Richmond Sidewalks
Richmond, Vermont

Scoping Report

Prepared by:

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Prepared for:

Chittenden County RPC

Town of Richmond Vermont

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1.0 INTRODUCTION

The Chittenden County Regional Planning Commission (CCRPC), working with the Town of Richmond, retained Stantec Consulting Services, Inc. to develop a scoping study evaluating pedestrian safety improvements for three separate segments of roadway:

Segment 1 – Jericho Road from the school entrance to Valley View Road
Segment 2 – Bridge Street from Volunteers Green to Jolina Court
Segment 3 – Huntington Road from Stone Corral Brewery to the Cross Vermont Trails trailhead at Jonnie Brook Road

The scoping process involves identifying existing roadway and traffic conditions and then developing a purpose and need for the project. Alternative improvement strategies are then identified and evaluated, leading to the selection of a preferred alternative. The goal of the scoping project is to identify options for important missing links in the Town's existing extensive pedestrian network.

The scoping process includes working closely with a project advisory committee made up of The Richmond Transportation Commission, Town staff, and CCRPC staff.

The advisory committee is charged with developing potential alternatives and presenting them to the public and the Town Selectboard.

2.0 PROJECT BACKGROUND

The Town's Bike, Walk, and Trails Plan states that The Town of Richmond envisions its neighborhoods, village, parks, open spaces, and activity areas connected by a safe, comfortable, and convenient network of walking and bicycling facilities. Much progress has been made in recent years to support this vision, but several missing connections are still present. While Bridge Street has an existing sidewalk along the west side, there are no facilities on the east side. Jericho and Huntington Roads have no dedicated pedestrian or bicycle facilities. Completion of these segments would create a continuous, approximately 2-mile, network of sidewalks and paths between Valley View Road and the Cross Vermont Trail trailhead.

This study focuses on this area, and its limits are shown below.

Figure 1 Project Study Areas

Figure 2 Segment 1 – Jericho Road from the school entrance to Valley View Road

Figure 3 Segment 2 – Bridge Street from Volunteers Green to Jolina Court

Figure 4 **Segment 3 – Huntington Road from Stone Corral Brewery to the Cross Vermont Trails trailhead**

2.1 EXISTING PLAN AND STUDY REVIEW

Plans and studies have been developed for this area that considered traffic and pedestrian concerns. The plans and studies reviewed for the preparation of this scoping study are listed below.

- *Richmond Bike, Walk, and Trails Plan, 2021*
- *Richmond Bridge Street Complete Streets Corridor Study Technical Memorandum, 2021*
- *Richmond Town Plan, 2018*

Key elements relevant to this project are discussed below.

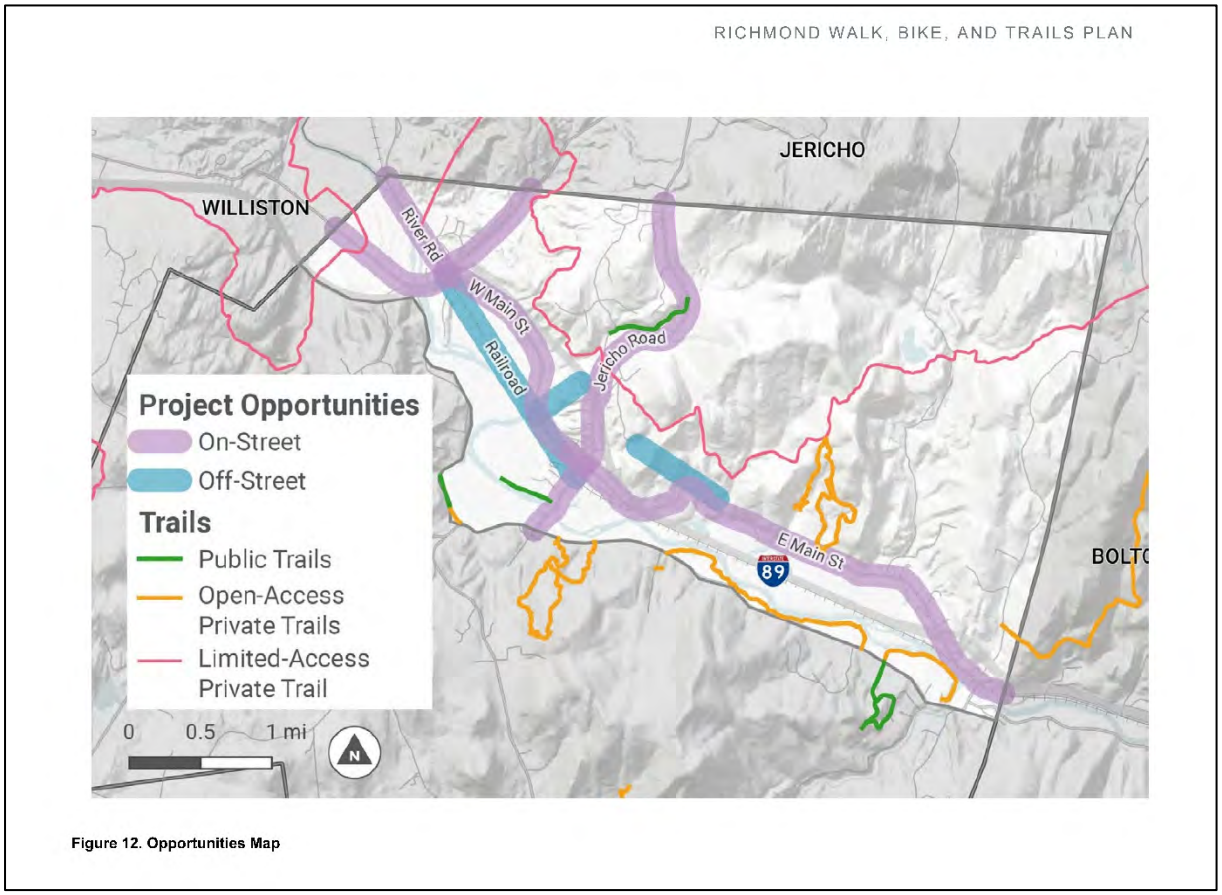
2.1.1 Richmond Bike, Walk, and Trails Plan, 2021

The Town's Bike, Walk, and Trails plan "will make on-street and off-street walking and biking safe and welcoming to all residents, offering equitable access to work, school, and play" lays out a vision for connectivity throughout the Town while identifying missing segments to target for the greatest impact. Some of the content relevant to this study's project areas includes:

1. Jericho Road is recommended to have a 5' sidewalk along the west side of the road and the speed limit should be reduced to 25 mph.

2. Bridge Street is recommended to have a new 5' sidewalk installed on the east side of the roadway.

Figure 5 Richmond Walk, Bike, and Trails Plan, 2021

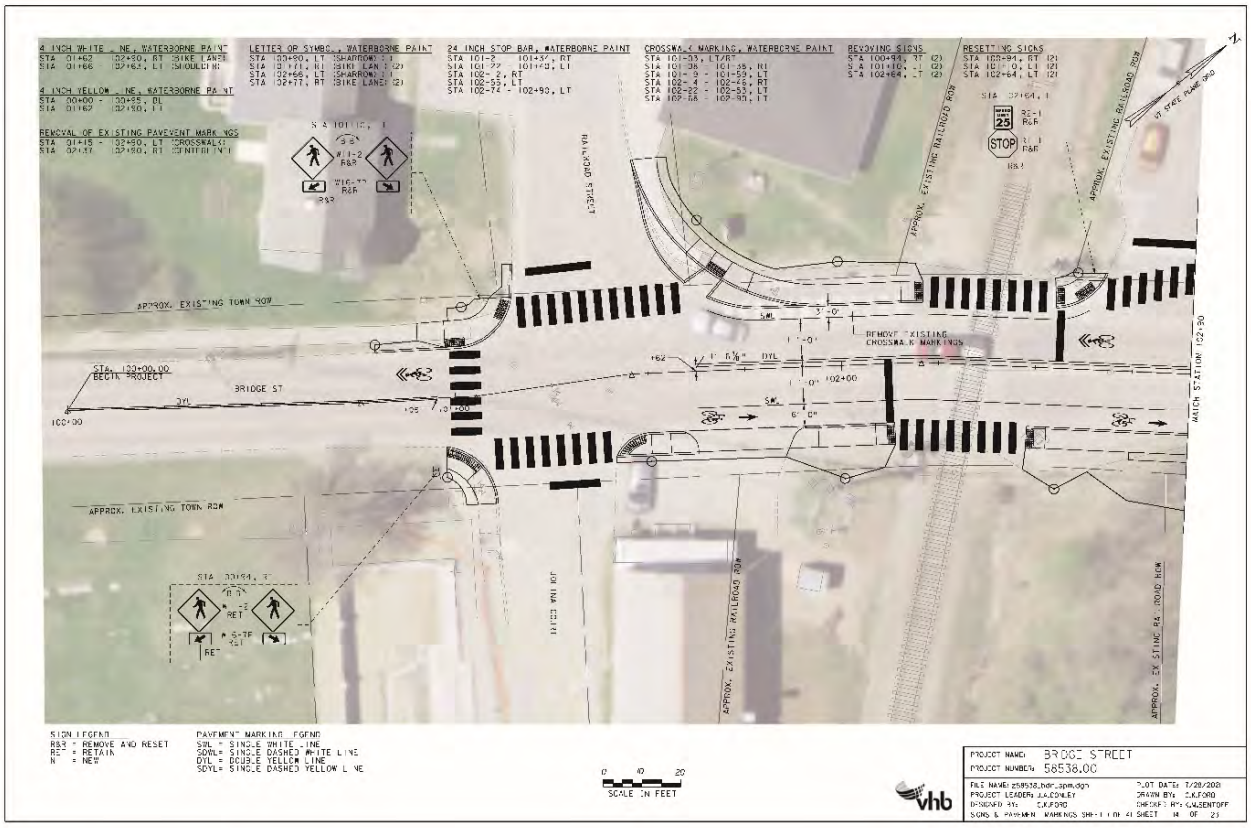


2.1.2 Richmond Bridge Street Complete Streets Corridor Study Technical Memorandum, 2021

The Bridge Street Complete Streets Corridor Study was conducted to identify and prioritize multimodal improvements along the Bridge Street corridor. The study aimed to garner community support for a preferred alternative through a public process evaluating options for improved bicycle and pedestrian infrastructure while supporting local businesses and continuing to serve vehicular traffic. This memorandum outlines the process through which the alternatives were developed, evaluated, vetted through public forums, supported, and designed.

While not directly impacting this study's project area, the complete streets corridor study immediately abuts it, and its recommendations will be incorporated during the design of the Bridge Street segment to ensure a cohesive overall segment. Together, these studies represent a major goal for the Town's connectivity within the Village.

Figure 6 Richmond Bridge Street Complete Streets Corridor Study Technical Memorandum, 2021



2.1.3 Richmond Town Plan, 2018

Richmond's vision is to be the most livable small town in Vermont. The Town Plan expressly values the unique combination of authentic Vermont character, diverse local services, and accessible location. It is desired for Richmond to be an affordable and appealing place for people to live, work, shop, play and connect. The Town is taking a forward-thinking approach to emerging opportunities and challenges while honoring and strengthening our close-knit community and rural character. Items relevant to this study's project area are discussed below:

1. Active or human-powered transportation (primarily biking and walking) is increasingly popular among many residents. This low-impact choice of transportation has many benefits – recreation, health, sustainability, convenience, affordability, energy efficiency, and more. Richmond has a sidewalk system in the village area, which helps improve safety and vibrancy downtown, but there is no dedicated infrastructure to support biking or walking outside the village or to make these options safer. Richmond has long held a

goal of improving bikeability and walkability, and it was one of the most common themes during the visioning process.

2. The Town Plan supports safe, sustainable, and convenient mobility and transportation options, so that people can bike, walk, ride, and drive in Richmond and beyond.

3. The area north of Richmond Village could be served by the construction of walkable or bikeable transportation systems that connect the neighborhoods with the Richmond Village, the Park and Ride facility, and the schools.

3.0 EXISTING CONDITIONS

3.1 ROADWAY CHARACTERISTICS

Segment 1 – Jericho Road

This section of Jericho Road was reconstructed in 1986 and 1987 and has not had significant improvements, beyond resurfacing and maintenance since.

The existing paved roadway width varies between 22 and 24 feet wide. This includes two 11 to 12-foot travel lanes and no shoulders.

Figure 7 Jericho Road looking north

Jericho Road is identified as a Class 3 Town Highway and is a Major Collector that is owned and maintained by the Town.

The posted speed with the project area varies from 25-35 mph but is 45 mph immediately north of Valley View Road.

The existing highway's right-of-way width is 49.5 feet.

The aerial utilities are located along the western side of Jericho Road from Southview Drive to the southern end of the project area.

Segment 2 – Bridge Street

This section of Bridge Street was constructed in 1945 and has not had significant improvements, beyond resurfacing and maintenance since.

The existing paved roadway width varies between 22 and 24 feet wide. This includes two 11 to 12-foot travel lanes and no shoulders.

Figure 8 Bridge Street looking south

Bridge Street is identified as a Class 1 Town Highway and is a Major Collector that is owned and maintained by the Town.

The posted speed with the project area is 25 mph.

The existing highway's right-of-way width is 49.5 feet.

The aerial utilities are located along the western side of Bridge Street.

This section of Bridge Street includes existing closed drainage along the western side of the road. The Town plans to add curbing and drainage structures to the east side during the 2022 construction season.

Segment 3 – Huntington Road

This section of Huntington Road was reconstructed between 1981 and 1984 and has not had significant improvements, beyond resurfacing and maintenance since.

The existing paved roadway width varies between 22 and 24 feet wide. This includes two 11 to 12-foot travel lanes and no shoulders.

Figure 9 Huntington Road looking east

Huntington Road is identified as a Class 1 Town Highway and is a Major Collector that is owned and maintained by the Town.

The posted speed with the project area is 25-35 mph.

The existing highway's right-of-way width is 49.5 feet.

The aerial utilities are located along the northern side of Huntington Road.

3.2 TRAFFIC VOLUMES

Traffic volume data including Annual Average Daily Traffic (AADT) values and Hourly Volumes for the study area were available from VTrans. VTrans' most current data is shown for each segment in table 1.

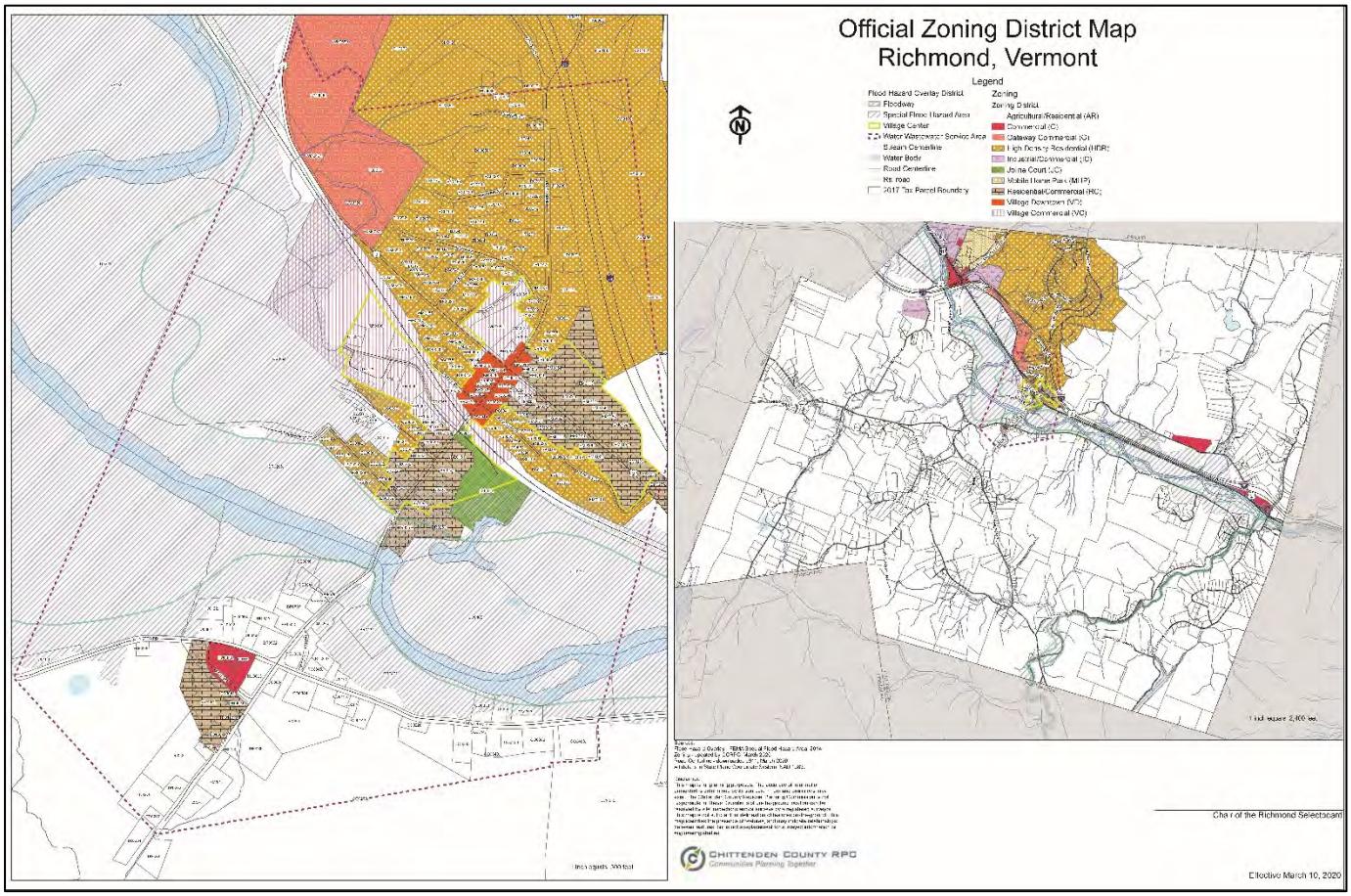
Table 1 Current AADT Volumes

Location	AADT	Count Year
Jericho Road from School Street to Valleyview Road	1,252	2021
Bridge Street from Winooski River to Jolina Court	5,700	2007
Huntington Road from Johnnie Brook Road to Bridge Street	3,885	2021

3.3 LAND USE AND ZONING

Land use surrounding the project areas includes residential, retail, agricultural, and mixed-use development. The Richmond Market & Beverage, public library, elementary and middle schools, post office, Volunteers Green, Town Library, Town Center, and Stone Corral Brewery are a few of the popular destinations within the project areas. Jericho Road is in the High Density Residential District; Bridge Street is in the Residential/Commercial and Village Downtown District, and Huntington Road is in the Agricultural/Residential District.

Figure 10 Land Use Zoning in the project area



3.4 PEDESTRIAN AND BICYCLE FACILITIES

There is an existing sidewalk along the west side of Bridge Street for the entirety of Project Area 2 but there are no dedicated facilities alongside either Jericho or Huntington Roads.

Figure 11 Existing sidewalk along the western side of Bridge Street

Figure 12 No pedestrian facilities exist along Jericho Road

Figure 13 No pedestrian facilities exist along Huntington Road

3.5 TRANSIT SERVICE

Green Mountain Transit (GMT) has one bus route, Montpelier Link Express, that passes near the project area.

There are no designated bus stops in the project area but the Link Express stops at the Park and Ride near Exit 11, approximately 3 miles from Bridge Street in the Village. Table 2 summarizes the bus route from Burlington to Montpelier, along with the schedule and fare information.

Table 2 GMT Bus Schedule

Route	Start Location	End Location	Cost	Schedule	Frequency
Montpelier Link Express	Pine St. at Locust St. Burlington	Main St./Shaws, Montpelier	Currently free	M-F 6:05 AM to 7:30 PM	M-F; 6 trips each way daily

3.6 CRASH HISTORY

The crash history for the study area was investigated using the VTrans list of High Crash Locations (2012-2016) and the Vermont Public Crash Data Query Tool (2018-2022).

High Crash Locations (2012-2016)

VTrans maintains a listing of High Crash Locations (HCL) within the state. A 0.3-mile highway segment or intersection must have at least five crashes over a 5-year period and the actual crash rate (number of crashes per million vehicle miles) must exceed a critical crash rate to be classified as an HCL. The critical crash rate is based on the average crash rate for similar highways. The most recent compilation of the crash data, "VTrans High Crash Report: Sections and Intersections 2012-2016", does not list any of the project segments.

Public Crash Data (2018-2022)

The crash history for the study area was also investigated by Stantec using the VTrans crash database. VTrans keeps records of reported crashes by milepost along State and Federal Aid highways in Vermont. General summaries can be requested from VTrans for given roadway segments. The summaries note the location (mile marker and intersection), date, time of day, weather conditions, contributing circumstances, and severity of reported crashes. Crash data for 2018 through 2022 were reviewed for each segment. Tables 4-6 provide a summary of the crash data. Most crashes involved property damage only, but one injury was reported on the Huntington Road segment. The data also indicated that there was a pedestrian fatality at the intersection of Bridge Street and Church Street however an online search did not reveal any details related to the crash.

