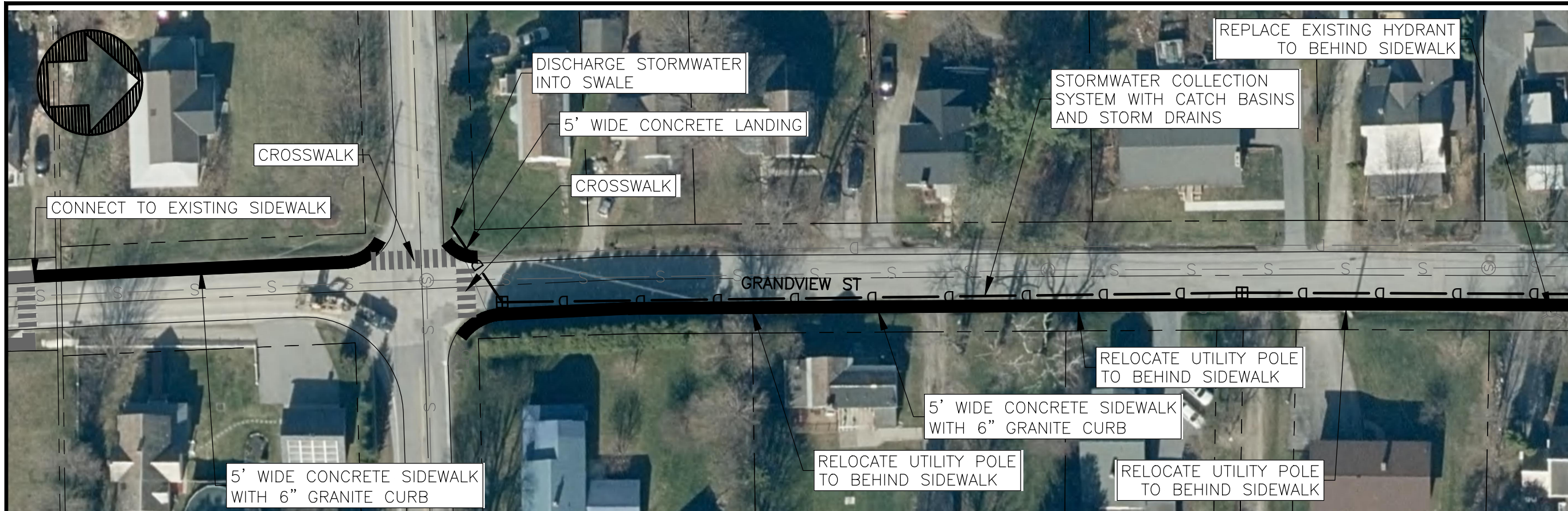
SHAFTSBURY, VERMONT

FIG 1

DWG. NO. Alternatives.dwg

SHEET 1 OF 1

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Approved by	C.M.HASKINS

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SHAFTSBURY SCOPING STUDY

GRANDVIEW STREET
ALTERNATIVE 2

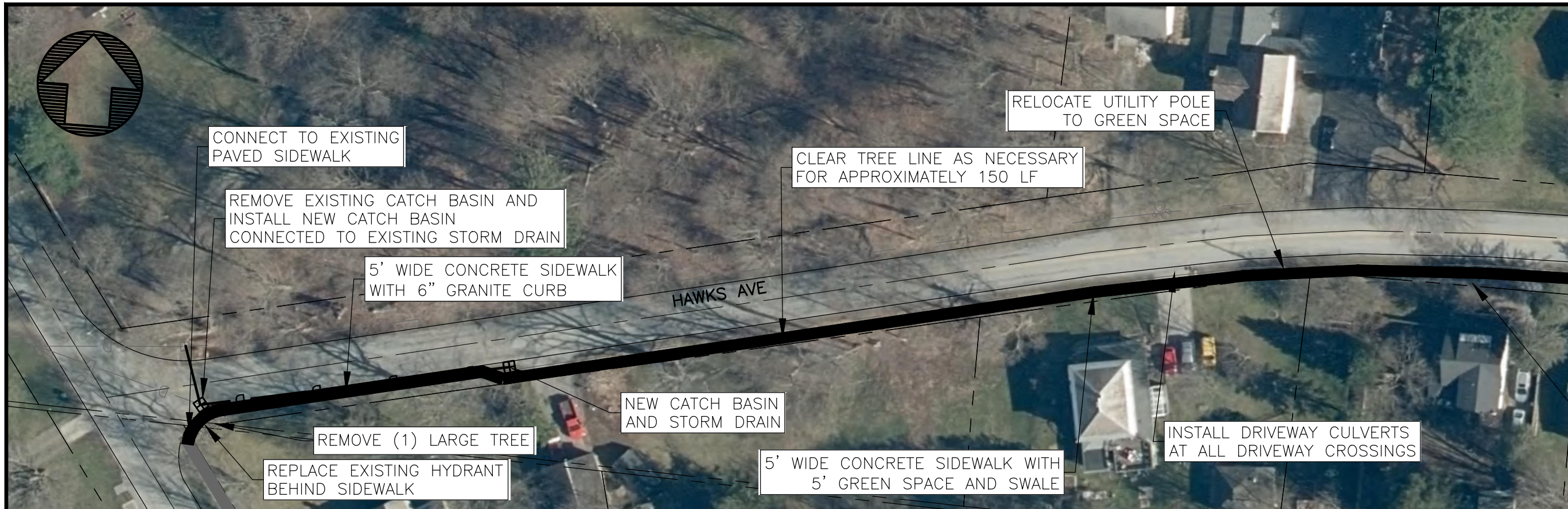
SHAFTSBURY, VERMONT

FIG 2

DWG. NO. Alternatives.dwg

SHEET 1 OF 1

FILE: M:\Shaftsbury VT\7122011 G-H Scoping Study\CAD\Alternatives.dwg Mar 15, 2023 - 11:39am



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Project #	7122011
Project Mgr.	C.M.HASKINS
Design	M.C.BISSELL
Drawn	M.C.BISSELL
Checked by	C.M.HASKINS
Date	JAN 2023
Scale	AS SHOWN
Approved by	C.M.HASKINS