Table 3 Jericho Road from School Street to Valleyview Road Crash Summary (2018-2022)

Year	Jericho Road
2018	1
2019	1
2020	0
2021	1
2022	0
Total	**3**
Type	
Angle	0
Rear-end	1
Head-on	0
Single Vehicle	0
Sideswipe	2
Unknown-Other	0
Total	**3**
Severity	
Property Damage	3
Personal Injury	0
Fatality	0
Unknown-Other	0
Total	**3**
Weather	
Clear	1
Cloudy	1
Rain	0
Snow/Ice	1
Fog	0
Unknown	0
Total	**3**
Time of Day	
7:00AM to 9:00AM	1
9:00AM to 4:00PM	1
4:00PM to 6:00PM	0
6:00PM to 7:00AM	1
Unknown	0
Total	**3**

Table 4 Bridge Street from Volunteers Green to Jolina Court Crash Summary (2018-2022)

Year	Bridge Street
2018	0
2019	3
2020	0
2021	0
2022	0
Total	**3**
Type	
Angle	0
Rear-end	0
Head-on	0
Single Vehicle	1
Sideswipe	0
Unknown-Other	2
Total	**3**
Severity	
Property Damage	1
Personal Injury	0
Fatality	1
Unknown-Other	1
Total	**3**
Weather	
Clear	0
Cloudy	0
Rain	1
Snow/Ice	0
Fog	0
Unknown	2
Total	**3**
Time of Day	
7:00AM to 9:00AM	0
9:00AM to 4:00PM	2
4:00PM to 6:00PM	0
6:00PM to 7:00AM	0
Unknown	1
Total	**3**

Table 5 Huntington Road from Stone Corral Brewery to Johnnie Brook Road Crash Summary (2018-2022)

Year	Huntington Road
2018	1
2019	1
2020	1
2021	0
2022	0
Total	**3**
Type	
Angle	0
Rear-end	1
Head-on	0
Single Vehicle	1
Sideswipe	1
Unknown-Other	0
Total	**3**
Severity	
Property Damage	2
Personal Injury	1
Fatality	0
Unknown-Other	0
Total	**3**
Weather	
Clear	1
Cloudy	0
Rain	0
Snow/Ice	2
Fog	0
Unknown	0
Total	**3**
Time of Day	
7:00AM to 9:00AM	1
9:00AM to 4:00PM	0
4:00PM to 6:00PM	0
6:00PM to 7:00AM	2
Unknown	0
Total	**3**

3.7 NATURAL RESOURCES

Stantec conducted a preliminary review of the natural resources present within the study area. Specifically, as part of this investigation, Stantec identified and characterized wetlands, streams, rare, threatened, or endangered (RTE) species, wildlife habitat, agricultural land, 4(f) and 6(f) public lands, and hazardous waste sites. Refer to Appendix D for a complete summary of the study's findings.

4.0 PURPOSE AND NEED STATEMENTS

The following statements were developed based on the existing conditions assessment, public input, and project advisory committee discussions.

Segment 1 – Jericho Road

Purpose:

The purpose of this project is to connect and expand the pedestrian network to nearby neighborhoods to improve pedestrian mobility and safety along the westerly side of Jericho Road, between the Richmond schools and Valley View Road.

Needs:

1. Provide an inviting travel corridor that achieves the Town's and Region's goals for pedestrian mobility while contributing to the Town's walking network.

2. Meet the needs of all age groups, experience levels, and purposes of trips, specifically students that live within walking distance to school with the intent of reducing vehicle congestion at pick-up/drop-off times.

3. Conceive a plan for a safe, comfortable, user-friendly, desirable year-round pedestrian connection along Jericho Road that increases accessibility to the nearby trail network and also completes a missing link in a safe-routes-to-school network.

Segment 2 – Bridge Street

Purpose:

The purpose of this project is to build upon the efforts of the Bridge Street Complete Streets Corridor Study by improving pedestrian mobility and safety along the eastern side of Bridge Street, between Jolina Court and Volunteers Green.

Needs:

1. Provide an inviting travel corridor that achieves the Town's and Region's goals for pedestrian mobility.
2. Meet the needs of all age groups, experience levels, and purposes of trips.
3. Contribute to the Town's sidewalk network by completing a missing link and thereby reducing the number of crossings necessary to access municipal and business services.
4. Complete a safe, comfortable, user-friendly, desirable year-round pedestrian connection along Bridge Street.

Segment 3 – Huntington Road

Purpose:

The purpose of this project is to improve bicyclist and pedestrian mobility and safety along the northerly side of Huntington Road, between Stone Corral Brewery and Johnnie Brook Road.

Needs:

1. Create a safe travel corridor that achieves the Town and Region's goals for pedestrian and bicycle mobility.
2. Meet the needs of all age groups, experience levels, and purposes of trips.
3. Contribute to completing a gap in the Cross Vermont Trail that is a safe, comfortable, user-friendly, desirable year-round connection to and from the Johnnie Brook Trail.

5.0 ALTERNATIVES

5.1 SEGMENT 1 – JERICHO ROAD

The project advisory committee (PAC) considered a range of improvements to address the project's purpose and need. During the PAC meetings, various sidewalk alignments were discussed. The Purpose and Need statement identified the desire for a dedicated pedestrian facility along the western side of Jericho Road. This would connect many residences to the existing sidewalk network to the south of the project area.

5.1.1 No-Action Alternative

For the No-Action alternative, the existing transportation facilities in the project area remain as they exist today. The roadway remains a 2-lane facility with no shoulders and bicycles and pedestrians sharing the road with vehicles. This alternative has no construction costs and has no impacts on the right-of-way, resources, or traffic. The No-Action Alternative does not address the project's purpose and need, and a missing link in the sidewalk network remains.

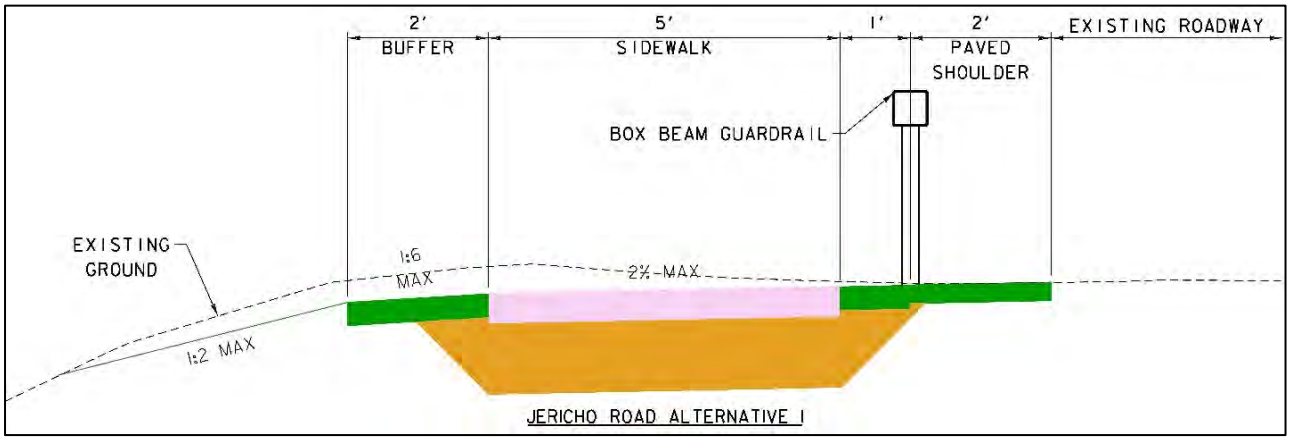
Figure 14 Jericho Road Existing Conditions - No-Action Alternative

5.1.2 Alternative 1: 5-foot-wide sidewalk separated by box beam guardrail

This alternative proposes a 2350-foot-long 5-foot-wide sidewalk with a box beam guardrail along the western side of Jericho Road. A typical section and plan of this alternative are shown in Figure 16. As shown on the plan this alternative includes the following features:

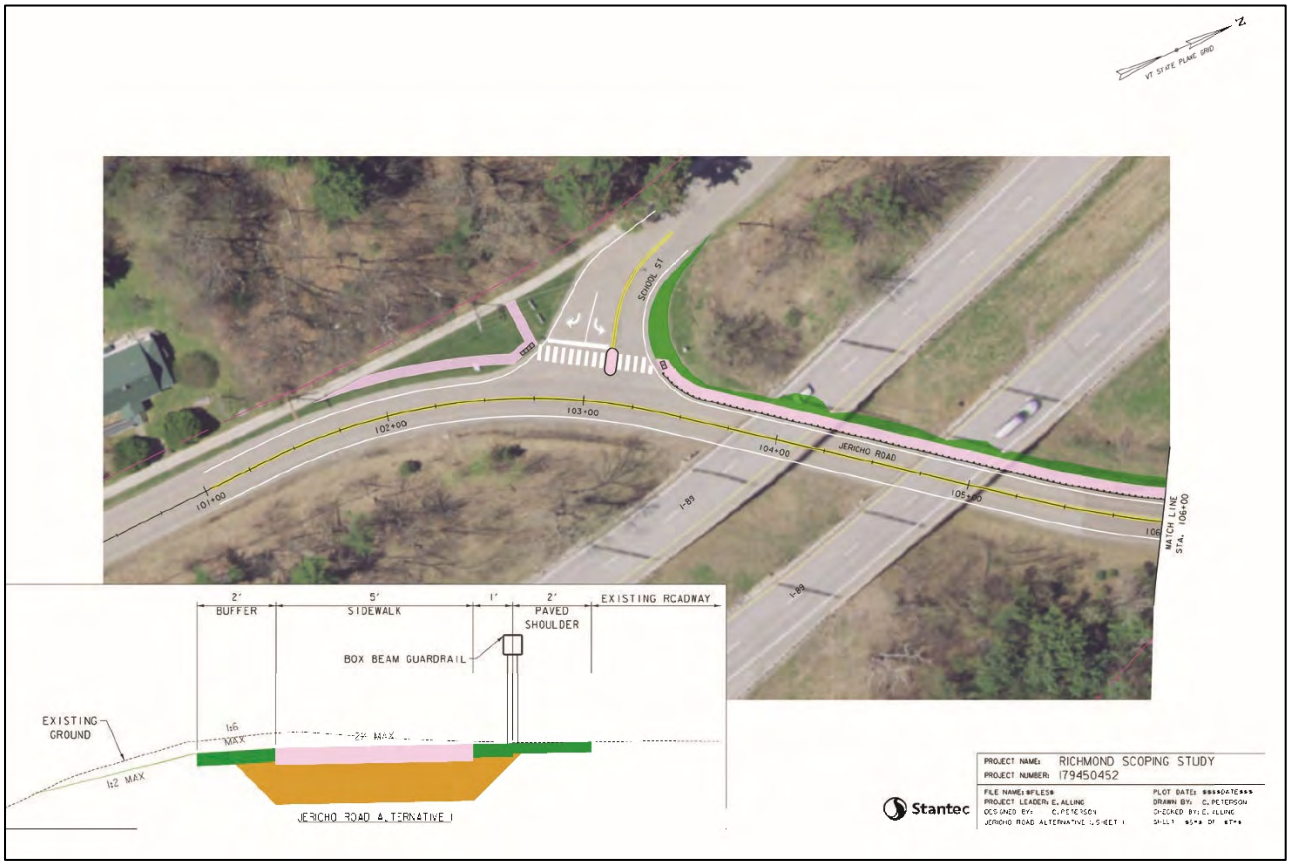
- The 5-foot-wide concrete sidewalk is physically separated from the roadway using a box beam guardrail This provides for a semi-rigid barrier to protect pedestrians but does not allow adequate space for snow storage

Figure 15 Jericho Road - Alternative 1 Typical Section



- Connects to existing sidewalks to the south of the project area but does require a crossing of Jericho Road at Valley View Road.
- Limits of the sidewalk itself are contained within the Town's ROW but temporary construction impacts extend beyond the existing highway ROW near the intersection with Southview Drive.
- Aerial utility poles are generally not present within the project area but a few are located near the intersection with Southview Drive. They are set back from the road enough to where impact to them is not anticipated.
- Does not impact existing stormwater drainage patterns.
- Estimated construction cost is $510,000.

Figure 16 Jericho Road - Alternative 1 Plan



A set of full-size plans is provided in Appendix E.

5.1.3 Alternative 2: 5-foot sidewalk with 5-foot grass strip

This alternative proposes a 2,350-foot-long 5-foot-wide sidewalk with a 5-foot grass strip along the west side of Jericho Road. A typical section and plan of this alternative are shown in Figure 18. As shown on the plan this alternative includes the following features:

- The 5-foot-wide concrete sidewalk is offset from the edge of the existing roadway by 5 feet along Jericho Road. This provides for a 5-foot-wide grassed/vegetated buffer. The buffer provides separation between sidewalk and roadway users, snow storage, and some stormwater treatment.
- Connects to existing sidewalks to the south of the project area but does require a crossing of Jericho Road at Valley View Road.
- Aerial utility poles are generally not present within the project area, but a few are located near the intersection with Southview Drive. They are set back from the road enough to where impact to them is not anticipated.

- Limits of the sidewalk itself are contained within the Town's ROW but temporary construction impacts extend beyond the existing highway ROW along most of the project's length.

- Estimated construction cost is $520,000.

Figure 17 Jericho Road - Alternative 2 Typical Section

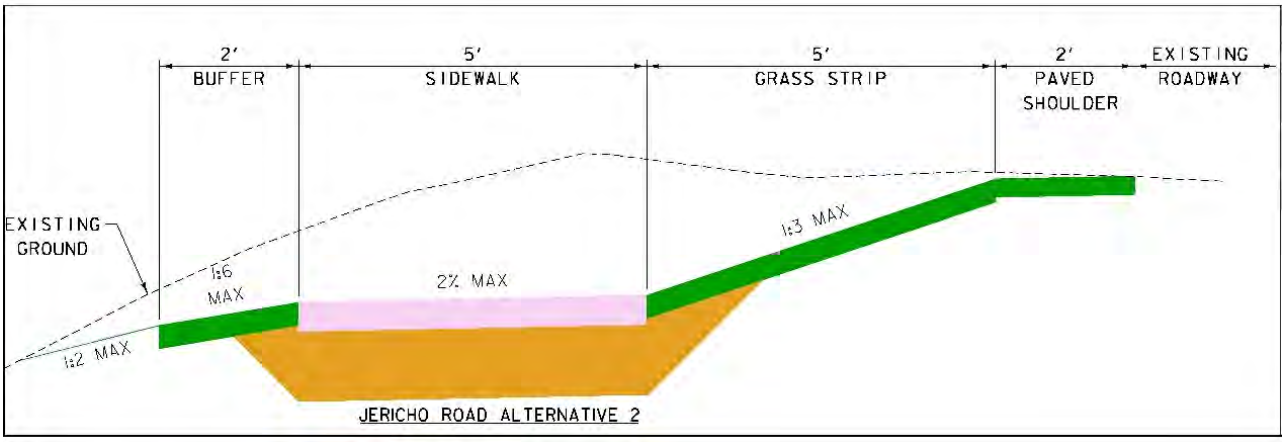
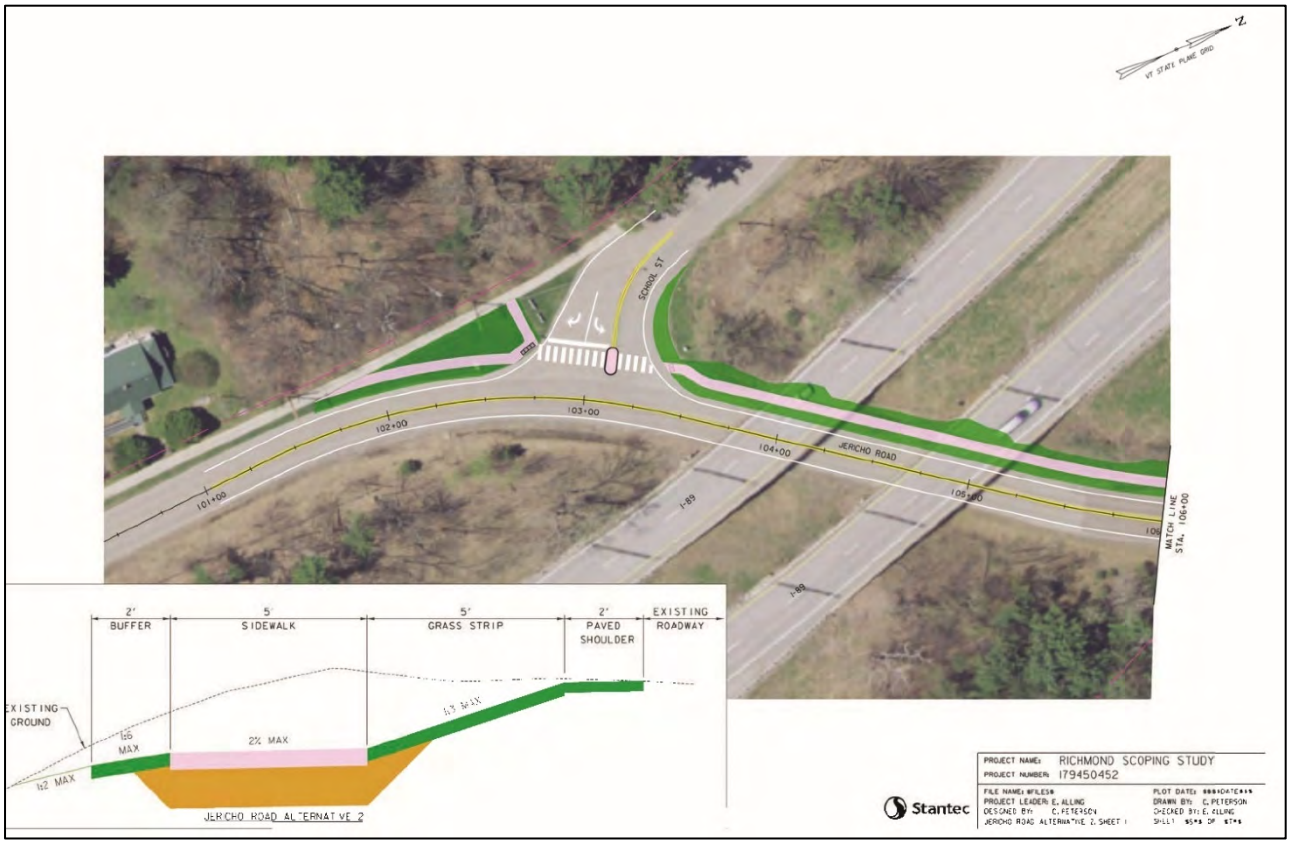


Figure 18 Jericho Road - Alternative 2 Plan



A set of full-size plans is provided in Appendix E.

5.2 COMPARISON OF ALTERNATIVES

5.2.1 Alternative Impacts

Safety Impacts

Safety for pedestrians is improved in Alternatives 1 and 2 over the No Action Alternative. Alternative 2 creates more separation between motorists and sidewalk users.

Right-of-Way (ROW) Impacts

Based on parcel mapping, the ROW width is 49.5 feet wide. Neither build alternative requires permanent easements and Alternative 2 will require a much higher number of temporary impacts during the construction of the sidewalk.

Environmental Resource Impacts

Based on the desktop research and site visit there are no known impacts on streams, wildlife, or rare and endangered species for the alternatives. Neither build alternative will impact any known wetlands. The level of environmental permitting anticipated for this project is limited to a Programmatic Agreement Categorical Exclusion (PACE).

Archeological Resource Impacts

A preliminary archeological resources assessment was completed and included in the Appendix. There are no areas of archeological sensitivity identified within the project area. An Archeological Resource Assessment is included in the appendices.

Utility Impacts

Existing utilities in the project area include aerial electric distribution and communication lines. The construction of the alternatives will likely not impact utility poles.

Stormwater Impacts

Both alternatives are under the 0.5-acre threshold of new impervious surface area and a Stormwater Operational Permit is not required.

Traffic Calming

During the public meetings attendees commonly listed vehicle speeds as a major concern. While a speed study must be completed to verify vehicle speeds, low-cost traffic calming measures should be included in the project. Appropriate measures for this segment of Jericho Road include narrowed travel lanes, radar feedback signs, and pavement speed limit markings.

5.2.2 Project Costs

The following table is a summary of the project costs for the alternatives.

Table 6 Jericho Road - Summary of Project Costs

Item	No Action	Alternative 1 (5 ft sidewalk with box beam guardrail)	Alternative 2 (5 ft sidewalk with 5 ft grass strip)
Construction Costs	**$0**	$510,000	$520,000
Right-of-Way Costs	**$0**	<$10,000	<$10,000
Design Engineering	**$0**	$110,000	$110,000
Municipal Project Management/Admin	**$0**	$30,000	$30,000
Construction Engineering	**$0**	$80,000	$80,000
Total Project Costs	**$0**	**$730,000**	**$740,000**

5.2.3 Evaluation Matrix

Table 7 provides an evaluation matrix summarizing the above information pertaining to traffic operations, safety, right-of-way, environmental, archeological resources, utilities, and project costs.

Table 7 Jericho Road - Evaluation Matrix

CRITERIA	No Build	Alternative 1: Sidewalk with Box Beam Guardrail	Alternative 2: Sidewalk with Grass Strip and Box Beam Guardrail
Project Construction Costs	**$0**	**$510,000**	**$520,000**
Total Project Costs	**$0**	**$730,000**	**$740,000**
Purpose and Need			
Provide safe, comfortable pedestrian connection	**No**	**Yes**	**Yes**
Facilitate use by all age groups, experience levels, and trip purposes	**No**	**Yes**	**Yes**
Contribute to town & regional pedestrian & bicycle network	**No**	**Yes**	**Yes**
Impacts			
Safety	**No Improvement**	**Improvement for Pedestrians**	**Improvement for Pedestrians**
Right-of-way	**None**	**Temporary Impacts During Construction**	**Greater temporary Impacts During Construction**
Environmental	**None**	**None Anticipated**	**None Anticipated**
Cultural Resource	**None**	**None Anticipated**	**None Anticipated**
Winter Maintenance	**None**	**Inadequate Space for Snow Storage Leading to Winter Maintenance Challenges**	**Adequate snow storage but steep slopes in some sections will lead to snow melt and ice across portions of the sidewalk**
Utilities/Drainage	**None**	**None Anticipated**	**None Anticipated**
Stormwater	**No Change**	**<0.5 acre**	**<0.5 acre**

5.3 SEGMENT 2 – BRIDGE STREET

The project advisory committee (PAC) considered a range of improvements to address the project's purpose and need. During the PAC meetings, various sidewalk alignments were discussed. The Purpose and Need statement identified the desire for a dedicated pedestrian facility along the eastern side of Bridge Street. This would allow access to Town services including the library, police department, and Town offices.

5.3.1 No-Action Alternative

For the No-Action alternative, the existing transportation facilities in the project area remain as they exist today. The roadway remains a 2-lane facility with no shoulders and sidewalk along only the west side of the road. This alternative has no construction costs and has no impacts on the right-of-way, resources, or traffic. The No-Action Alternative does not address the project's purpose and need, and a missing link in the network remains.