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SHAFTSBURY SCOPING STUDY

HAWKS AVENUE
ALTERNATIVE 3

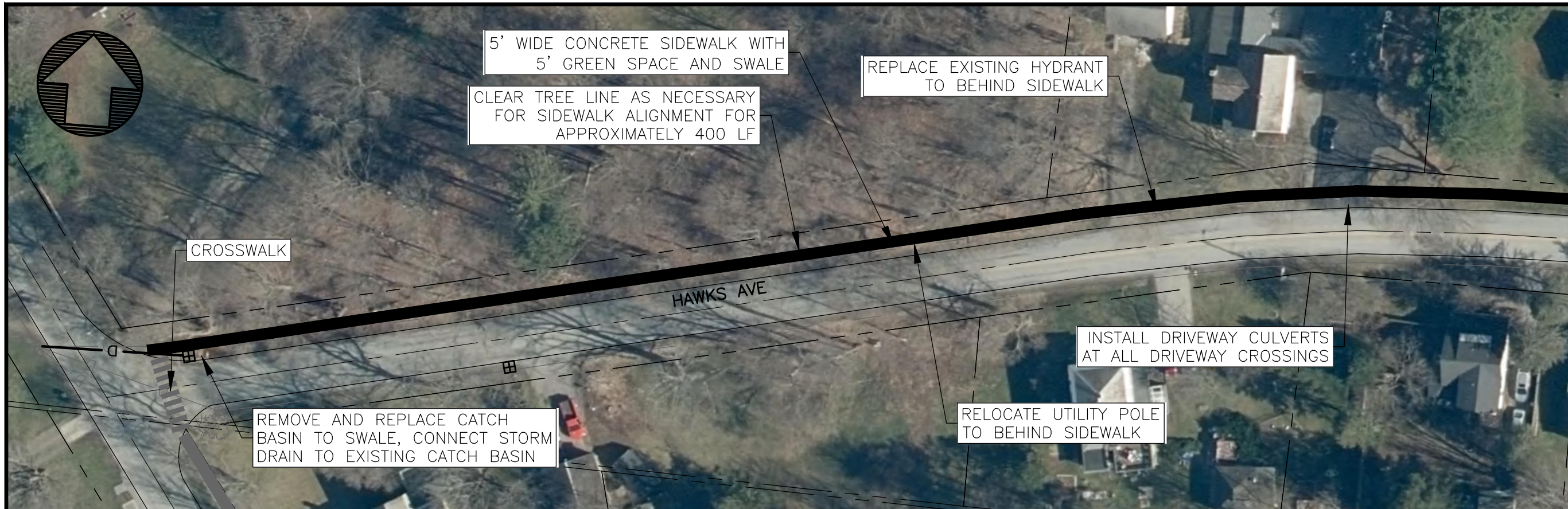
SHAFTSBURY, VERMONT

FIG 3

DWG. NO. Alternatives.dwg

SHEET 1 OF 1

FILE: C:\Users\chaskins\OneDrive - NHVT Computer Services, LLC\CMH Files\To Do\Shaftsbury Scoping\CAD\Alternatives.dwg Oct 30, 2023 - 12:18pm



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Drawn	M.C.BISSELL
Checked by	C.M.HASKINS
Date	JAN 2023
Scale	AS SHOWN
Approved by	C.M.HASKINS

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SHAFTSBURY SCOPING STUDY

HAWKS AVENUE
ALTERNATIVE 4

SHAFTSBURY, VERMONT

FIG 4

APPENDIX F

TRAFFIC MANAGEMENT PLAN CHECKLIST

TMP CHECKLIST

Purpose: To make a preliminary determination of whether the following issues are present or should be considered during project development through a more detailed TMP.

Project Name and Number/PIN:

Initial Project Significance Level (as determined in Table 4): Category D - Not Significant

Project Manager during Project Definition:

Name: Christina Haskins, PE, Dufresne Group Date: 10/30/23

Modified or Approved by (Project Manager at Preliminary Design for Significant Projects):

Name: _____ Date: _____

Modified or Approved by (Project Manager at PS&E for Significant Projects):

Name: _____ Date: _____

Project Description (Location, Activity, Anticipated Duration): Sidewalk construction on Grandview Street, 60-90 day duration.

	Yes	No	Poss	N/A	Comments
1. Does the project require a long-term (greater than 3 days) ¹ lane or roadway/bridge closure?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Closures are expected to be daily/short term
2. Are there any restrictions or considerations regarding construction timeframes due to traffic concerns (e.g., time of day, site specific time of year limits)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Can typical applications for traffic control be used? Are there any limitations to when typical applications can be used (time of year, times, days)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No limitations for typical applications
4. Is there a sidewalk, pedestrian/bicycle lane, path, trail, or access that needs to be maintained during construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No, but pedestrians/bikes use road shoulder, so temporary route required.