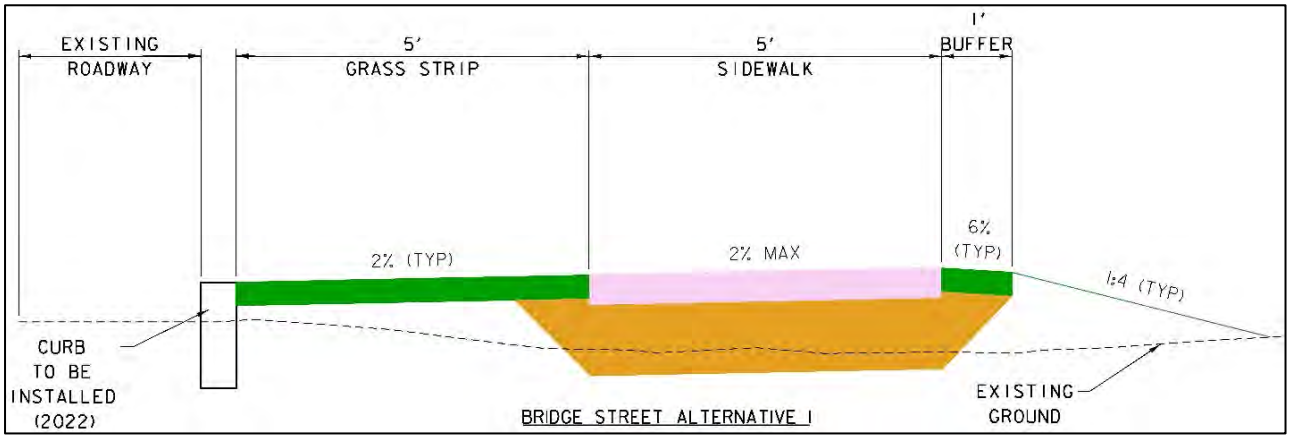
Figure 19 Bridge Street Existing Conditions - No-Action Alternative

5.3.2 Alternative 1: 5-foot-wide sidewalk separated by 5-foot grass strip

This alternative proposes a 675 -foot-long 5-foot-wide sidewalk with a 5-foot grass strip along the eastern side of Bridge Street from Jolina Court to Esplanade Street. A typical section and plan of this alternative are shown in Figure 21. As shown on the plan this alternative includes the following features:

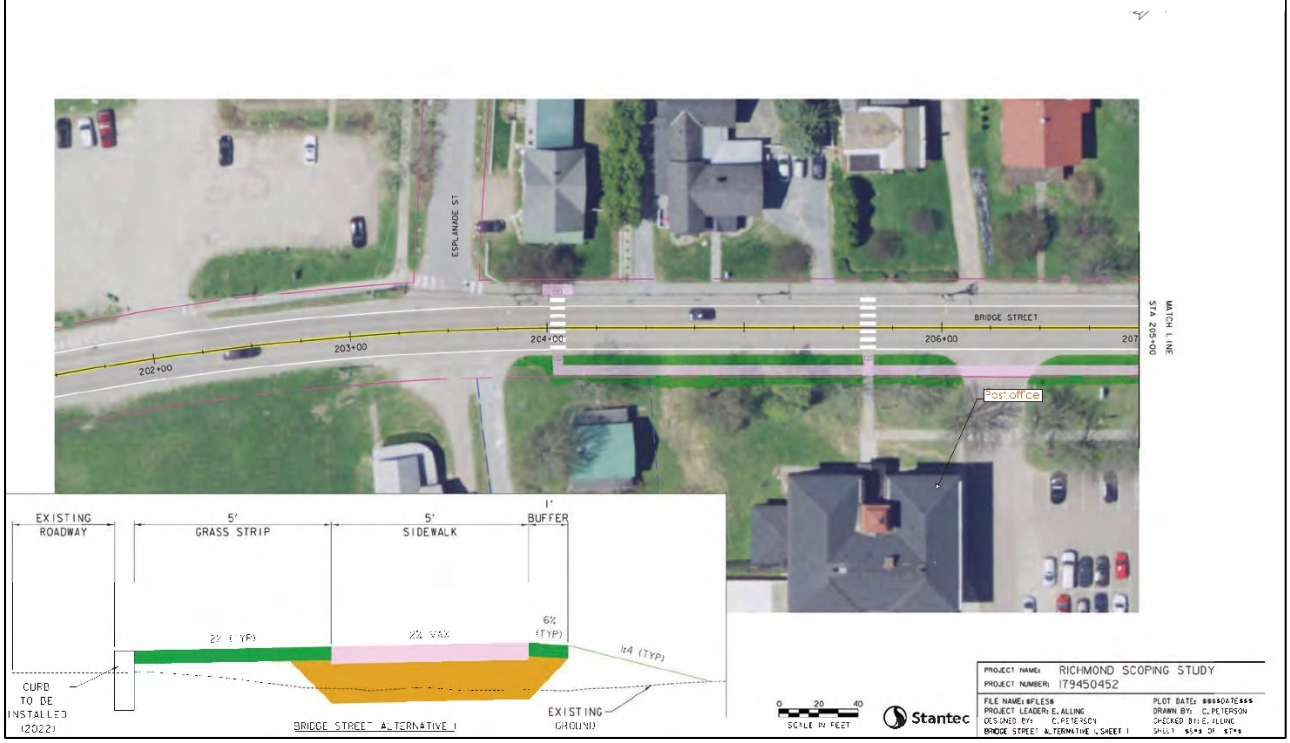
- The 5-foot-wide concrete sidewalk is offset from the edge of the existing roadway by 5 feet along Bridge Street. This provides for a 5-foot-wide grassed/vegetated buffer. The buffer provides separation between sidewalk and roadway users, snow storage, and some stormwater treatment.

Figure 20 Bridge Street - Alternative 1 Typical Section



- Connects to proposed sidewalks to the north of the project area and adds a sidewalk to the east side where Town services are located.
- Limits of the sidewalk itself are contained within the Town's ROW but temporary construction impacts extend beyond the existing highway ROW for the entire length of the project area.
- Aerial utility poles are located along the west side of Bridge Street and will not be impacted.
- Concrete curbing and stormwater drainage improvements are planned for 2022. This alternative will not impact the drainage patterns established with the curbing project.
- Estimated construction cost is $150,000.

Figure 21 Bridge Street - Alternative 1 Plan



A set of full-size plans is provided in Appendix E.

5.3.3 Alternative 2: 5-foot sidewalk with 2-foot grass strip

This alternative proposes a 675 -foot-long 5-foot-wide sidewalk with a 2-foot grass strip along the east side of Bridge Street. A typical section and plan of this alternative are shown in Figure 23. As shown on the plan this alternative includes the following features:

- The 5-foot-wide concrete sidewalk is offset from the edge of the existing roadway by 2 feet along Bridge Street. This provides for a 2-foot-wide grassed/vegetated buffer. The buffer provides separation between sidewalk and roadway users, some snow storage, and some stormwater treatment. This width is below the typical minimum recommendation however it will match the grass strip width along the existing sidewalk on the west side of Bridge Street.
- Connects to proposed sidewalks to the north of the project area and adds a sidewalk to the east side where Town services are located.
- Limits of the sidewalk itself are contained within the Town's ROW but temporary construction impacts extend beyond the existing highway ROW for the entire length of the project area.

- Aerial utility poles are located along the west side of Bridge Street and will not be impacted.
- Concrete curbing and stormwater drainage improvements are planned for 2022. This alternative will not impact the drainage patterns established with the curbing project.
- Estimated construction cost is $150,000.

Figure 22 Bridge Street - Alternative 2 Typical Section

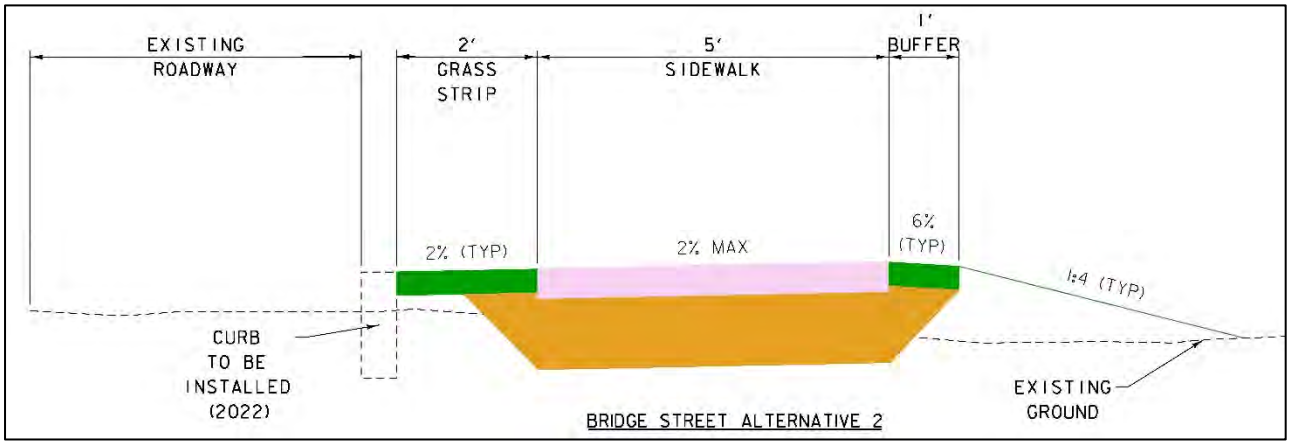
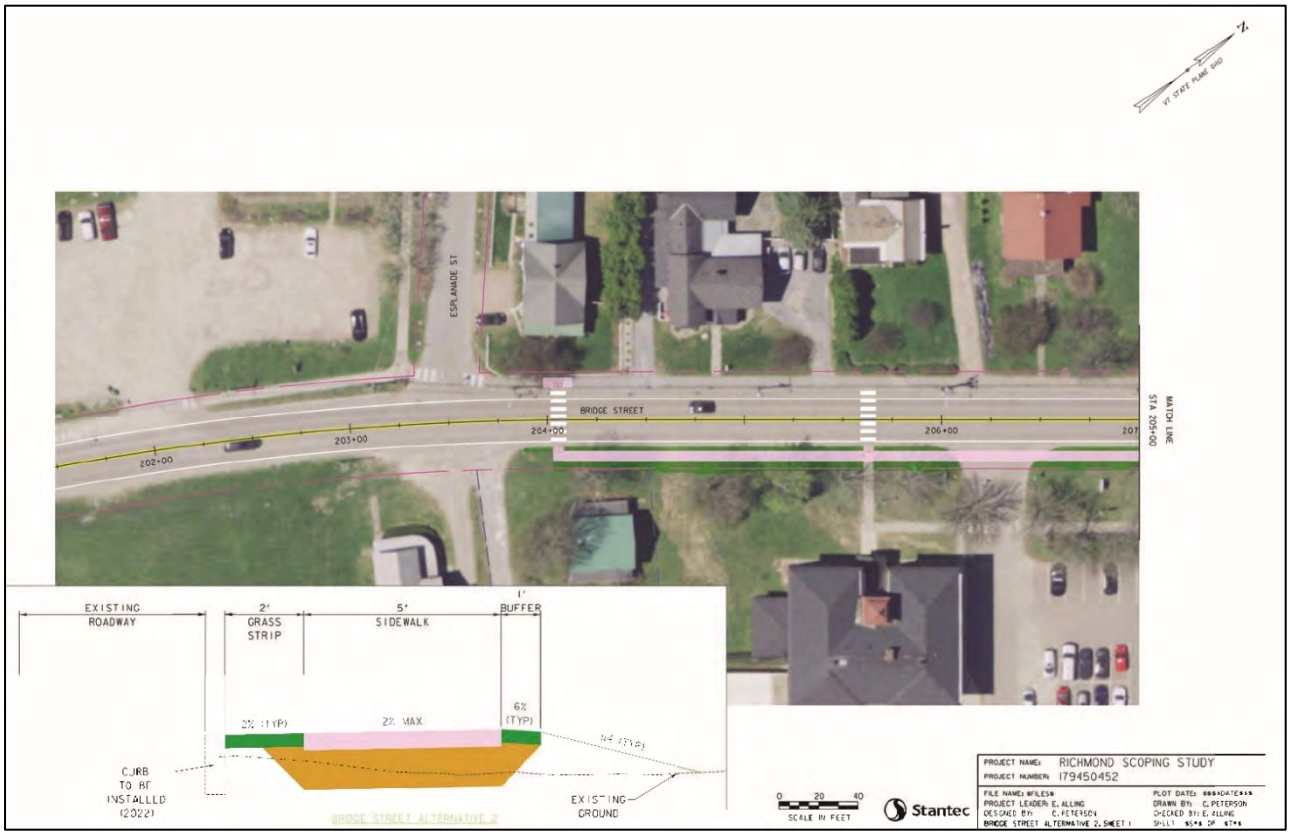


Figure 23 Bridge Street - Alternative 2 Plan



A set of full-size plans is provided in Appendix E.

5.4 COMPARISON OF ALTERNATIVES

5.4.1 Alternative Impacts

Safety Impacts

Safety for pedestrians is improved in Alternatives 1 and 2 over the No Action Alternative. With a 5-foot grass strip, Alternative 1 creates more separation between motorists and sidewalk users.

Right-of-Way (ROW) Impacts

Based on the record plans, the ROW width is 49.5 feet wide. Both build alternatives require no permanent easements and Alternative 1 will require a much higher number of temporary impacts during the construction of the sidewalk.

Environmental Resource Impacts

Based on the desktop research and site visit there are no known impacts to streams, wildlife or rare and endangered species for the alternatives. Neither build alternative will impact any known wetlands. The level of environmental permitting anticipated for this project is limited to a Programmatic Agreement Categorical Exclusion (PACE).

Archeological Resource Impacts

A preliminary archeological resources assessment was completed and included in the Appendix. There are no areas of archeological sensitivity identified within the project area. An Archeological Resource Assessment is included in the appendices.

Utility Impacts

Existing utilities in the project area include aerial electric distribution and communication lines. They are located along the west side of Bridge Street and will not be impacted.

Stormwater Impacts

Both alternatives are under the 0.5-acre threshold of new impervious surface area and a Stormwater Operational Permit is not required.

5.4.2 Project Costs

The following table is a summary of the project costs for the alternatives.

Table 8 Bridge Street - Summary of Project Costs

Item	No Action	Alternative 1 (5-ft sidewalk 5-ft grass strip)	Alternative 2 (5-ft sidewalk with 2-ft grass strip)
Construction Costs	**$0**	$150,000	$150,000
Right-of-Way Costs	**$0**	<$10,000	<$10,000
Design Engineering	**$0**	$60,000	$60,000
Municipal Project Management/Admin	**$0**	$30,000	$30,000
Construction Engineering	**$0**	$25,000	$25,000
Total Project Costs	**$0**	**$265,000**	**$265,000**

5.4.3 Evaluation Matrix

Table 9 provides an evaluation matrix summarizing the above information pertaining to traffic operations, safety, right-of-way, environmental, archeological resources, utilities, and project costs.

Table 9 Bridge Street - Evaluation Matrix

CRITERIA	No Build	Alternative 1: Sidewalk with 5 foot Grass Strip	Alternative 2: Sidewalk with 2 foot Grass Strip
Project Construction Costs	**$0**	**$150,000**	**$150,000**
Total Project Costs	**$0**	**$265,000**	**$265,000**
Purpose and Need			
Provide safe, comfortable pedestrian connection	**No**	**Yes**	**Yes**
Facilitate use by all age groups, experience levels, and trip purposes	**No**	**Yes**	**Yes**
Contribute to town & regional pedestrian & bicycle network	**No**	**Yes**	**Yes**
Impacts			
Safety	**No Improvement**	**Improvement for Pedestrians**	**Improvement for Pedestrians**
Right-of-way	**None**	**Greater temporary Impacts During Construction**	**Temporary Impacts During Construction**
Environmental	**None**	**Likely removal of mature trees**	**Possible removal of mature trees**
Cultural Resource	**None**	**Care in the segment adjacent to the cemetery will be required during design and construction**	**Care in the segment adjacent to the cemetery will be required during design and construction**
Winter Maintenance	**None**	**Adequate snow storage**	**Inadequate snow storage will require coordination between roadway and sidewalk plowing efforts**
Utilities/Drainage	**None**	**None Anticipated**	**None Anticipated**
Stormwater	**No Change**	**<0.5 acre**	**<0.5 acre**

5.5 SEGMENT 3 – HUNTINGTON ROAD

The project advisory committee (PAC) considered a range of improvements to address the project's purpose and need. During the PAC meetings, various sidewalk alignments were discussed. The Purpose and Need statement identified the desire for a shared-use path along the northern side of Huntington Road. This would connect the village to the Cross Vermont Trails trailhead and would be useable by all abilities of cyclists and pedestrians.

5.5.1 No-Action Alternative

For the No-Action alternative, the existing transportation facilities in the project area remain as they exist today. The roadway remains a 2-lane facility with no shoulders and bicycles and pedestrians sharing the road with vehicles. This alternative has no construction costs and has no impacts on the right-of-way, resources, or traffic. The No-Action Alternative does not address the project's purpose and need, and a missing link in the bike/ped network remains.

Figure 24 Huntington Road Existing Conditions No-Action Alternative

5.5.2 Alternative 1: 10-foot-wide shared-use path with 5-foot grass strip

This alternative proposes a 2600-foot-long 10-foot-wide bituminous path with a 5-grass strip along the northern side of Huntington Road. A typical section and plan of this alternative are shown in Figure 26. As shown on the plan this alternative includes the following features:

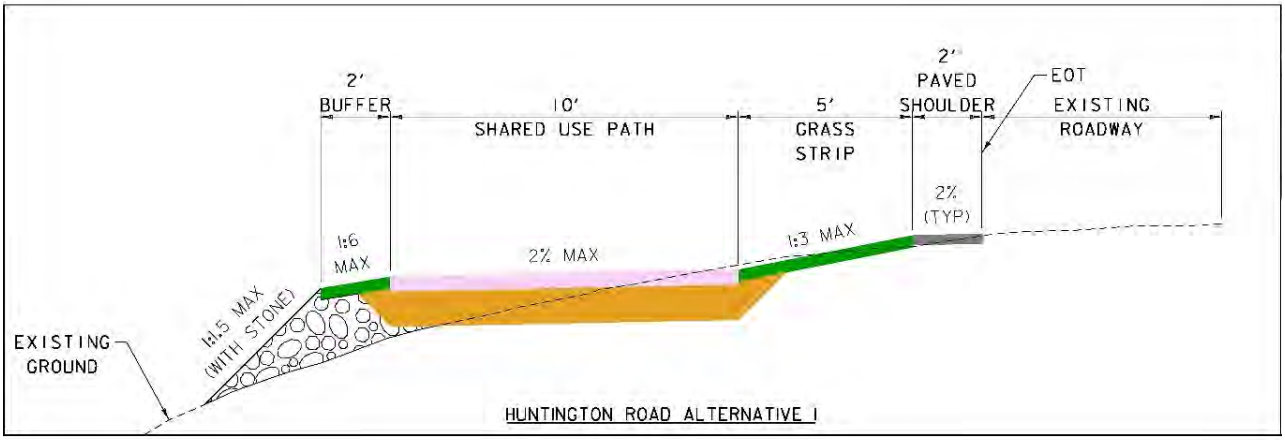
- The 10-foot-wide bituminous path separated from the roadway with a 5-foot-wide grass strip.

Figure 25 Huntington Road - Alternative 1 Typical Section

- Connects to existing sidewalks to the east of the project area and the Cross Vermont Trails trailhead to the west.

- Most of the path will be located within the Town's ROW but 1-2 feet of the path crosses into private property and permanent easements will be required. To mitigate the permanent impacts, either the grass strip or the path width could be reduced by 2 feet and a guardrail can be added to protect path users from vehicles. Additionally, there will be temporary impacts along the entire project area.

- Aerial utility poles are present within the project area and will be impacted. They will need

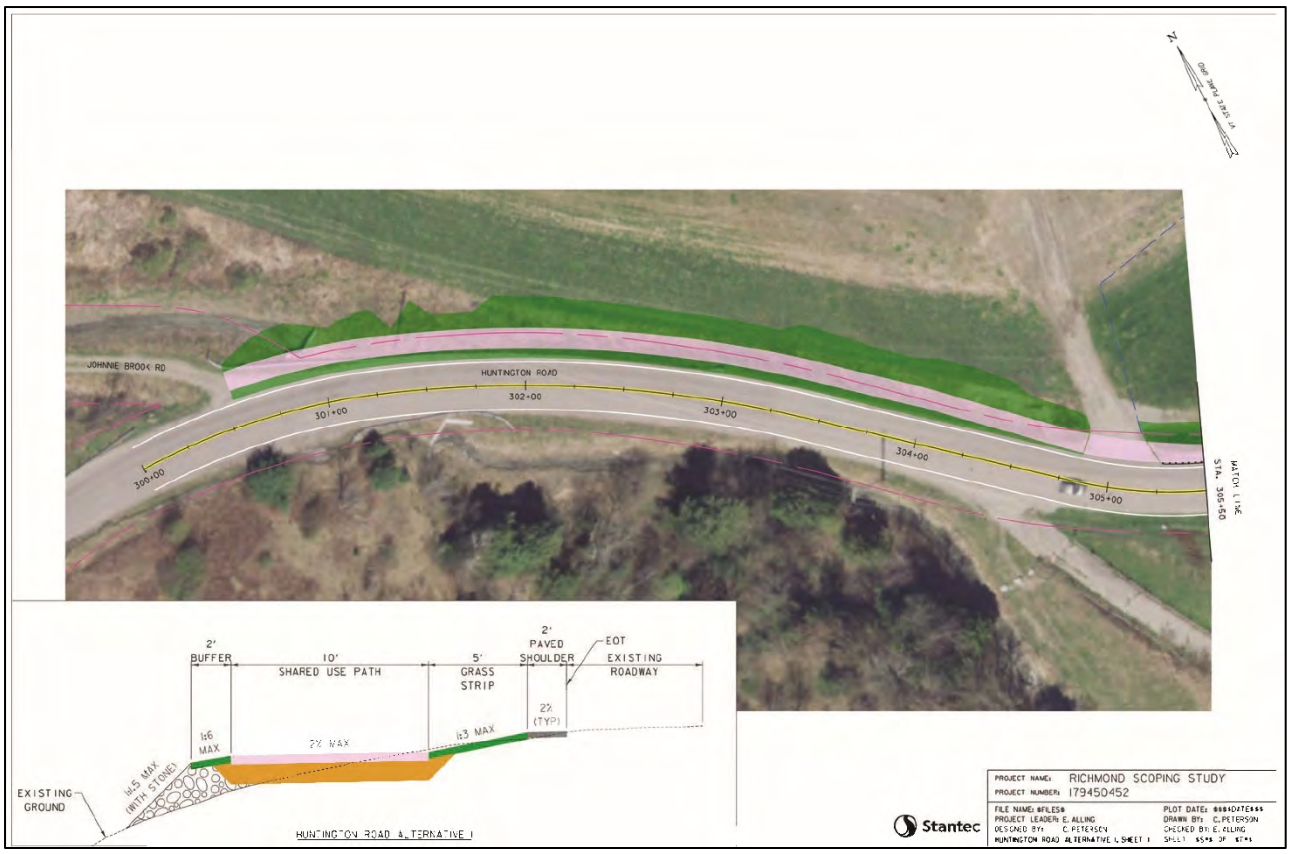


to move to the outside of the path which will create further ROW impacts. This is necessary because relocating them to between the path in the roadway would put them within the roadway's clear zone.

- Does not impact existing stormwater drainage patterns.

- Estimated construction cost is $410,000.

Figure 26 Huntington Road - Alternative 1 Plan



A set of full-size plans is provided in Appendix E.

5.5.3 Alternative 2: 10-foot path with 5-foot grass strip (alternate alignment)

This alternative proposes a 2,550-foot-long 10-foot-wide bituminous path with a 5-grass strip along the northern side of Huntington Road with the path alignment altered to travel away from the road and behind the farmhouse. This was done in an attempt to minimize impacts on a historic property. A typical section and plan of this alternative are shown in Figure 28. As shown on the plan this alternative includes the following features:

- The 10-foot-wide bituminous path separated from the roadway with a 5-foot-wide grass strip and a change in alignment to behind the private residence/farmhouse.
- Connects to existing sidewalks to the east of the project area and the Cross Vermont Trails trailhead to the west.
- Much of the path would be located on property and permanent easements will be required. Additionally, there will be temporary impacts along the entire project area.

- Aerial utility poles are present within the project area and will be impacted. They will need to move to the outside of the path which will create further ROW impacts. This is necessary because relocating them to between the path in the roadway would put them within the roadway's clear zone. The clear zone is an area along roadways that must be free of hazards.
- Does not impact existing stormwater drainage patterns.
- It should be noted that the property owners expressed at the Alternatives Presentation Meeting that they are not in favor of this alternative.
- Estimated construction cost is $370,000.

Figure 27 Huntington Road - Alternative 2 Typical Section

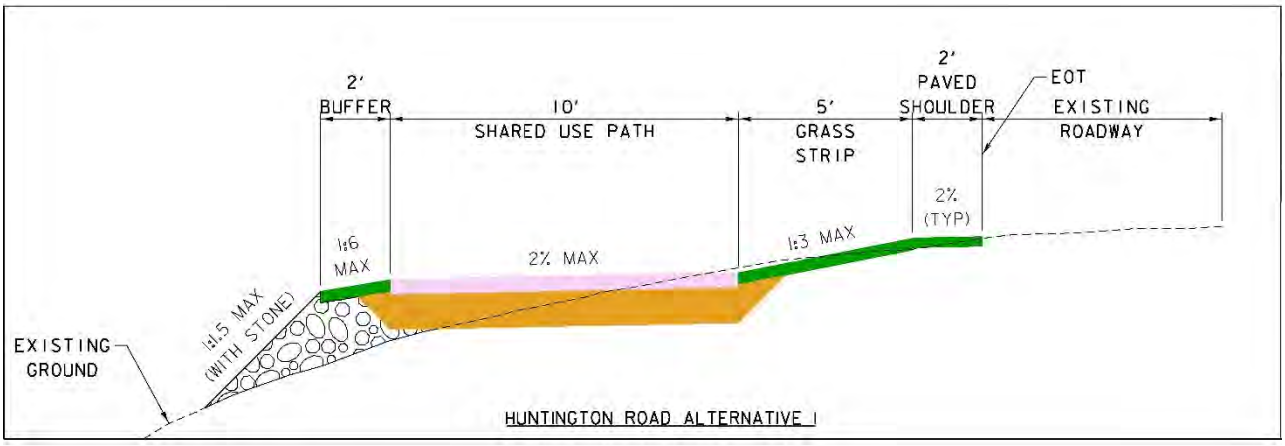
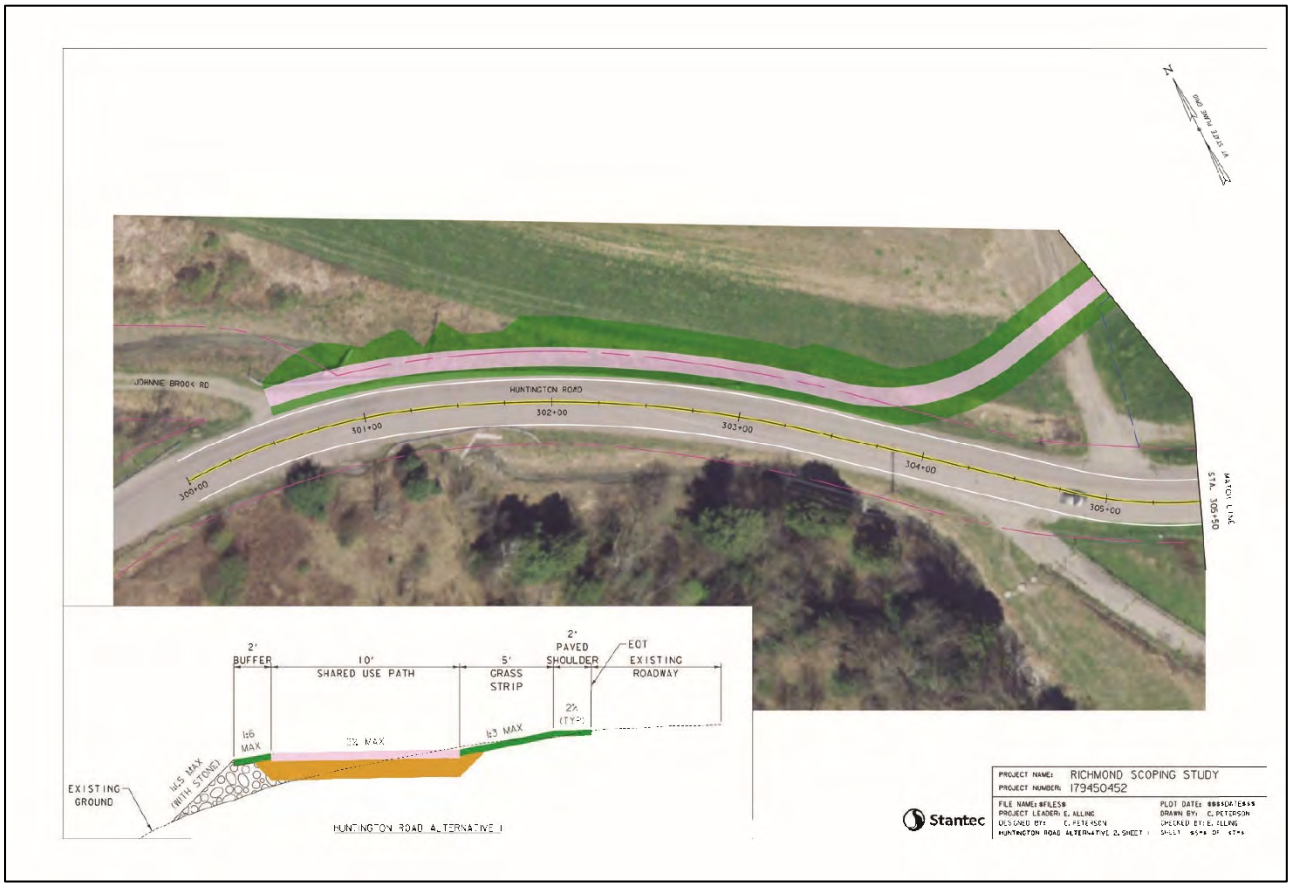


Figure 28 Huntington Road Alternative 2 Plan



A set of full-size plans is provided in Appendix E.

5.6 COMPARISON OF ALTERNATIVES

5.6.1 Alternative Impacts

Safety Impacts

Safety for pedestrians is improved in Alternatives 1 and 2 over the No Action Alternative.

Right-of-Way (ROW) Impacts

Based on the record plans, the ROW width varies but generally is 49.5 feet wide. Both build alternatives require permanent easements and Alternative 2 will require a much higher number of permanent impacts due to the offroad alignment of the path. Both alternatives have temporary impacts along the entire length.

Environmental Resource Impacts

Based on the desktop research and site visit there are no known impacts on streams, wildlife, or rare and endangered species for the alternatives. Neither build alternative will impact any known wetlands. The level of environmental permitting anticipated for this project is limited to a Programmatic Agreement Categorical Exclusion (PACE).

Archeological Resource Impacts

A preliminary archeological resources assessment was completed and included in the Appendix. There are no areas of archeological sensitivity identified within the project area. An Archeological Resource Assessment is included in the appendices.

There is a historic structure within the project limits. The Vermont State Historic Preservation Office will be involved with the NEPA process and will likely have requirements for any improvements in front of the Farr farmhouse.

Utility Impacts

Existing utilities in the project area include aerial electric distribution and communication lines. The path will necessitate their relocation.

Stormwater Impacts

Both alternatives are under the 0.5-acre threshold of new impervious surface area and a Stormwater Operational Permit is not required.

Traffic Calming

During the public meetings attendees commonly listed vehicle speeds as a major concern. While a speed study must be completed to verify vehicle speeds, low-cost traffic calming measures should be included in the project. Appropriate measures for this segment of Huntington Road include narrowed travel lanes, radar feedback signs, and pavement speed limit markings.

Farmhouse Relocation

The Richmond Transportation Committee mentioned relocating the Farr farmhouse during a regular committee meeting. Relocating a house would require inspection by a certified contractor to understand the feasibility. Costs for moving a house can range from $15,000 to $200,000 depending on the complexity of the move and the distance. These costs do not include construction of a foundation at the new location.

Additionally, this structure would likely fall under the jurisdiction of the State Historic Preservation Office so they would need to approve the move and may place requirements on the structure's proposed location, landscaping, and foundation type. If relocating the farmhouse is a serious consideration, the historic preservation office should be contacted early in the process.

5.6.2 Project Costs

The following table is a summary of the project costs for the alternatives.

Table 10 Huntington Road Summary of Project Costs

Item	No Action	Alternative 1 (10 ft shared use path with 5 ft grass strip)	Alternative 2 (10 ft shared use path with 5 ft grass strip and alternative alignment)
Construction Costs	**$0**	$410,000	$370,000
Right-of-Way Costs	**$0**	<$10,000	>$10,000
Design Engineering	**$0**	$110,000	$100,000
Municipal Project Management/Admin	**$0**	$25,000	$20,000
Construction Engineering	**$0**	$65,000	$60,000
Total Project Costs	**$0**	**$610,000**	**$550,000**

5.6.3 Evaluation Matrix

Table 11 provides an evaluation matrix summarizing the above information pertaining to traffic operations, safety, right-of-way, environmental, archeological resources, utilities, and project costs.

Table 11 Huntington Road - Evaluation Matrix

CRITERIA	No Build	Alternative 1: 10 foot Path with 5 foot Grass Strip	Alternative 2: 10 foot Path with Grass Strip (alternate alignment)
Project Construction Costs	**$0**	**$410,000**	**$370,000**
Total Project Costs	**$0**	**$610,000**	**$550,000**
Purpose and Need			
Provide safe, comfortable pedestrian and cyclist connection	**No**	**Yes**	**Yes**
Facilitate use by all age groups, experience levels, and trip purposes	**No**	**Yes**	**Yes**
Contribute to town & regional pedestrian & bicycle network	**No**	**Yes**	**Yes**
Impacts			
Safety	**No Improvement**	**Improvement for Pedestrians and Cyclists**	**Improvement for Pedestrians and Cyclists**
Right-of-way	**None**	**Temporary and Permanent Easements Required**	**Temporary and Permanent Easements Required**
Environmental	**None**	**Impacts to Flood Hazard Area**	**Impacts to Flood Hazard Area**
Cultural Resource	**None**	**Impacts to farmhouse front lawn**	**Alternate alignment requires path to go through farm fields**
Winter Maintenance	**None**	**Adequate snow storage**	**Adequate snow storage**
Utilities/Drainage	**None**	**Relocation of utility poles**	**Relocation of utility poles**
Stormwater	**No Change**	**Stormwater treatment and permitting required**	**Stormwater treatment and permitting required**

6.0 STAKEHOLDER INPUT AND RECOMMENDATIONS

Two public meetings were held during the scoping process; a Local Concerns Meeting held in December of 2021 and an Alternatives Presentation Meeting held in March of 2022. The meetings were publicly noticed, and the Town reached out to abutting property owners. Additionally, a survey among residents of the Southview and Valley View Road neighborhoods was conducted. Results generally showed support of pedestrian improvements along Jericho Road. Meeting notes for both meetings can be seen in the appendices.

A general summation of the Local Concerns Meeting can be described as support for facilities for all three segments.

The Alternatives Presentation Meeting provided additional feedback from the community. The attendees generally preferred Alternative 2 for Jericho Road, Alternative 2 for Bridge Street, and Alternative 1 for Huntington Road.

7.0 MUNICIPAL PREFERRED ALTERNATIVE

Jericho Road

The Transportation Committee supports a recommendation to the Selectboard for a preferred alternative with the box rail, where the project allows for a five-foot path and a green strip where feasible.

A combination of alternatives 1 and 2, 5-foot sidewalk with 5-foot grass strip and box beam guardrail, was officially and unanimously endorsed by the Richmond Selectboard at their June 6th, 2022 meeting.

Bridge Street

The Transportation Committee recommends Alternative #1 for the Bridge Street east new sidewalk, namely for a five-foot sidewalk and a five-foot green strip.

Alternative 1 was officially and unanimously endorsed by the Richmond Selectboard at their June 6th, 2022 meeting.

Huntington Road

Due to concerns raised by property owners, the committee has recommended the “no build” alternative until an alternative can be developed with more direct involvement of the property owners.

APPENDIX A

Meeting Notes

Stantec

Memo

To:	Jason Charest Chittenden County Regional Planning Commission	From:	Erik Alling Stantec
File:	Richmond Sidewalks Scoping Study	Date:	November 9, 2021

Reference: Local Concerns Meeting Notes, 6:00 PM on Tuesday, November 2nd, 2021 (Hybrid in-Person and Zoom Meeting)

Project Team:

Ravi Venkataraman, Town Planner

Jason Charest, CCRPC Transportation Engineer

Sai Sarepalli, CCRPC Transportation Engineer

Erik Alling, Stantec Transportation Engineer

Residents in attendance:

Gary Bressor

Jean Bressor

Jon Kart

Betsy

Christopher Cole

Robin P

Jed Rankin

Virginia Clarke

Introduction and Background

Jason Charest, CCRPC:

The study is being funded with federal transportation planning dollars that come to Chittenden County through the CCRPC and are used to do transportation planning studies throughout the county. Richmond applied for and was awarded funding for this study through the CCRPC's annual work program.

There is a Project Advisory Committee consisting of representatives from Richmond (Ravi), Richmond Transportation Committee (RTC), and CCRPC (Jason, Sai). The role of the PAC is to attend meetings, review, and comment on materials, provide guidance, and update the Selectboard on the progress of the scoping project.

Reference: Local Concerns Meeting Notes, 6:00 PM on Tuesday, November 2nd, 2021 (Hybrid in-Person and Zoom Meeting)

Jason reviewed the process for this study which begins with project definition, also called scoping. In this phase the problem is identified, and solutions are explored. The goal is to reach a preferred alternative. The next steps after scoping would be to secure funding for engineering and construction and then design and build the project.

Stantec has done the initial data gatherings and will begin looking at alternatives after tonight's meeting.

Existing Conditions and Discussion with the Public:

Erik Alling, Stantec

There are three separate study areas:

1) along Jericho Road from the school entrance to Valley View Road
    a. Existing conditions:
        i. 25-35 mph speed limit
        ii. 1,105 vehicles per day
        iii. 49.5' ROW width
    b. Existing sidewalk south of the project area which connects to the village
    c. Discussion with public:
        i. Attendee recommended listing number of houses and residents nearby to project area to estimate how many would use this facility. Strava data can also help.
        ii. Attendee recognized it as a potentially good connection
        iii. Attendee mentioned that a number of people walk from the Southview neighborhood and would likely use this facility
            1. There is an email group for this neighborhood and attendee will forward information to Ravi for input for this project
        iv. Attendee requested that there be a green strip due to the potential for children to use the facility
        v. Attendee mentioned a possible off-street connection to a path near the intersection with Southview Road
        vi. Attendee who walks along Jericho Road mentioned that the curve under the interstate overpass is dangerous and has limited sight distance.

2) along the east side of Bridge Street from Jolina Court to Volunteers Green
    a. Existing conditions:
        i. 25 mph speed limit
        ii. 5,700 vehicles per day
        iii. 49.5' ROW width
    b. Existing sidewalk along western side of Bridge Street and on the east side to the north of the project area
    c. Discussion with public:

i. Attendee highlighted the multiple destinations on the east side of the road: the Town Offices, library, and post office
ii. Attendee said that a sidewalk on the east side would be useful in preventing multiple crossings
    1. Second attendee agrees with this statement.
iii. Attendee mentioned that Jolina Court is being developed so sidewalk along both sides will be useful
iv. Attendee requested grass strips
    1. Erik mentioned that perhaps one alternative could have a grass strip and another could minimize impacts
v. Attendee mentioned that the Bridge Street ROW may be off-center and that it is possible that there is additional Town ROW along the east side.
    1. Stantec will investigate
vi. Attendee recommended ending the east sidewalk and installing a crosswalk to connect with the southwest corner of the intersection with Esplanade Street
vii. Attendee requested that Rectangular Rapid Flashing Beacons (RRFB) be included in the scoping for Project Area 2
    1. The attendee then asked if funding for these was separate
    2. Erik and Sai responded that funding for proposed improvements would likely be in the form of an 80/20 funding split between VTrans and the Town and that this grant could include RRFB assemblies.

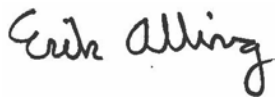
3) along the northerly side of Huntington Road from the Stone Corral Brewery to the Cross Vermont Trail trailhead at Jonnie Brook Road.
    a. Existing conditions:
        i. 35 mph speed limit
        ii. 3,429 vehicles per day
        iii. 49.5’ ROW width
    b. Existing sidewalk to the north/east of the project area on the northwesterly side of Huntington Road/Bridge St which connects to Richmond Village.
    c. Discussion with public:
        i. Attendee mentioned that this area is popular with cyclists and recommended considering them in the alternatives
        ii. Attendees agreed that a multi-use path would be preferred for Project Area 3
        iii. Attendee recommended extending sidewalk to the farmhouse at 400 Huntington Road, then continuing off the roadway alignment as a shared use path across the farm field.
            1. Attendee added that there is a vernal wet area that may need to be avoided and the entire field experiences regular flooding.
            2. Ravi mentioned that off-alignment options were preferred for this area during the last master planning process

Reference: Local Concerns Meeting Notes, 6:00 PM on Tuesday, November 2nd, 2021 (Hybrid in-Person and Zoom Meeting)

iv. Attendee said that this segment of Huntington Road is not comfortable to walk on due to the blind curves
v. Attendee mentioned that sidewalk may be an option worth examining

The meeting ended at approximately 6:50 PM

Stantec Consulting Services Inc.



Erik Alling, PE
Project Manager

Phone: 802.864.0223
Erik.Alling@stantec.com

Attachment: PowerPoint Slides

c. Design File

Meeting Notes

Richmond Scoping Study Alternatives Presentation

Richmond Scoping Study / 179450452

Date/Time:	March 17, 2022 / 6:00 PM
Place:	Richmond, VT & Zoom
Next Meeting:	
Attendees:	
Absentees:	
Distribution:	

Item:	Action:
Erik Alling Presents Project	
Jericho Road Segment Public Comment	
Jon Kart would like to see a picture of a box beam guardrail and some clarification on the difference between the two alternatives.	Erik showed some pictures of standard box beam guardrail.
Adam Burnett would like to know what the impacts to his property are between southview and valley view road. He would also like to know what the advantages and disadvantages to box beam vs no box beam. Adam is supportive of the project either way.	Erik explained both alternatives are safe for pedestrians, the 2nd alternative would push back project limits but still wouldn't impact properties permanently.
Resident of Valley View is very happy about this project. Would like to know if there are any barriers or safety features for the steeper sloped areas along the path.	Erik mentioned that a fence can be added if needed or wanted.
Adam Burnett would like to know if all access points to the properties would remain if a fence were to be added.	Erik explained that yes, any drive or other access points could be maintained.
Jason Charest asked if the residents had any preference between the alternatives	
June supports the project, and would prefer alternative 2 with no guardrail for consistency with other sidewalks in the area.	
Bridge Street Segment Public Comment	
Linda Parent says a group of people were in her office discussing the trees at the beginning of the project and if they should be removed due to disease. Coordination should be done. She also had a question regarding impacts to the cemetery and if caskets were to be unearthed what would the	Erik mentioned there are provisions that can be put in contract and plan documents for situations like the cemetery.

Item:	Action:
procedure be? She also mentions there are telephone cables buried near the cemetery as well.	
Cathleen Gent to forward comments she received.	
Jon Kart points out that a need for a sidewalk in this segment has been identified as early as 2010 so its been talked about for a while now.	
Huntington Road Segment Public Comment	
Daniel Schmidt frequently runs/walks this segment and would love to see an “off road” trail through this area especially to the Cross Vermont trail. If the shoulder widening option is still the preferred alternative, are there any other alternatives that could be done regarding traffic for safety.	
Adam Burnett says that having parking for the trail would be wonderful, or having access between downtown parking to the trail. What are the challenges associated with the permanent and temporary ROW impacts? Are those alternatives even feasible?	Erik explains that its definitely easier when there are no permanent ROW impacts on a project, but it is by no means a deal braker. The flood plains are also a challenge but definitely workable.
Lisa Kory is a frequent walker in the village mentions that the experience of walking this segment in the past has prevented her from revisiting the trail and doesn’t think wider shoulders would make her feel more comfortable and would prefer the path option.	
Allen Knowles asks if a hybrid option is possible with varying width path and varying width shoulder that could stay within the right of way.	Erik says that could be a possibility for just pedestrians, but that would not fit the purpose and need for both pedestrians and cyclists.
Erin, Farr Farms, lives in the farmhouse with the majority of impacts. They are not opposed to a safer traffic corridor but they have some concerns with all the impacts surrounding their property (utility, drainage, flood plains, row, etc). They would like to know how they would be compensated if the project were to go through. Definitely do not prefer the path option that goes behind the house. The Farrs also question how many of the bicyclists would even use the path.	Erik explains that any impacts outside of ROW are compensated.
Allen Knowles asked if the question had even been asked if the farmhouse could be moved across the road.	
The Farrs said they’re open to any idea, but that seems like a tall order.	
The meeting adjourned at 7:30 PM	

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

Stantec Consulting Services Inc.

Caela Peterson
Civil Engineering Designer

Phone: 802 864 0223

Caela.Peterson@stantec.com

Attachment:

c.

Consideration of endorsing the Richmond Sidewalks Scoping Report

Alling: We are here to discuss the Richmond Sidewalks Scoping Report at http://www.richmondvt.gov/wp-content/uploads/2018/11/3n2-2022.06.06_Selectboard-Meeting-Updated-Sidewalk-Study.pdf

This consists of three different sections. We are here to gather feedback on the the alternatives from the Selectboard and Selectboard endorsement of preferred alternative.

Charest: I am the project manager on behalf of the Chittenden County Regional Planning Commission (CCRPC). Our original intent was for each of the three roadways, Jericho Rd, Bridge St, and Huntington Rd. We are now just presenting Huntington Rd for information only. We recently became aware of some adjacent landowners' issues and hope to reach a compromise before any endorsement. We are looking for endorsements for the Jericho Rd and Bridge St sections.

Farr, A: Was there a follow up meeting after the March 17th meeting?

Charest: There were meetings with the Richmond Transportation Committee.

Farr, A: We are a substantial landowner and ask that we be included in the process. It needs to be much more transparent.

Heston: There will be no decision on the Huntington Rd conversation tonight.

Alling: Segment 1 on Jericho Rd is from School driveway up to Valley View Rd on the west side. Segment 2 is the east side of Bridge St from Jolina Ct to Volunteers Green. Segment 3 is the Huntington Rd from Stone Corral Brewery to Cross Vermont trailhead at Johnnie Brook Rd.

*Segment 1 on Jericho Rd has two alternatives to improve pedestrian safety. Alternative 1 is a 5-foot sidewalk separated by a box beam guardrail. Alternative 2 is a 5-foot sidewalk separated by a 5-foot grass strip with a box beam guardrail. We have compared different criteria for both Alternatives to show that costs are fairly similar. Alternative 2 provides better Winter Maintenance for snow banks but it might create some ice across the sidewalks. Both Alternatives do not require a stormwater treatment or storm water permit.

*Segment 2 on Bridge St has two alternatives to improve pedestrian safety. Alternative 1 is a 5-foot sidewalk separated by a 5-foot grass strip. Alternative 2 only has a 2-foot grass strip. Both Alternatives would have a curb to be installed in 2022. The Transportation Committee is recommending Alternative 1. We have compared different criteria for both Alternatives to show that costs are fairly similar. Alternative 1 will likely have to remove mature trees but will have adequate snow storage.

Charest: The Transportation Committee's sentiment was to preserve the trees by narrowing the 5-foot green strip where needed.

Alling: Both Alternatives require additional care associated with the adjacent cemetery. Both Alternatives do not require a stormwater treatment or storm water permit.

*Segment 3 on Huntington Rd has two alternatives to improve both pedestrian and cyclist safety. Alternative 1 is a 10-foot path separated by a 5-foot grass strip. By the farmhouse, we taper away the 5-foot grass strip and bring in a box beam guardrail. Alternative 2 is a 10-foot path separated by a 5-foot grass strip with a different alignment behind the farmhouse. This avoids having to taper the grass strip as it goes behind the farmhouse instead of following the road. The Transportation Committee is recommending Alternative 1. We have compared different criteria for both Alternatives total project costs. Both Alternatives require a stormwater treatment and stormwater permitting.

*Public feedback for Jericho Rd generally favored a grass strip (Alternative 2). Public feedback for Bridge St showed strong support to east side sidewalks to eliminate multiple crossings. Public feedback for Huntington Rd agreed it is currently a challenge for walkers and bikers and supported minimizing impacts near the Farr Farms farmhouse.

*Transportation Committee Recommendations:
-Jericho Rd preferred alternative with box rail to allow for a 5-foot path and green strip
-Bridge St preferred alternative with 5-foot sidewalk with 5-foot grass strip
-Huntington Rd preferred alternative with a 10-foot path with 5-foot grass strip.

Forward: What is our goal for tonight?

Alling: To answer any questions and to seek an endorsement for Jericho Rd and Bridge St.

Forward: I support the Jericho Rd and Bridge St projects. I agree we should delay the discussion on the Huntington Rd proposals.

Hill: How do the people from Valley View and Southview get to the sidewalk?

Alling: That would be a project to look at in the future.

Hill: We have a Park & Ride that people cannot get to. This solves 200 yards of the problem. We still have 500 yards in Valley View and Southview. Would residents allow students to walk to school with the proposed sidewalk?

Charest: We received feedback from those residents at our public meeting that they were in favor of using the Jericho Rd sidewalk.

Venkataraman: Jericho Rd was the major obstacle for Southview residents to get to the Village.

Heston: You can see cars coming on Southview, but Jericho Rd is an issue as there is no safe way between Southview and the school.

Hill: I think we should look at the Bridge St project as going all the way up to Main St.

Furr: The Bridge St sidewalk would be very useful. It is difficult to use at busy times during the day with the many crossings. Jericho Rd is a nightmare with excessive speeds both coming down and going up the hill. I think building the sidewalk to Southview would increase the number of students walking rather than taking the bus or getting dropped off.

Knowles: The Bike Pedestrian Master Plan 1 recommends traffic calming measures on Southview to accommodate the pedestrians going to the Jericho Rd sidewalk.

Forward: The crosswalks between the Community Kitchen and Richmond Market/Beverage should be included in the costs. At least temporary structures could be put up to alleviate safety concerns.

Heston: We have the proposal in front of us based on Transportation Committee recommendations.

Farr, E: The box guard rail was added to the study for Jericho Rd.

Gent: That is the preferred alternative for Jericho Rd. The next agenda item deals with the entire East side of Bridge St and applying for a Federal Bicycle and Pedestrian Grant.

Linn: On Jericho Rd, you will add a lot more water runoff downhill.

Alling: I agree but it is not enough to require State permits.

Linn: Have all the landowners on these parcels been included in your conversations and will they be reimbursed for the loss of land.

Alling: Yes, any project that takes any rights from private property does receive compensation.

Venkataraman: We sent out mailers to property owners and provided information from our list-serve. We sent out flyers and posted on Front Porch Forum about the public meetings.

Linn: When we change the road then the adjacent homes are closer to the setback.

Venkataraman: It is all speculative and needs to be reviewed based on structure, location, and setback.

LaBounty: Are you looking at eminent domain for easements on private property?

Venkataraman: Also, very speculative.

LaBounty: Are you proposing to be on any private property?

Alling: Only during the construction phase of Jericho Rd and Bridge St. Huntington Rd would require a permanent easement. The 10-foot segments on Huntington Rd were based on safety of bicyclists as well as pedestrians.

LaBounty: I think you should work directly with the Farrs to see what works best for them in the Huntington Rd sidewalks. I strongly recommend the 2-foot green strip as there is none on the other side of the road.

Alling: This summer there are plans to put in a 2-foot grass strip on the west side of Bridge St sidewalks.
LaBounty: I am very concerned about the sidewalk 5-foot grass area. It is a potential issue along that hill of the Cemetery. I recommend a crosswalk from Jolina Ct to the Richmond Market & Beverage. This sidewalk should not end at a road.

Forward: I am worried about snow storage on the Bridge St section.

Gent: Pete recommends 5-foot grass strips for snow storage.

Paulsen: There is a very steep hill between the Community Kitchen and the Main Street lights. Would you create a wall?

Venkataraman: The study from last year identified the need for a retaining wall.

Farr, E: I would like to look at the 4 different Huntington Rd options that were presented at the March 17th meeting when we reconvene on this subject. Our opposition to Alternative 2 is that it is in a flood plain that is under water at least twice every year.

Alling: The 3rd option was widened shoulders on Huntington Rd. The issue is that it does not provide a safe walking and riding space for all abilities.

Farr, E: We would like to talk about this with the Selectboard in the future.

LaBounty: Can we talk to Pete Gosselin about the 5-foot and 2-foot green space on Bridge St again?

Knowles: We did discuss this on the Transportation Committee. The west side is based on the current utility poles, sidewalks and right of way. The east side we do not have those constraints. A 5-foot strip allows for plowing space that does not bury the sidewalks like what always happens on East Main St.

LaBounty: Be cautious of the cemetery or digging up graves.

Knowles: These are scoping studies of what is possible. There are not specific design plans yet where we might go down to 4-foot or 2-foot green space to avoid taking out a mature tree to disrupting the cemetery.

Furr moved to endorse the recommendations by the Project Advisory Committee and the recommendations for alternatives from the Transportation Committee for the Bridge Street and Jericho Road portions of the Richmond Sidewalks Scoping Report. Forward seconded.
Roll Call Vote: Forward, Furr, Heston, Hill, Sander in favor. Motion approved.

Consideration of approval of submitting for 2022 Federal Bicycle and Pedestrian Grant

Venkataraman: The Transportation Committee would like to apply for this grant to connect the sidewalk from Main Street all the way down the east side of Bridge St to Esplanade. This would include crosswalk improvements for proper crossings. The total cost of this project would be $577,000. This grant would include engineering and construction coinciding with future public meetings. If we were to receive this award, build out would occur 3-5 years from now. We are applying to only one of the two grants available. I talked to the VTrans Grant Program Manager and this one is a strong candidate due to the gap, the need, and population served in our designated center.

Furr moved to approve applying for a 2022 Federal Bicycle and Pedestrian Grant to fund the construction of sidewalks on the east side of Bridge Street and streetscape improvements along Bridge Street, allocating $115,400 for the construction grant match, and naming Town Planner Ravi Venkataraman as the grant manager. Hill seconded
Roll Call Vote: Forward, Furr, Heston, Hill, Sander in favor. Motion approved.

RICHMOND TRANSPORTATION COMMITTEE MEETING MINUTES – 6/14/2022

Jason Charest discussed the work done on the Huntington Road segment since the public meeting on March 17, which was attended by Ashely and Erin Farr, along with other members of the public. Charest said the project team errored in not inviting the Farrs to future Transportation Committee meetings when the project was discussed. The Transportation Committee endorsed the recommended alternative at the May 10 meeting. Ashley Farr said he believed the project was being tabled so was very concerned upon seeing the final report with the recommendation. Both Ashley and Erin asked that they be part of any discussion going forward and that they are very concerned about safety on the S curves for bicyclists, pedestrians, and their own farm equipment. Discussion about potentially moving the farm house, widening the road to have a path on both sides, and the recommended alternative. The Farrs said they want to work with the Town to make the road safer. Cole reiterated a significant concern about the S curves and suggested straightening out the curves would be ideal, with bike paths on either side. Erin Farr asked about how the mission (goal) statement was developed, which Charest addressed. There was agreement that the Selectboard needs to be engaged with addressing a solution as the whole roadway needs to be addressed. In the meantime, the Transportation Committee will continue to work with the Farrs to work through a new proposal. Motion by Cole, seconded by Knowles, that, in lieu of public concerns regarding safety of the roadway, the Transportation Committee is now selecting a "no preference alternative", recognizing that the roadway and bike/pedestrian issues must be studied further. Voting: unanimous in favor. Charest and Stantec will revise the final report accordingly. The Farrs will be notified in advance about future meetings when this topic is discussed.

APPENDIX B

Construction Costs

Stantec

55 Green Mountain Drive
South Burlington, VT 05403
Tel: (802) 864-0223

Quantity Summary

RICHMOND SCOPING STUDY

179450452

JERICHO RD ALTERNATIVE 1

	Initials	Date
Calc'd By:	CJP	3/16/2022
Checked By:		
Revised By:		
Checked By:		

Item No.	Item Description	Unit	Unit Price	Quantity	Item Total
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	$10,000.00	1	$10,000.00
203.15	COMMON EXCAVATION	CY	$25.00	550	$13,750.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	$50.00	285	$14,250.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	$55.00	150	$8,250.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	$100.00	1275	$127,500.00
621.30	BOX BEAM GUARDRAIL	LF	$70.00	2050	$143,500.00
630.15	FLAGGERS	HR	$45.00	1200	$54,000.00
635.11	MOBILIZATION/DEMOBILIZATION (8%)	LS	$31,200.00	1	$31,200.00
641.11	TRAFFIC CONTROL, ALL-INCLUSIVE	LS	$10,000.00	1	$10,000.00
651.35	TOPSOIL	CY	$60.00	140	$8,400.00

Subtotal	$420,850.00
Contingencies (20%)	$84,170.00

Total Opinion of Probable Construction Cost (Rounded)	$510,000.00
Engineering	$110,000.00
Municipal Project Management/Admin	$30,000.00
Construction Inspection	$80,000.00
Total Opinion of Probable Project Cost (Rounded)	**$730,000.00**

55 Green Mountain Drive
South Burlington, VT 05403
Tel: (802) 864-0223

Quantity Summary

RICHMOND SCOPING STUDY

179450452

JERICHO RD ALTERNATIVE 2

	Initials	Date
Calc'd By:	CJP	3/16/2022
Checked By:		
Revised By:		
Checked By:		

Item No.	Item Description	Unit	Unit Price	Quantity	Item Total
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	$10,000.00	1	$10,000.00
203.15	COMMON EXCAVATION	CY	$25.00	550	$13,750.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	$50.00	285	$14,250.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	$55.00	150	$8,250.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	$100.00	1275	$127,500.00
621.30	BOX BEAM GUARDRAIL	LF	$70.00	2050	$143,500.00
630.15	FLAGGERS	HR	$45.00	1200	$54,000.00
635.11	MOBILIZATION/DEMOBILIZATION (8%)	LS	$32,100.00	1	$32,100.00
641.11	TRAFFIC CONTROL, ALL-INCLUSIVE	LS	$10,000.00	1	$10,000.00
651.35	TOPSOIL	CY	$55.00	350	$19,250.00

Subtotal	$432,600.00
Contingencies (20%)	$86,520.00

Total Opinion of Probable Construction Cost (Rounded)	$520,000.00
Engineering	$110,000.00
Municipal Project Management/Admin	$30,000.00
Construction Inspection	$80,000.00
Total Opinion of Probable Project Cost (Rounded)	**$740,000.00**

55 Green Mountain Drive
South Burlington, VT 05403
Tel: (802) 864-0223

Quantity Summary

RICHMOND SCOPING STUDY

179450452

BRIDGE ST ALTERNATIVE 1 & 2

	Initials	Date
Calc'd By:	CJP	3/16/2022
Checked By:	DMY	5/31/2022
Revised By:		
Checked By:		

Item No.	Item Description	Unit	Unit Price	Quantity	Item Total
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	$5,000.00	1	$5,000.00
203.15	COMMON EXCAVATION	CY	$25.00	175	$4,375.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	$50.00	100	$5,000.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	$55.00	50	$2,750.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	$100.00	400	$40,000.00
630.15	FLAGGERS	HR	$45.00	800	$36,000.00
635.11	MOBILIZATION/DEMOBILIZATION -10%	LS	$10,800.00	1	$10,800.00
641.11	TRAFFIC CONTROL, ALL-INCLUSIVE	LS	$10,000.00	1	$10,000.00
651.35	TOPSOIL	CY	$60.00	75	$4,500.00

Subtotal	$118,425.00
Contingencies (20%)	$23,685.00

Total Opinion of Probable Construction Cost (Rounded)	$150,000.00
Engineering	$60,000.00
Right-of-Way Acquisition	$10,000.00
Municipal Project Management/Admin	$30,000.00
Construction Inspection	$25,000.00
Total Opinion of Probable Project Cost (Rounded)	**$275,000.00**

55 Green Mountain Drive
South Burlington, VT 05403
Tel: (802) 864-0223

Quantity Summary

RICHMOND SCOPING STUDY

179450452

HUNTINGTON RD ALTERNATIVE 1

	Initials	Date
Calc'd By:	CJP	3/16/2022
Checked By:		
Revised By:		
Checked By:		

Item No.	Item Description	Unit	Unit Price	Quantity	Item Total
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	$5,000.00	1	$5,000.00
203.15	COMMON EXCAVATION	CY	$25.00	850	$21,250.00
203.30	EARTH BORROW	CY	$10.00	2200	$22,000.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	$50.00	855	$42,750.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	$55.00	350	$19,250.00
406.35	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	TON	$125.00	525	$65,625.00
613.11	STONE FILL, TYPE II	CY	$55.00	875	$48,125.00
621.30	BOX BEAM GUARDRAIL	LF	$70.00	180	$12,600.00
630.15	FLAGGERS	HR	$45.00	1200	$54,000.00
635.11	MOBILIZATION/DEMOBILIZATION (8%)	LS	$24,100.00	1	$24,100.00
641.11	TRAFFIC CONTROL, ALL-INCLUSIVE	LS	$10,000.00	1	$10,000.00
651.35	TOPSOIL	CY	$60.00	275	$16,500.00

Subtotal	$341,200.00
Contingencies (20%)	$68,240.00

Total Opinion of Probable Construction Cost (Rounded)	$410,000.00
Engineering	$110,000.00
Municipal Project Management/Admin	$25,000.00
Construction Inspection	$65,000.00
Total Opinion of Probable Project Cost (Rounded)	**$610,000.00**

55 Green Mountain Drive
South Burlington, VT 05403
Tel: (802) 864-0223

Quantity Summary

RICHMOND SCOPING STUDY

179450452

HUNTINGTON RD ALTERNATIVE 2

	Initials	Date
Calc'd By:	CJP	3/17/2022
Checked By:		
Revised By:		
Checked By:		

Item No.	Item Description	Unit	Unit Price	Quantity	Item Total
201.10	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	LS	$5,000.00	1	$5,000.00
203.15	COMMON EXCAVATION	CY	$25.00	1075	$26,875.00
203.30	EARTH BORROW	CY	$10.00	1100	$11,000.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	$50.00	650	$32,500.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	$55.00	325	$17,875.00
406.35	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	TON	$125.00	500	$62,500.00
613.11	STONE FILL, TYPE II	CY	$55.00	730	$40,150.00
630.15	FLAGGERS	HR	$45.00	1200	$54,000.00
635.11	MOBILIZATION/DEMOBILIZATION (8%)	LS	$22,500.00	1	$22,500.00
641.11	TRAFFIC CONTROL, ALL-INCLUSIVE	LS	$10,000.00	1	$10,000.00
651.35	TOPSOIL	CY	$60.00	350	$21,000.00

Subtotal	$303,400.00
Contingencies (20%)	$60,680.00

Total Opinion of Probable Construction Cost (Rounded)	$370,000.00
Engineering	$100,000.00
Municipal Project Management/Admin	$20,000.00
Construction Inspection	$60,000.00
Total Opinion of Probable Project Cost (Rounded)	**$550,000.00**

APPENDIX C

Archeological Resource Assessment

HARTGEN
archeological associates inc

ARCHEOLOGICAL RESOURCE ASSESSMENT

Richmond Sidewalk Scoping Study

Town of Richmond
Chittenden County, Vermont

HAA # 5824-11

Submitted to:

Erik Alling, P.E.
Senior Transportation Engineer
Stantec
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South Burlington, VT 05403-7824
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Erik.Alling@stantec.com

Prepared by:

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An ACRA Member Firm
www.acra-crm.org

May 2022

MANAGEMENT SUMMARY

SHPO Project Review Number:
Involved State and Federal Agencies: *Vermont Agency of Transportation (VTrans)*
Phase of Survey: *Archeological Resource Assessment*

LOCATION INFORMATION

Municipality: *Town of Richmond*
County: *Chittenden County*

SURVEY AREA OF POTENTIAL EFFECTS (APE):

The project includes three proposed sidewalk segments:

Huntington Road Alignment – Proposed 10-foot shared use path with 5-foot grass strip on the north side of the road, extending approximately one-half mile in length.

Bridge Street Alignment – Proposed 5-foot sidewalk with 5-foot grass strip on the east side of the street, extending approximately 500-feet in length.

Jericho Road Alignment – Proposed 5-foot sidewalk separated by Box Beam Guardrail on the west side of the road, extending approximately one-half mile in length.

RESULTS OF RESEARCH

Precontact Archeological sites within one mile: *1*
Historic Archeological sites within one mile*: 2*
Surveys in or adjacent: *0*
NR/NRE sites within project area: *0*

Precontact Sensitivity

- *Huntington Road Alignment* – High on the western end where project plans are proposed on the floodplain. Low sensitivity on the eastern end in front of historic houses.
- *Bridge Street Alignment* – Low due to previous road and utility disturbance.
- *Jericho Road Alignment* – Low due to slope and previous road disturbance

Historic Sensitivity

- Low historic sensitivity for the presence of intact deposits within the three road alignments.

Report Authors: *Elise H. Manning-Sterling, MA*

Date of Report: *May 2022*

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Map List

PHASE I ARCHEOLOGICAL RESOURCE ASSESSMENT

1 Introduction

Hartgen Archeological Associates, Inc. (Hartgen) conducted an Archeological Resource Assessment (ARA) for the proposed Richmond Sidewalk Scoping Study located in the Town of Richmond, Chittenden County, Vermont. The Chittenden County Regional Planning Commission (CCRPC) is undertaking a scoping study for three proposed sidewalk improvement alignments located in the Town of Richmond.

This investigation is being conducted to comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and will be reviewed by the Vermont Agency of Transportation (VTrans). This investigation adheres to the Vermont State Historic Preservation Office's (SHPO) *Guidelines for Conducting Archeology in Vermont* (VDHP 2019).

2 Project Information

A site visit was conducted on April 15, 2022 to observe and photograph existing conditions within the three project areas. The information gathered during the site visit is included in the relevant sections of the report.

2.1 Project Location

There are three proposed sections of sidewalk improvements:

Huntington Road Alignment is planned on the north of the road, begins approximately 200 feet west of the intersection of Huntington Road and Bridge Street/Thompson Road and extends west approximately one-half mile to the intersection with Johnnie Brook Trail (Map 2a).

Bridge Street Alignment is proposed along the east side of Bridge Street, beginning at Jolina Court on the north end and extending southward approximately 500 feet to a crosswalk at the intersection with Esplanade (Map 2b).

Jericho Street Alignment is proposed along the west side of Jericho Street, beginning at the intersection with School Street and extending northward approximately one-half file to the intersection with Valley View Road (Map 2c).

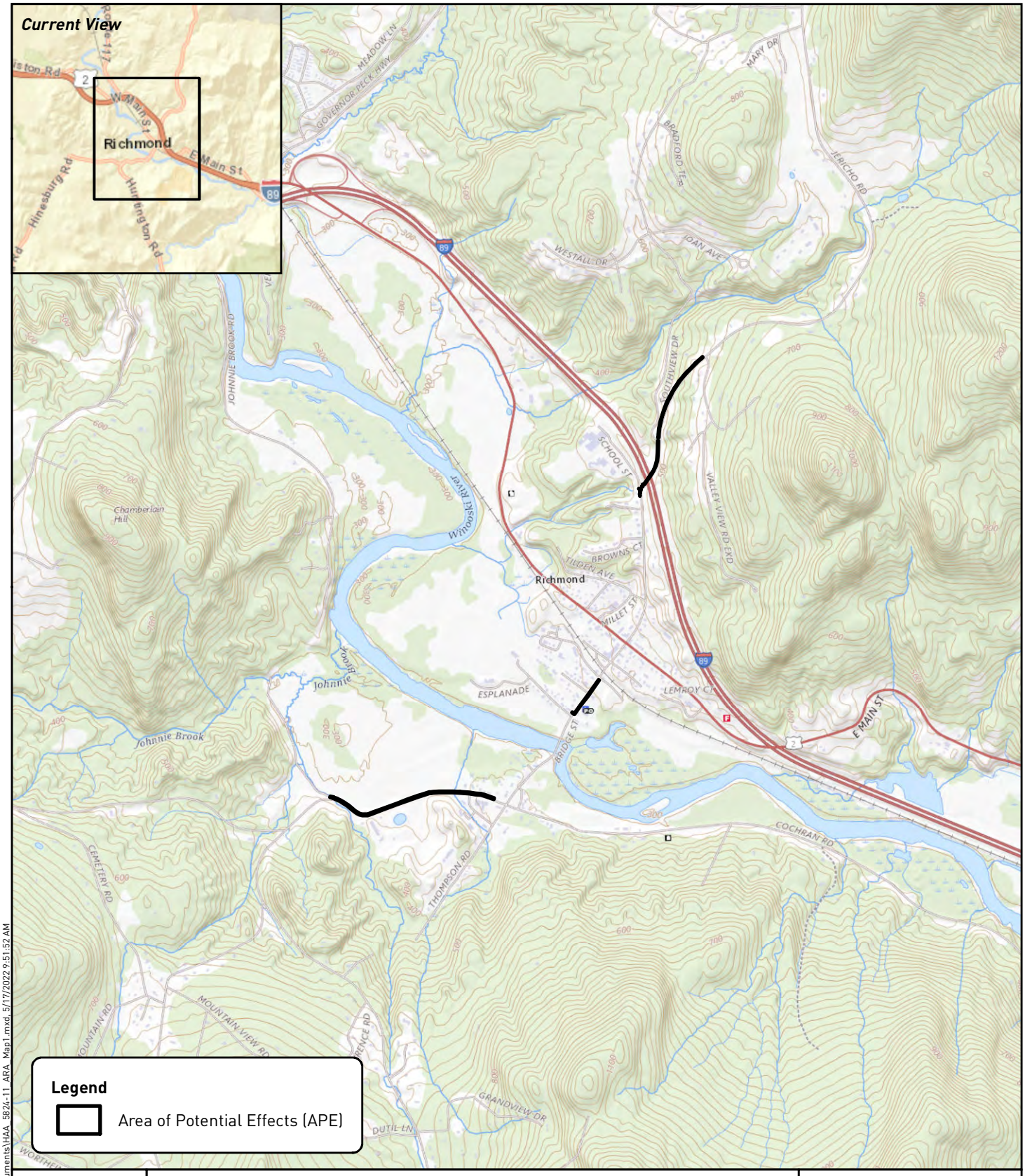
3 Environmental Background

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. Soil conditions can provide a clue to past climatic conditions, as well as changes in local hydrology.

The Richmond project areas are located on the western edge of the Green Mountain physiographic region within the Winooski River Valley. The Huntington Road and Bridge Street project areas are situated at an approximate elevation of 300 feet above mean sea level (amsl) on the Winooski River floodplain. The Jericho Road project alignment varies in elevation from approximately 440 feet amsl at School Street, rising to an approximate elevation of 560 feet amsl at Valley View Road.

The Huntington Road project area is located approximately 700 feet south of the Winooski River. A small seasonal drainage is located west of the historic houses on Huntington Road.

The Bridge Street project area is located several hundred feet north of the Winooski River. Wetlands associated with the river are located approximately 700 feet southeast of Bridge Street.



Legend

Area of Potential Effects (APE)

N

1,000 0 1,000 2,000 Feet

300 0 300 600 Meters

Note: Contour interval is 20 feet.

Project Location

GIS Services Accessed 5/17/2022: Environmental Systems Research Institute, Inc., World Street Map; USGS The National Map

HARTGEN archeological associates inc

Map 1

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N

100 0 100 200 Feet

30 0 30 60 Meters

Legend

Area of Potential Effects (APE)

Project Map

Vermont Center for Geographic Information, Orthoimagery, 2016-2020

HARTGEN archeological associates inc

Map 2a

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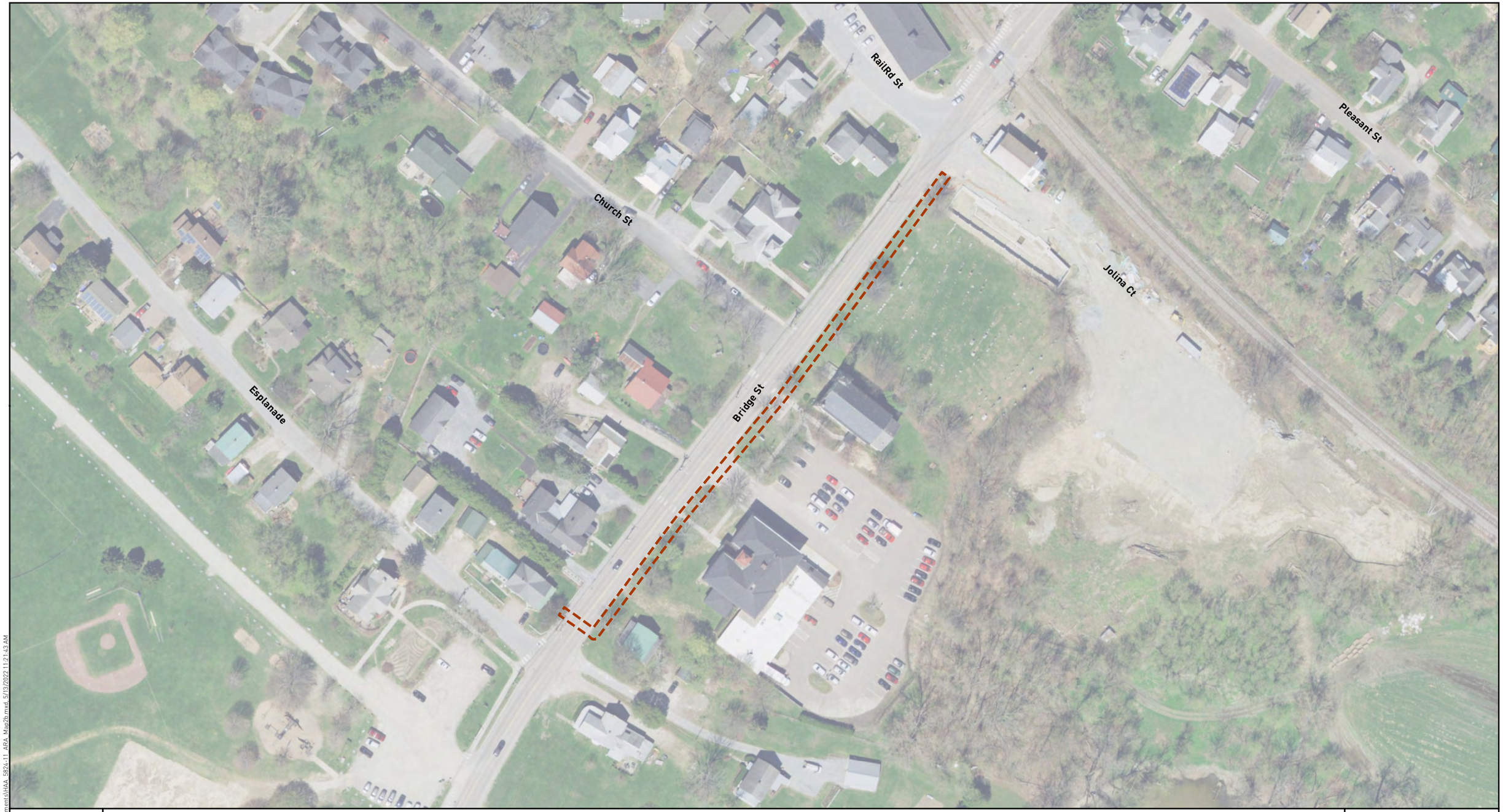

N

50 0 50 100 Feet

15 0 15 30 Meters

Legend

Area of Potential Effects (APE)

Project Map

Vermont Center for Geographic Information, Orthoimagery, 2016-2020

HARTGEN archeological associates inc

Map 2b

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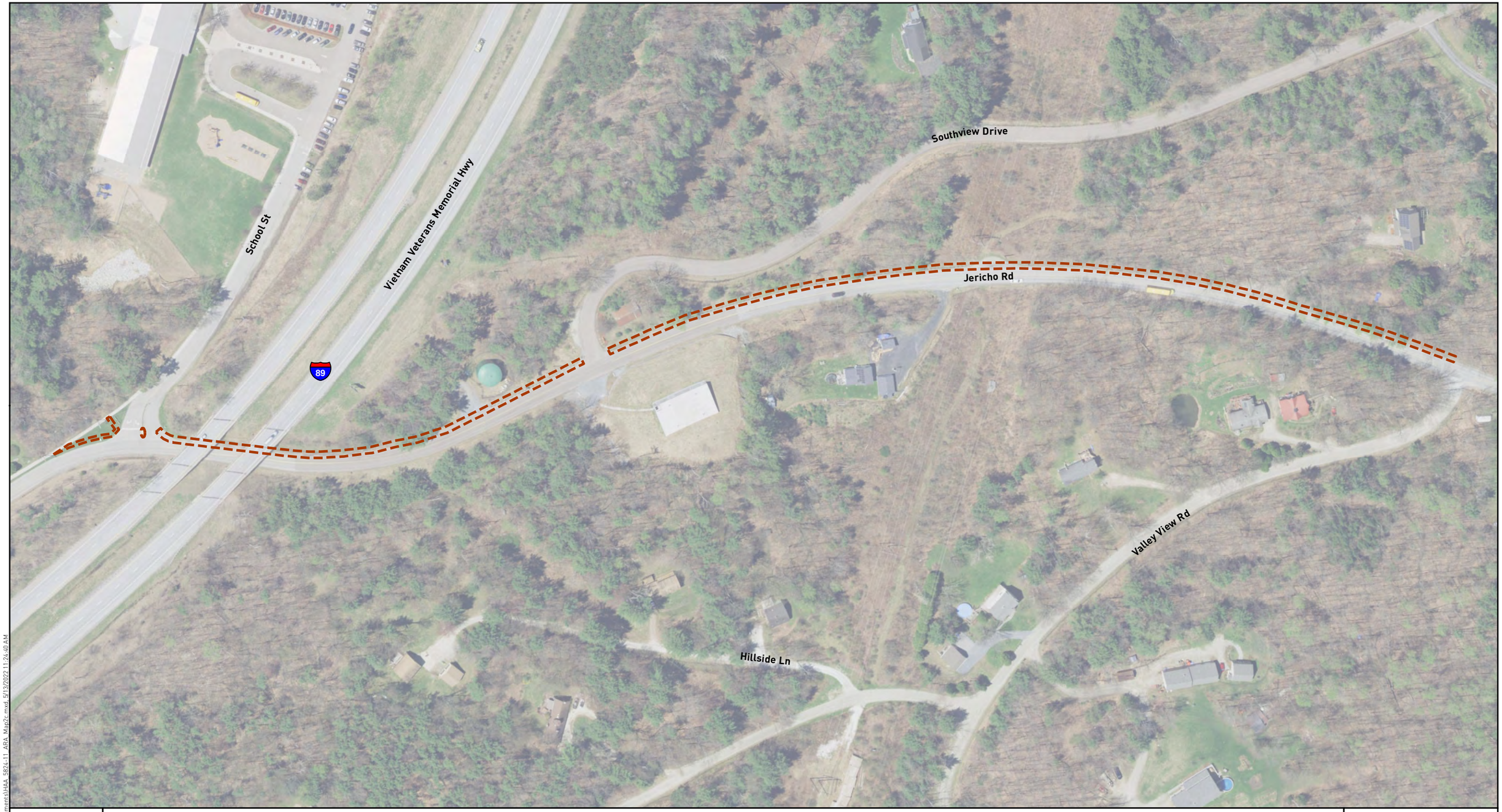

75 0 75 150 Feet
21 0 21 42 Meters

Legend

Area of Potential Effects (APE)

Project Map

Vermont Center for Geographic Information, Orthoimagery, 2016-2020

HARTGEN archeological associates inc

Map 2c

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Jericho Road alignment is situated on sloping and higher terrain above small seasonal streams to the south and west. At the western end of the alignment, south of School Street, there is a seasonal draw which flows southwest into the Winooski River.

3.1 Present Land Use and Current Conditions

Huntington Road Alignment – The easternmost end of this alignment contains several 19th- and early 20th-century homes with small front yards facing Huntington Road (Photo 1). The remainder of the alignment is situated along the raised roadbed situated above the Winooski River floodplain (Photos 2 and 3). A 19th-century farmstead is located at the bend in the road near the western end of the alignment (Photo 4). The alignment terminates at Johnnie Brook Trail (Photo 5).

Bridge Street Alignment – This alignment is proposed along the east side of Bridge Street, extending in front of the Old Village cemetery, the Richmond Free Library, the US Post Office and a mid-19th century residence (Photos 6-8).

Jericho Street Alignment – This alignment is proposed to begin at School Street (on the south end), and extend along the west side the road, underneath the I-89 overpass, and northward up this steep and winding road to Valley View Road (Photos 9-10). The area along the west side of the road is characterized as steep downward slope interspersed with made-land - driveways or roads constructed on fill (Photos 11 and 12).

Photo 1. Photo shows the historic houses located on the eastern end of the Huntington Road project alignment. View is to the east.

Photo 2. Photo shows Huntington Road from the western end of the historic district looking west toward the Winooski floodplain.

Photo 3. Photo shows the central portion of the Huntington Road alignment. Photo taken from the western end of the alignment looking east.

Photo 4. Photo shows the farmstead located at the bend in the road near the western end of the Huntington Road alignment. View is to the west.

Photo 5. Photo shows the western end of the Huntington Road alignment. Johnnie Brook Road is visible in the background. View is to the northwest.

Photo 6. Photo shows the east side of the road of the Bridge Street alignment. View is to the south toward the Bridge over the Winooski River.

Photo 7. Photo shows the northern end of the Bridge Street alignment. Photo is taken in front of the Richmond Town Center looking north toward the Richmond Free Library and the Old Village Cemetery in the background.

Photo 8. Photo shows the proposed location of the sidewalk at the southern end of the Bridge Street. The location of the proposed crosswalk is indicated by the yellow pedestrian sign. View is to the south.

Photo 9. Photo shows the southern end of the Jericho Road alignment at the intersection with School Street. View is to the north toward the I-89 overpass.

Photo 10. Photo shows the guide rail on the west side of Jericho Road. View is to the south.

Photo 11. Photo shows the slope along the west side of Jericho Road. View is to the north.

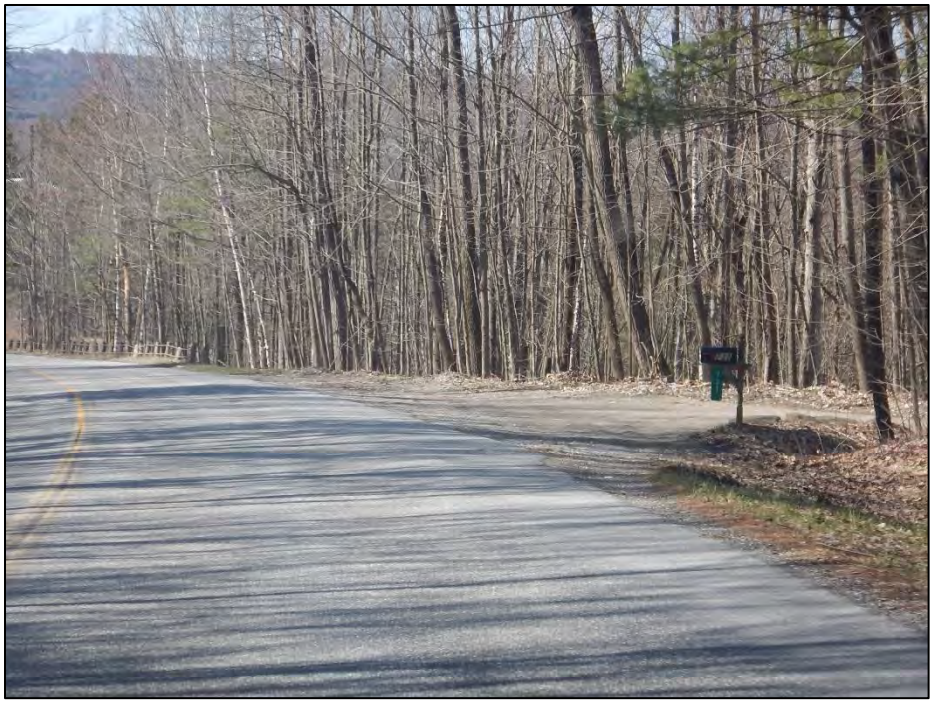


Photo 12. Photo shows a driveway on the west side of Jericho Road. View is to the south.

3.2 Soils

Soil surveys provide a general characterization of the types and depths of soils that are found in an area. This information is an important factor 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 more easily recovered in sand than in stiff glacial clay, which will not pass through a screen easily.

Soil surveys provide a general characterization of the types and depth of soils that are found in an area. This information is an important factor in determining the appropriate methodology if, and when, a field study is recommended. The source of this data is the Soil Survey Geographic (SSURGO) Database, maintained by the Natural Resources Conservation Service, United States Department of Agriculture (2022).

The soil types present within Huntington Road project alignment are all fine sand loam (Agawam fine sand loam and Winooski fine sand loam) or silt loam (Munson & Raynham silt loam) at 0-6% slopes. The primary soil type along the Bridge Street project alignment is Hadley very fine sand loam. The soils along the Jericho Road alignment include Munson and Raynham silt loam (6-12%), Adams & Windsor silt loam (30-60%) and Peru fine silt loam (0-20% slope), very stony.

3.3 Physiography and Hydrology

The Huntington Road project area is located approximately 700 feet south of the Winooski River. A small seasonal tributary is located west of the historic houses on Huntington Road.

The Bridge Street project area is located several hundred feet north of the Winooski River. Wetlands associated with the river are located approximately 700 feet southeast of Bridge Street.

Jericho Road alignment is situated on sloping and higher terrain above small seasonal streams to the south and west. At the western end of the alignment, south of School Street, there is a seasonal draw which flow southwest into the Winooski River.

4 Documentary Research

Hartgen conducted research on the Vermont Division for Historic Preservation (VDHP) on-line resource center 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 online resource center (ORC) archeological site files at VDHP contained two reported historic archaeological sites and one precontact site located within one mile of the project areas. Previously reported archeological sites provide an overview of both the types of sites that may be present in the APE and the relationship of sites throughout the surrounding region. The presence of few reported sites, however, may result from a lack of previous systematic survey and does not necessarily indicate a decreased archeological sensitivity within the APE. The only identified precontact site in the vicinity is located in the central portion of Richmond village. This isolated find site was identified based on the recovery of a projectile point from mixed 20th-century fill.

The two historic archaeological sites include:

VT-CH-1108 – A site containing mixed historic fill from the 1908 fire is located near Main Street, Richmond.

VT-CH-1109 – The Pump Station Site, located at the southeast end of the bridge at the south end of Bridge Street, contained mixed 19th- and 20th- century deposits near the location of a historic residence and blacksmith shop.

4.2 Historic Properties and Cemeteries

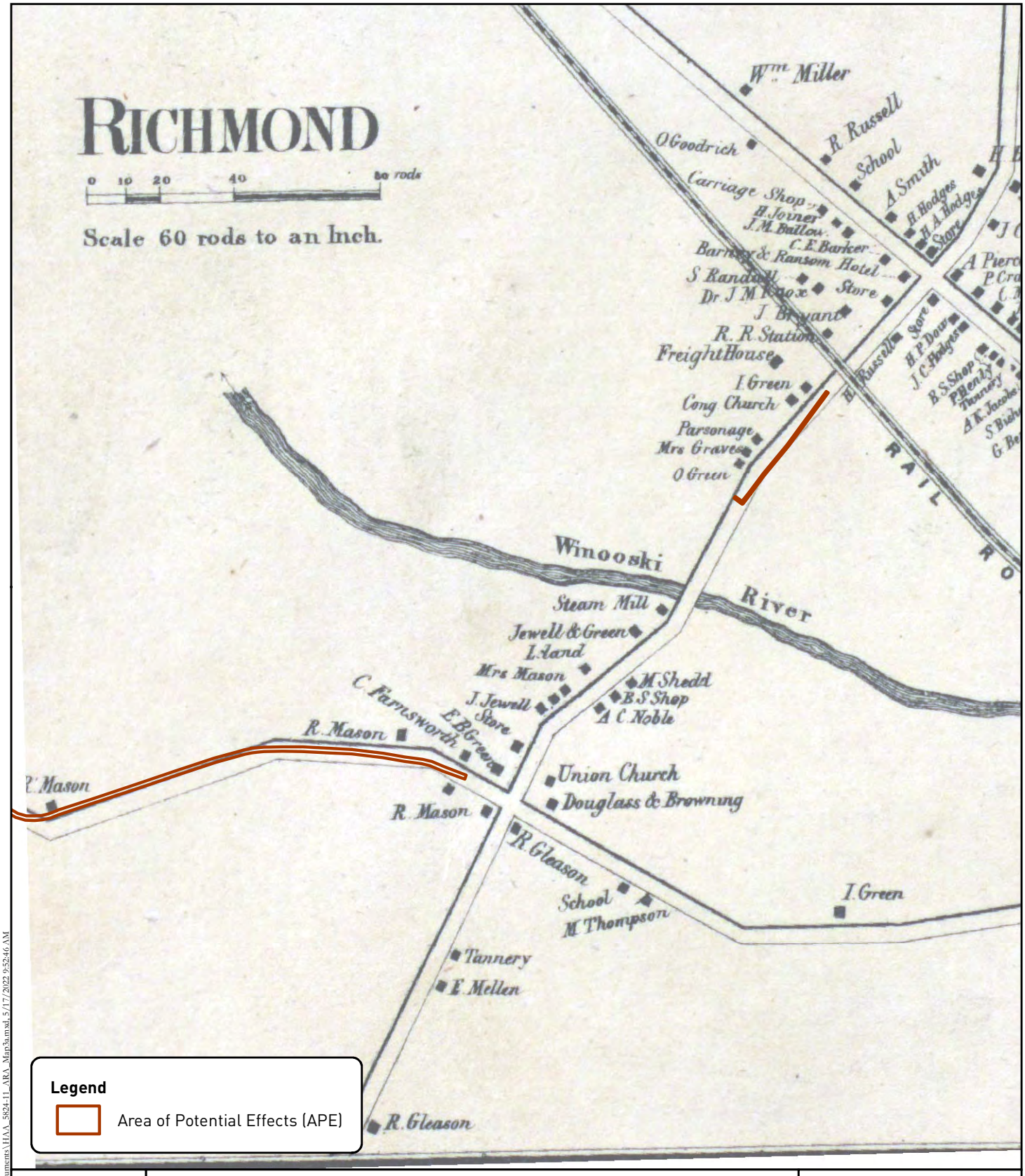
An examination of the files at VDHP identified three structures located within the Bridge Street project area which are listed on the Vermont Historic Sites and Structures Survey (VHSSS) as part of the Bridge Street Historic District. The three properties include the ca. 1880 Richmond Free Library Structure (formerly the Universalist Church), the ca. 1907/1911 Post Office Structure (formerly the Richmond High School) and the ca 1900 "Lamoreaux Residence" located directly south of the post office (Photos 6-8). The Truss bridge on Bridge Street over the Winooski River, built in 1928 to replace a bridge destroyed in the 1927 flood, is also listed on the VHSSS. Inexplicably, none of the historic homes located along the Huntington Road project alignment were included in the VHSSS.

No National Register Listed properties are located within any of the three project alignments. There are two National Register Listed properties located in the vicinity of the project areas. The National Register Listed Richmond Congregational Church is located directly across Bridge Street from the US Post Office (Former Richmond High School), and the ca. 1812 Round Church is located on the northeast corner of the intersection of Bridge Street and Huntington Road.

There is one recorded cemetery located within the Bridge Street Alignment project area – the Old Village Cemetery - which was in use from 1810 to 1971 and contains 460 graves (Hyde and Hyde 1991). The burials are located on the terrace situated at the top of a small rise above Bridge Street.

5 Historical Map Review

Study of 19th and 20th century historic maps was conducted, the results of which are outlined below (Maps 3a-e).



300 0 300 600 Feet

90 0 90 180 Meters

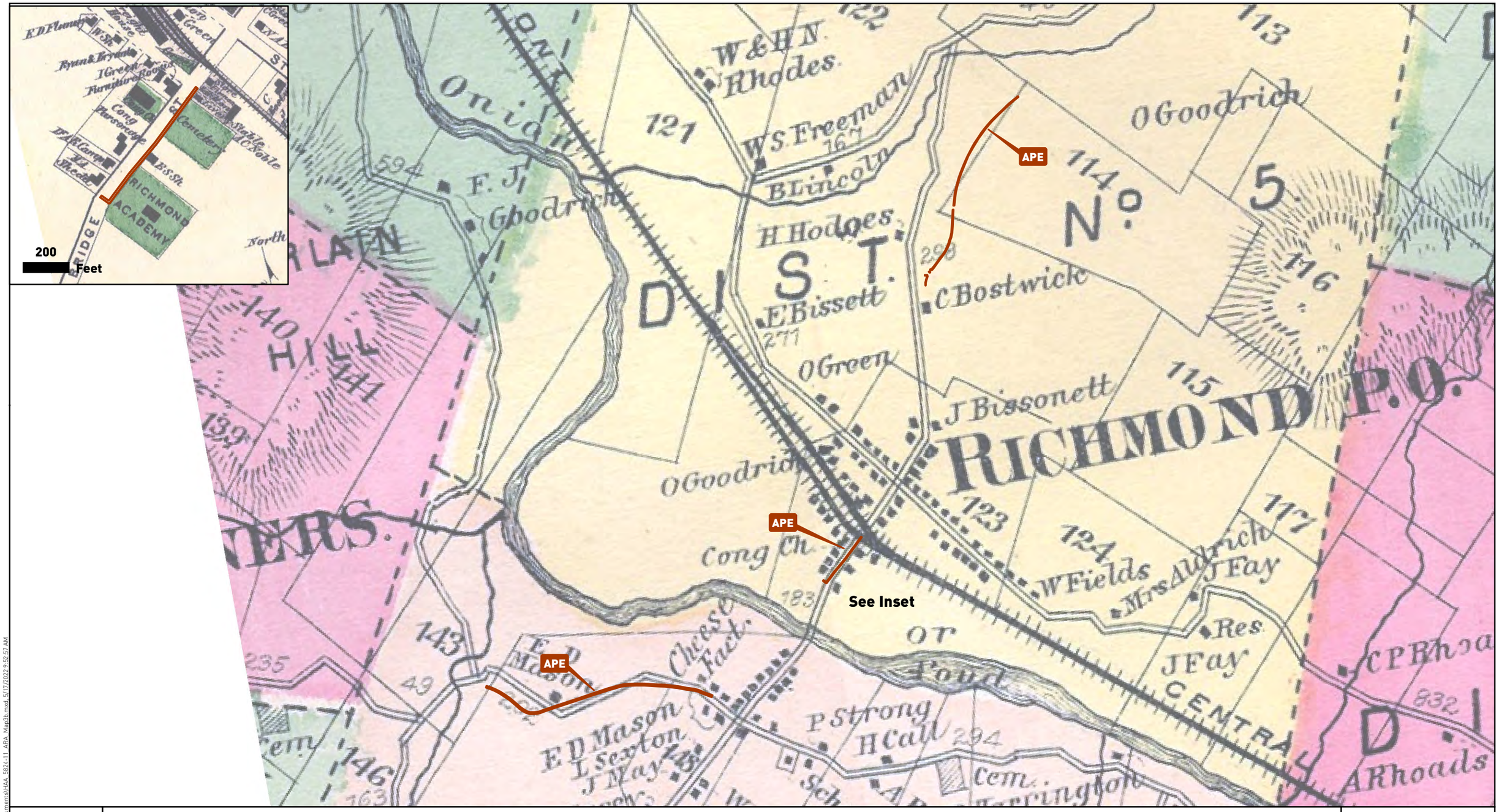
Historical Map

Walling 1857

HARTGEN archeological associates inc

Map 3a

C:\HAA\projects\5824\GIS\Documents\HAA_5824-11_ARA_Map3a.mxd 5/17/2022 9:52:46 AM



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Legend

Area of Potential Effects (APE)

N

75 0 75 150 Feet

21 0 21 42 Meters

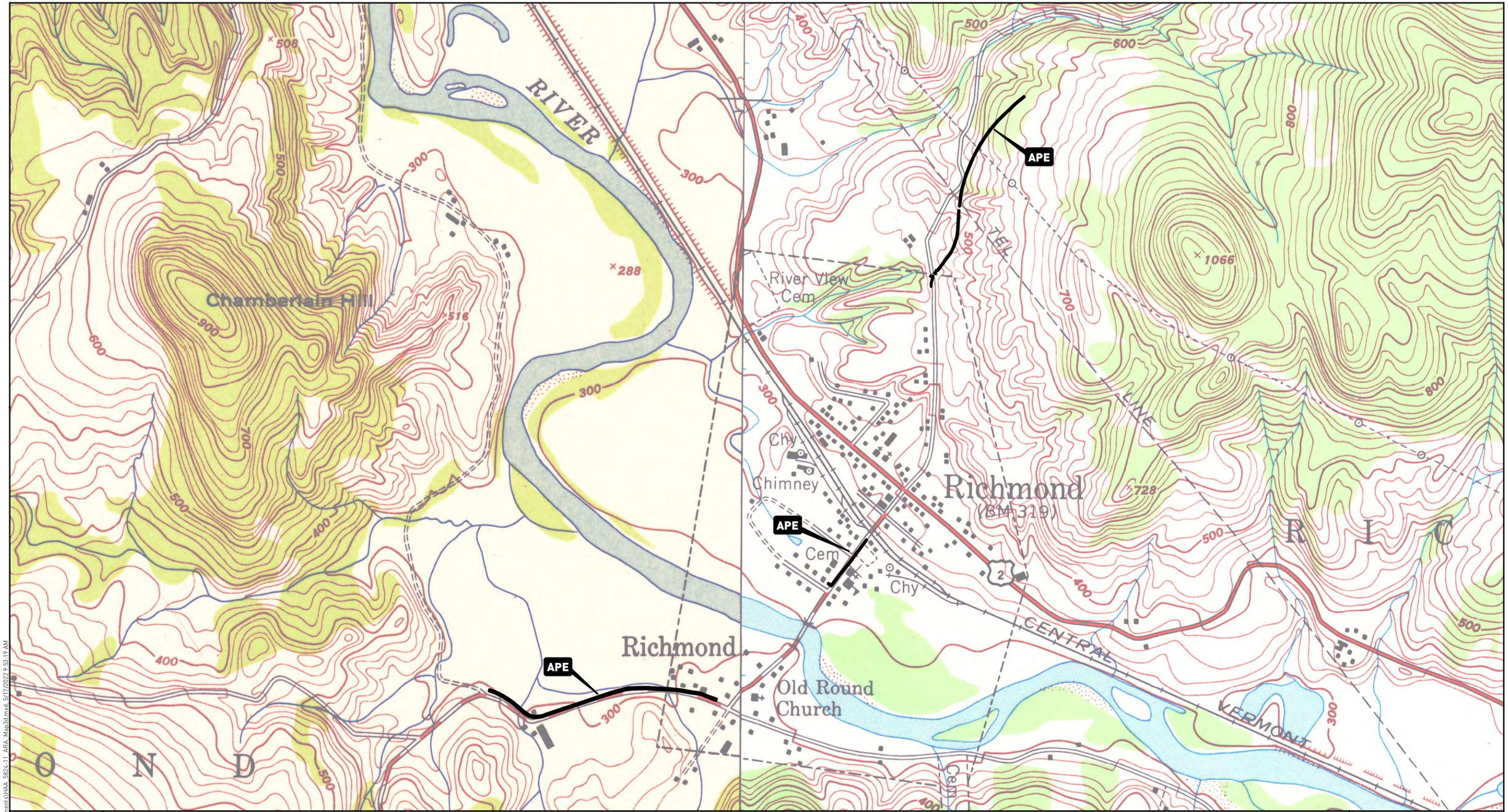
Historical Map

Sanborn 1910

HARTGEN archeological associates inc

Map 3c

C:\HAA\projects\5824\GIS\Documents\HAA_5824-11_ARA_Map3c.mxd 5/17/2022 9:53:06 AM



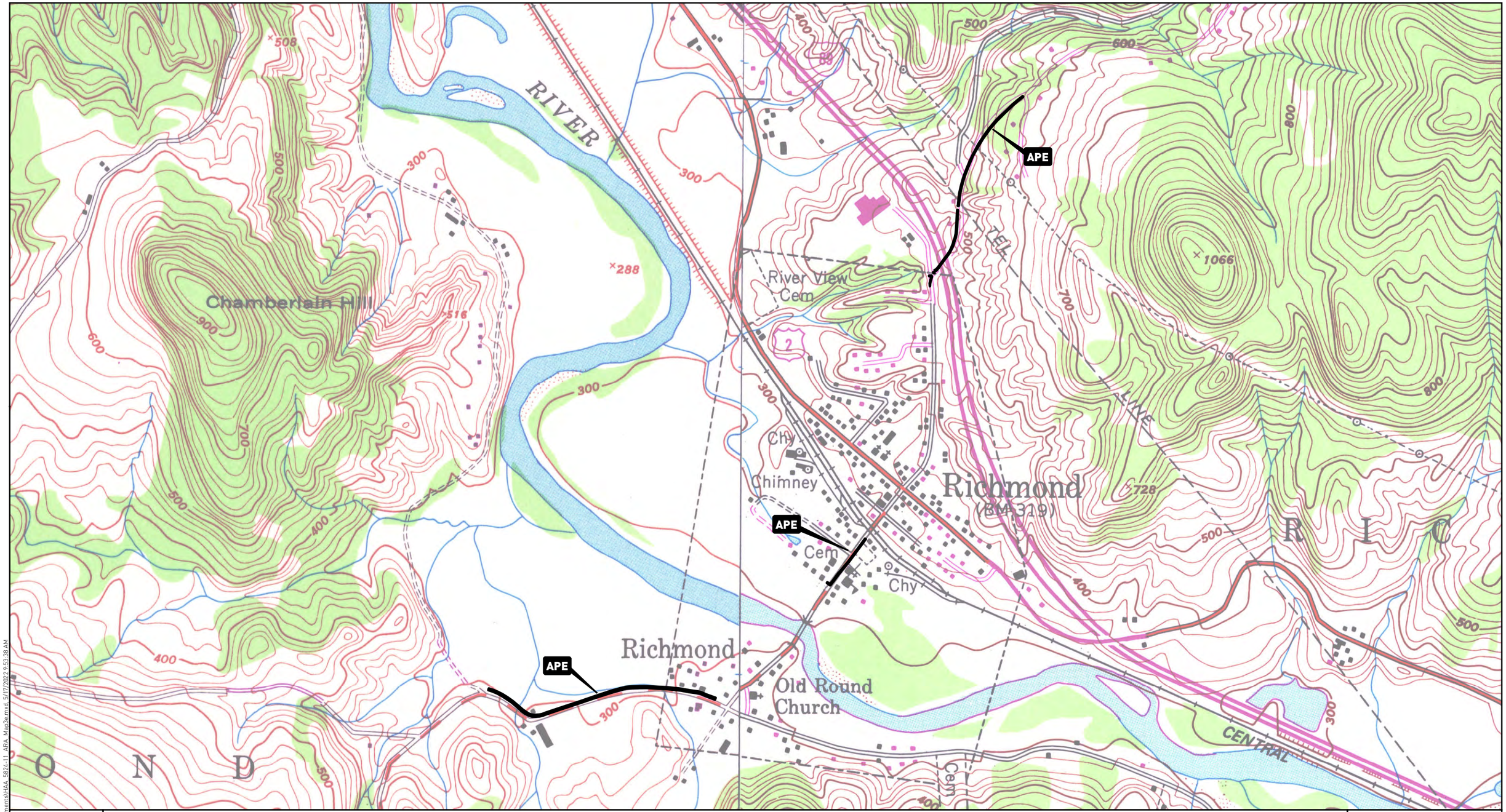
Historical Map

USGS 1948

HARTGEN archeological associates inc

Map 3d

C:\HAA\projects\5824\GIS\Document\HAA_5824-11_ARA_Map3d.mxd, 5/17/2022 9:53:19 AM



500 0 500 1,000 Feet
150 0 150 300 Meters

Legend

Area of Potential Effects (APE)

Historical Map

USGS 1972, 1980

HARTGEN archeological associates inc

Map 3e

C:\HAA\projects\5924\GIS\Documents\HAA_5924_11_ARA_Map3e.mxd 5/17/2022 9:53:38 AM

Huntington Road –

The 1857 Walling map depicts the residence of R. Mason located at the bend of the road at western end of the project alignment. An R. Mason is also shown as one of the two domestic structures located at the eastern end of the alignment. The other home was identified as the home of C. Farnsworth. The 1869 Beers map shows the residences previously owned by R. Mason as owned by E.D. Mason. An additional two structures were established at the eastern end of the project alignment.

Bridge Street –

The 1857 Walling map of Richmond shows no structures located along Bridge Street. A decade later, the 1869 Beers shows the establishment of the Old Village Cemetery at the north end of the block, a blacksmith shop (BS Sh) located to the south, bordered by the Richmond Academy. While the Richmond Academy is shown on the map in 1869, the Richmond High school building was reportedly built much later in 1907. It is unclear whether this earlier building (Richmond Academy) was razed or altered to become the Richmond High School. The 1910 Sanborn map shows (from north to south) the Cemetery, the (new) ca. 1880 Universalist Church, a dwelling, the Richmond High School, and another domestic dwelling.

Map research indicates that there was at least one historic structure located within the project APE which is no longer extant. A blacksmith shop is shown on the 1869 map located (south of) the cemetery and to the north of the Richmond Academy. On the 1910 Sanborn map, there is a dwelling shown located between the cemetery and Richmond High School, likely the blacksmith shop converted to a home. At some point after 1910, the blacksmith shop/dwelling was razed or removed, as it is not depicted on the 1948 USGS map.

Jericho Road –

The Jericho Road project alignment is located outside of the mapping parameters for the 1857 Walling map of Richmond. There are no structures shown along this alignment on the 1869 Beers map, as well as through to the 1948 USGS map. The first structures shown along Jericho Road appear in the second half of the 20th century, as indicated on the 1972 USGS map.

Map 5. Historical Maps

6 Archeological Discussion

6.1 Precontact Archeological Sensitivity Assessment

Completion of the VDHP Environmental Predictive Model provides a measure of the precontact archeological sensitivity of the project areas (Appendix 1). Both the Huntington Road project alignment and the Bridge Street project alignment received points based on its location within a travel corridor near the Winooski River on the river floodplain and located on or near the Glacial Lake Shore Line. Both areas received a rating of 88, with a score of 32 and above indicating precontact sensitivity. In both project areas, there are areas of disturbance along the roadside from road and driveway construction, utility installation and historic house development. If historic and modern disturbance along the roadside is factored in with a rating of -32, then both alignments along the roadside received 56 points. The area that exhibits the highest sensitivity is the floodplain at the base of the roadway along the Huntington Road alignment with a score of 88.

The Jericho Road alignment received points for being situated near the head of a draw (at the western edge of the project alignment south of School Street) as well as its location on or near the Glacial Lake Shore Line.

Points were detracted from the Jericho Road alignment because of extreme slope, resulting in a total score of 8, indicating low precontact sensitivity (Appendix 1).

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).

Historic research has indicated that the location of a blacksmith shop on the 1869 Beers map and the later residence as shown on the 1910 Sanborn map, which was located between the library (previously the Universalist Church) and the U.S. Post Office (previously the Richmond High School). The most likely location for the blacksmith/residence is directly west of the library, in the grassy area in front of the Post office parking area (Photo 7). It appears that this structure was razed or removed from the site sometime between 1910 and 1948. While there may be subsurface evidence that a structure was located at this location, it is unlikely that any intact features or deposits are still present that could provide potentially significant data or information to inform the archeological or historical record.

At the time of the site visit, there was recent disturbance noted along the east side of Bridge Street, as indicated by yellow flags along the roadway, exposed soils, and grass seed/protective hay covering. This disturbance may have been associated with the town's proposed drainage improvements (storm drain installation) along this street. In addition, there are fire hydrants located within the Bridge Street project area, indicating previous disturbance from utility installation.

6.3 Archeological Potential and Recommendations

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

A site visit was made to the Richmond Sidewalk project area on April 15, 2022 by a Hartgen archaeologist in order to assess existing ground conditions and identify areas of previous disturbance or archeological sensitivity. The field reconnaissance encompassed the assessment of the areas along the roadway within the three proposed sidewalk alignments (Map 2).

Huntington Road – The area directly adjacent to the Huntington Road project alignment is considered to be previously disturbed from road construction. The floodplain below Huntington Road is considered to be sensitive for precontact resources. If there will be any proposed disturbance to the floodplain during project development, then Phase IB testing is recommended on this lower landform.

Bridge Street – The proposed location of the sidewalk on the east side of Bridge Street has previously been disturbed from utility installation and preparation for storm drain installation. The Old Village Cemetery was established on rise above the street level, so no burials would be anticipated within the project area. No further archeological investigation is recommended for this portion of the sidewalk improvement project.

Jericho Road – The Jericho Road project alignment is proposed along a steep and winding stretch of road. No further archeological testing is recommended.

This ARA report and recommendations should be submitted to the VTrans archeology officer for review and concurrence.

7 Bibliography

Beers, Frederick W.
1869 *Atlas of Chittenden County, Vermont*. F. W. Beers, A. D. Ellis & G. G. Soule, New York.

Esri Inc.
2022 World Imagery. Esri, Inc., Redlands, California, http://services.arcgisonline.com/ArcGIS/rest/services/World_Topo_Map/MapServer.

Ratcliffe, N. M., R. S. Stanley, M. H. Gale, P. J. Thompson and G. J. Walsh
2011 Bedrock Geologic Map of Vermont: U.S. Geological Survey Scientific Investigations Map 3184, 3 Sheets, scale 1:100,000. Vermont Geological Survey, Waterbury, Vermont.

United States Department of Agriculture (USDA)
2022 Web Soil Survey of Chittenden County United States Department of Agriculture, Available online at http://websoilsurvey.nrcs.usda.gov/ accessed November 2020.

United States Geological Survey (USGS)
1948 *Essex Junction, Vermont 7.5' Topographic Quadrangle*. USGS, Reston, Virginia.

1987 *Essex Junction, Vermont 7.5' Topographic Quadrangle*, USGS, Reston, VA.

2021 *USGS The National Map Topo Base Map - Small Scale.* , USGSTopo (MapServer), The National Map Seamless Server, USGS, Sioux Falls, South Dakota, http://basemap.nationalmap.gov/arcgis/rest/services/USGSTopo/MapServer.

Vermont Division for Historic Preservation
2017 *Guidelines for Conducting Archaeology in Vermont*. Vermont Division for Historic Preservation, Montpelier, VT.

Walling, Henry Francis
1857 *Map of Chittenden County, Vermont: From Actual Surveys*. Baker, Tilden & Co., New York.

Sanborn Map Company
1910 *Insurance Maps of the Town of Richmond, Vermont*. Sanborn Map Company, New York.

United States Geological Survey (USGS)
1948 *Burlington, Vermont 15' Topographic Quadrangle*, U.S. Government Printing Office, Washington, D.C.
1948 *Camel's Hump, Vermont 15' Topographic Quadrangle*, U.S. Government Printing Office, Washington, D.C.
1948 *Essex Junction, Vermont 7.5' Topographic Quadrangle*, 1:24,000 scale, U.S. Government Printing Office, Washington, D.C.
1948 *Richmond, Vermont 7.5' Topographic Quadrangle*, 1:24,000 scale, U.S. Government Printing Office, Washington, D.C.
1972 *Essex Junction, Vermont 7.5' Topographic Quadrangle*, 1:24,000 scale, U.S. Government Printing Office, Washington, D.C.

Walling, H. W.
1857 *Map of Chittenden County, Vermont*. Baker & Tilden Publishers, New York, New York.

Appendix 1: VDHP Environmental Predictive Models
Huntington Road & Bridge Street

VERMONT DIVISION FOR HISTORIC PRESERVATION

Environmental Predictive Model for Locating Pre-contact Archaeological Sites

Project Name Richmond Sidewalk, Bridge **County** Chittenden **Town** Richmond
DHP No. **Map No.** **Staff Init.** **Date** May 2022

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 90- 180 m	12 6	12
2) Distance to Intermittent Stream	0- 90 m 90-180 m	8 4	
3) Confluence of River/River or River/Stream	0-90 m 90 –180 m	12 6	
4) Confluence of Intermittent Streams	0 – 90 m 90 – 180 m	8 4	
5) Falls or Rapids	0 – 90 m 90 – 180 m	8 4	
6) Head of Draw	0 – 90 m 90 – 180 m	8 4	
7) Major Floodplain/Alluvial Terrace		32	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 90 -180 m	12 6	
11) Confluence of River or Stream	0-90 m 90 –180 m	12 6	
12) Lake Cove/Peninsula/Head of Bay		12	
C. WETLANDS:			
13) Distance to Wetland (wetland > one acre in size)	0- 90 m 90 -180 m	12 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	32
E. OTHER ENVIRONMENTAL FACTORS: 19) Caves /Rockshelters		32	
20) ☑ Natural Travel Corridor ☐ Sole or important access to another drainage ☐ Drainage divide		12	12
21) Existing or Relict Spring	0 – 90 m 90 – 180 m	8 4	
22) Potential or Apparent Prehistoric Quarry for stone procurement	0 – 180 m	32	
23)) Special Environmental or Natural Area, such as Milton acquifer, 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	-32
**** refer to 1970 Surficial Geological Map of Vermont**			
		Total Score:	56
Other Comments :			
0- 31 = Archeologically Non- Sensitive **32+ = Archeologically Sensitive**			

Appendix 2: VDHP Environmental Predictive Model
Jericho Road

VERMONT DIVISION FOR HISTORIC PRESERVATION

Environmental Predictive Model for Locating Pre-contact Archaeological Sites

Project Name Jericho Road **County** Chittenden **Town** Richmond
DHP No. **Map No.** **Staff Init.** **Date** May 2022

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 90- 180 m	12 6	
2) Distance to Intermittent Stream	0- 90 m 90-180 m	8 4	
3) Confluence of River/River or River/Stream	0-90 m 90 –180 m	12 6	
4) Confluence of Intermittent Streams	0 – 90 m 90 – 180 m	8 4	
5) Falls or Rapids	0 – 90 m 90 – 180 m	8 4	
6) Head of Draw	0 – 90 m 90 – 180 m	8 4	8
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 90 -180 m	12 6	
11) Confluence of River or Stream	0-90 m 90 –180 m	12 6	
12) Lake Cove/Peninsula/Head of Bay		12	
C. WETLANDS:			
13) Distance to Wetland (wetland > one acre in size)	0- 90 m 90 -180 m	12 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	32
E. OTHER ENVIRONMENTAL FACTORS: 19) Caves /Rockshelters		32	
20) ☐ Natural Travel Corridor ☐ Sole or important access to another drainage ☐ Drainage divide		12	
21) Existing or Relict Spring	0 – 90 m 90 – 180 m	8 4	
22) Potential or Apparent Prehistoric Quarry for stone procurement	0 – 180 m	32	
23)) Special Environmental or Natural Area, such as Milton acquifer, 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	-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:	8
Other Comments :			
0- 31 = Archeologically Non- Sensitive **32+ = Archeologically Sensitive**			

APPENDIX D

Natural Resources

Stantec

Memo

To:	Erik Alling, Stantec South Burlington VT Office	From:	Carla Fenner, Stantec South Burlington Office
File:	179450452	Date:	May 25, 2022

REFERENCE: Preliminary Desktop Natural Resource Review for Richmond Sidewalks Project, Richmond

GENERAL SITE DESCRIPTION

The Richmond Sidewalks Project focuses on assessing links between three discrete project areas (segments) in Richmond, Vermont that would be valuable in enhancing corridor safety, connecting residents to schools, workplaces, shopping, and recreational areas with multiple modes, promote active transportation, and various other benefits. These project areas include:

- Segment 1: Jericho Road from the school entrance to Valley View Road, consisting of rural roadway with residential neighborhoods at Southview Drive and Valley View Road;
- Segment 2: Bridge Street from Volunteers Green to Jolina Court in the heart of the Richmond Village, with businesses, Town services, and Volunteers Green; and
- Segment 3: Huntington Road from Stone Corral Brewery to the Cross Vermont Trails trailhead along a rural road with few residences or businesses.

For this investigation, Stantec conducted a preliminary desktop review using the Vermont Agency of Natural Resource's (ANR's) Natural Resources Atlas[1] (accessed May 23, 2022) for each of the three project areas to identify natural resources and sensitive environmental areas which may require further assessment and/or constrain the Project or require permitting. Resources included in this preliminary desktop review include mapped:

- Wetlands and vernal pools
- River corridors and streams
- Floodways and flood hazard areas
- Stormwater and impaired waters
- Hazardous sites and urban soil background areas
- Primary agricultural soils
- Rare, threatened, or endangered species
- Significant natural communities and uncommon species
- Habitat blocks (flora/fauna), deer wintering areas, and forest land
- 4(f) and 6(f) public lands

As the Project is in a scoping phase, a desktop review of available databases was determined to be suitable for preliminary planning purposes and inform any future in-field resource delination and/or assessment. Appendix A -- Site Photographs provides publicly available imagery accessed via Google Earth. Following is a summary of the findings based on a review of existing resource information for each project area (see Appendix B – ANR Mapping). Historic and archeological resources will be evaluated by others.

[1] https://anrmaps.vermont.gov/websites/anra5/

Reference: Preliminary Desktop Natural Resource Review for Richmond Sidewalks Project, Richmond

DESKTOP SURVEY RESULTS SUMMARY

Wetlands and Vernal Pools

The project area associated with Segment 1 not located within or immediately adjacent to mapped Vermont Significant Wetland Inventory (VSWI) wetlands or vernal pools (confirmed or unconfirmed, which indicates if a pool site as been surveyed in the field or identified only as a potential pool via desktop determination). The ANR Wetlands Advisory map layer (a database which indicates the potential presence of wetlands based on other publicly available database information such as mapped hydric soils) depicts a potential wetland within the vicinity of the Segment 1 project area. Segment 2 is not located within, immediately adjacent to, or in the vicinity of mapped Vermont Significant Wetland Inventory (VSWI) or Advisory wetlands or vernal pools (confirmed or unconfirmed). The Segment 3 project area is located adjacent to a mapped Class 2 VSWI and Advisory wetland but no mapped vernal pools (confirmed or unconfirmed).

River Corridors, Streams, Floodways, and Flood Hazard Areas

Segment 1 is not located within or immediately adjacent to a river corridor, stream, floodway, or flood hazard area. The Segment 2 project area is partially located within a river corridor and flood hazard area associated with the Winooski River. The Segment 3 project area is partially located within or adjacent to a river or stream corridor and flood hazard area, also associated with the Winooski River. Additionally, Segment 3 intersects stream road crossings (tributaries to the Winooski River) as mapped by the Vermont Hydrography Dataset (VHD).

Hazardous Sites and Urban Soil Background Areas

There are no mapped hazardous sites at or in the immediate vicinity of Segments 1 or 3; nor are these segments located on mapped Urban Soil Background Areas. There is one mapped hazardous site within the vicinity of Segment 2 and the entire project area is mapped as Urban Soil Background Area.

Stormwater and Impaired Waters

The three project areas are not located within a Small Municipal Separate Storm Sewer System (MS4) Area nor are they located in stormwater-impaired watersheds.

Primary Agricultural Soils

The project areas associated with Segments 2 and 3 include lands mapped as Primary Agricultural Soils (PAS), and lands identified with these soils can be subject to the Farmland Protection Policy Act (FPPA). Typically, projects within existing developed areas, including transportation infrastructure are not subject to the FPPA. The project area associated with Segment 1 does not include lands mapped as PAS.

Rare, Threatened, or Endangered Species

There are no mapped rare, threatened, or endangered (RTE) species within or immediately adjacent to the three project areas although there are mapped RTE species within the vicinity of each project area. Also, all of Vermont is within the known habitat range for the state- and federal listed northern long-eared bat (*Myotis septentrionalis*), as well as additional State-listed bat species. If proposed activities will involve cutting of trees or reconstruction of existing bridges, both of which provide potential habitat for this species, work proposed for this project may need to comply with assessment, survey, and/or impact avoidance and mitigation measures in accordance with the Federal Highway Administration (FHWA) Range-wide Programmatic Informal Consultation for Indiana Bat and Northern Long-eared Bats or the Vermont ANR.

Significant Natural Communities, Uncommon Species, Habitat Blocks (Flora/Fauna), and Deer Wintering Area, and Forest Land

Reference: Preliminary Desktop Natural Resource Review for Richmond Sidewalks Project, Richmond

The three project areas are not located within mapped significant natural communities, areas with mapped uncommon animal or plant species, or priority habitat blocks. Segment 2 abuts a mapped Significant Natural Community occurrence of a Silver Maple-Ostrich Fern Floodplain Forest which extends to the east and southeast from the project area. A portion of Segment 1 project area borders a mapped deer wintering area (DWA) and Segments 2 and 3 are not located in the vicinity of DWA. There is no significant forest land present within each of the three project areas, as all project segments occur along existing developed transportation corridors.

Reference: Preliminary Desktop Natural Resource Review for Richmond Sidewalks Project, Richmond

4(f) and 6(f) Public Lands

The three project areas do not contain Section 4(f) publicly owned parks, recreation areas, or wildlife/waterfowl refuges, or 6(f) Land and Water Conservation Fund acquired properties.

X

STANTEC CONSULTING SERVICES INC.

Krista Clark
Principal, Environmental Services
Mobile: 207-576-9527
krista.clark@stantec.com

Attachment: [Attachment]

Reference: Preliminary Desktop Natural Resource Review for Richmond Sidewalks Project, Richmond

Appendix A – Site Photographs

Photo 1. View to south showing the proposed sidewalk location on the east side of Route 15 near the southern project limits.

Photo 2. View to north showing the proposed sidewalk location on the east side of Route 15.

Reference: Preliminary Desktop Natural Resource Review for Richmond Sidewalks Project, Richmond

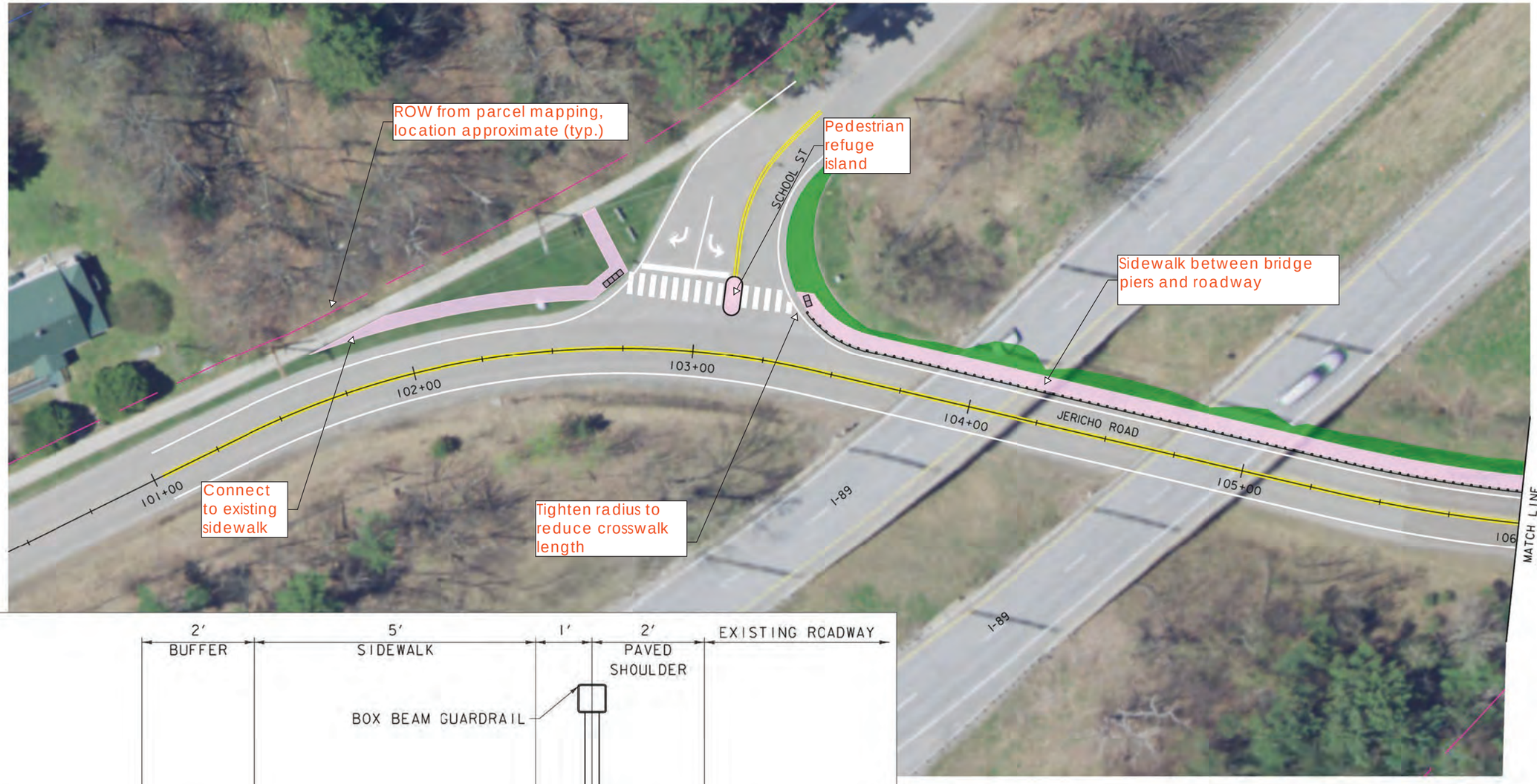
Appendix B – ANR Mapping

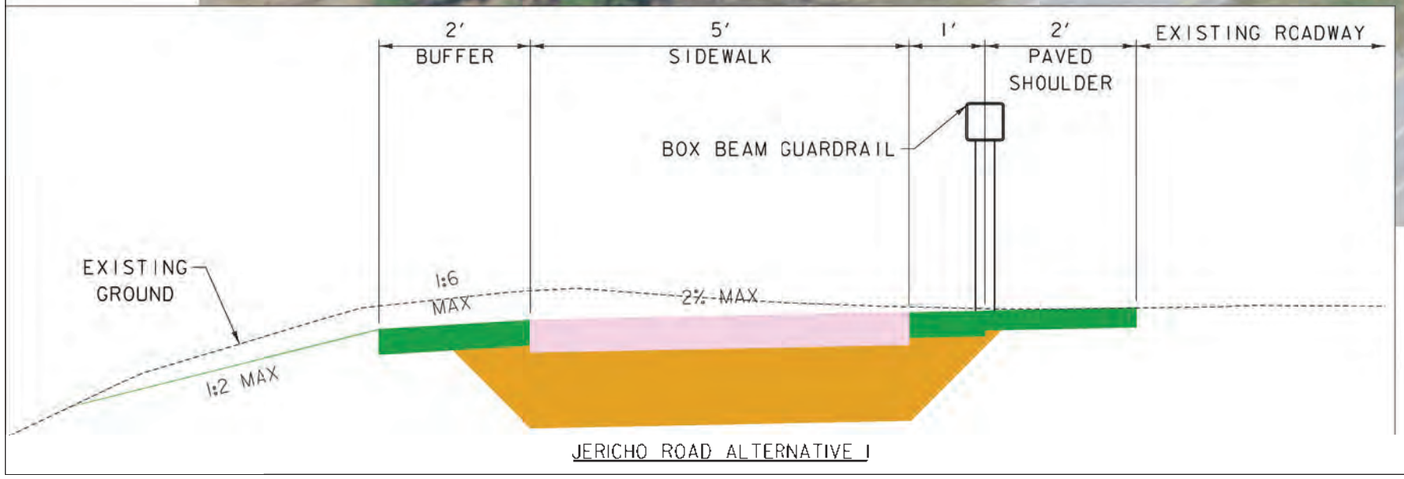
APPENDIX E

Alternative Sketches

JERICHO ROAD ALTERNATIVE 1 - 5 FOOT SIDEWALK SEPARATED BY BOX BEAM GUARDRAIL

N
VT STATE PLANE GRID





JERICHO ROAD ALTERNATIVE 1

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452
FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 1, SHEET 1	SHEET $S"$ OF $T"$

N

VT STATE PLANE GRID

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 1, SHEET 2	SHEET $S"$ OF $T"$

VT STATE PLANE GRID

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
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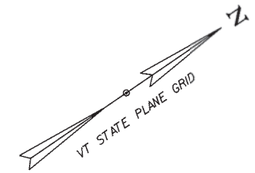
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 1, SHEET 3	SHEET $S"$ OF $T"$



Stantec

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FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
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JERICHO ROAD ALTERNATIVE 1, SHEET 4	SHEET $S#$ OF $T#$

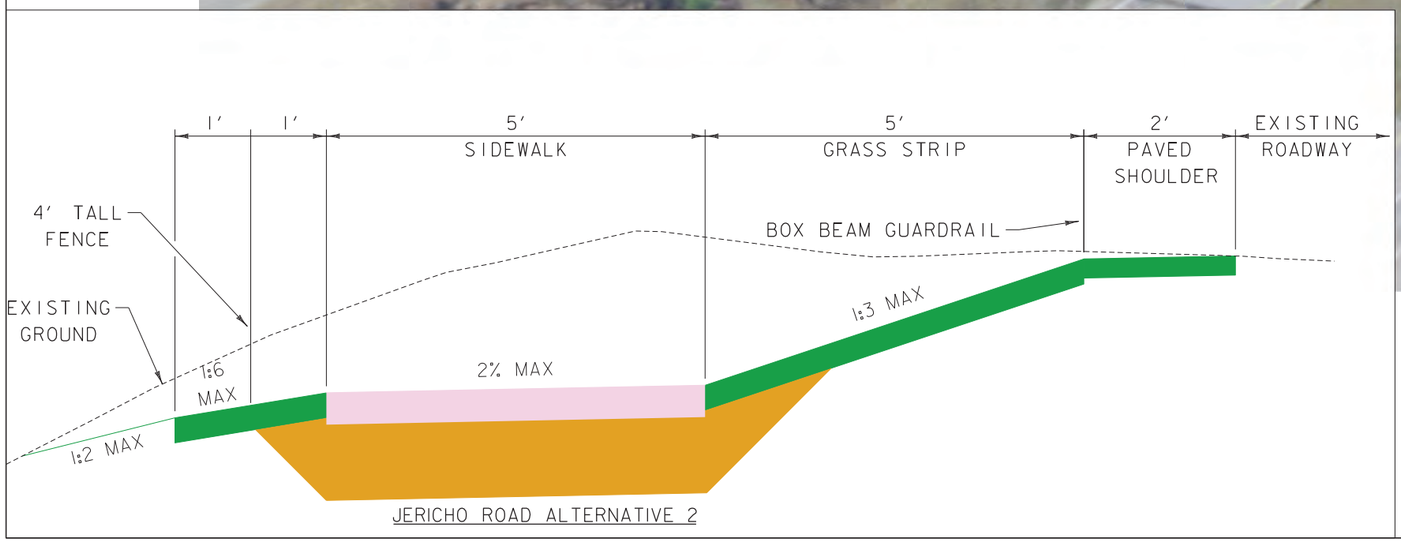
Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 1, SHEET 5	SHEET $S"$ OF $T"$

N

VT STATE PLANE GRID



JERICHO ROAD ALTERNATIVE 2

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 2, SHEET 1	SHEET $S"$ OF $T"$

N

VT STATE PLANE GRID

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 2, SHEET 2	SHEET $S"$ OF $T"$

Stantec

VT STATE PLANE GRID

N

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
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FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
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JERICHO ROAD ALTERNATIVE 2, SHEET 3	SHEET $S#$ OF $T#$

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
JERICHO ROAD ALTERNATIVE 2, SHEET 4	SHEET $S#$ OF $T#$

Stantec

N

VT STATE PLANE GRID

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
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