5. Is a speed reduction proposed (consistent with state guidance)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Will temporary roadways or additional width be needed on culverts, bridges, or shoulders to maintain traffic?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Will construction impact access to businesses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Are there other projects (utility, district maintenance, construction, municipal) in the area that should be coordinated or avoided?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unknown at this time

	Yes	No	Poss	N/A	Comments
9. Will/Can the traffic be reasonably detoured? If no or N/A, proceed to #10. If yes or possibly:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
a. Is the detour route roadway type equivalent to closed roadway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Is the local alternate detour route in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Will the detour route have a detrimental impact on emergency vehicles, school buses, or other sensitive traffic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
d. Are there load limit restrictions on the detour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
e. Are there bridge/culvert width or height restrictions on the detour?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
f. Are modifications needed at intersections on detour/alternate routes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Will traffic signal timing need to be adjusted for the project (with or without a detour)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Are there truck facilities or routes that would be impacted by the project or by a detour (turning radii, weight restrictions, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Are there special events or traffic generators (schools and bus routes, large employers, hospitals) that may be affected by the project and/or detour?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Will the emergency vehicle routing, mail delivery, school bus routes, or trash services be interrupted by the project (with or without a detour)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. Are there specific stakeholders to engage regarding the work zone impacts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Property Owners
15. Does the project occur within a high crash location?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Are there other maintenance of traffic issues to consider? Specify.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1. MUTCD definition of long-term work is occupying a location more than 3 days.

Additional Narrative for Projects with issues identified above: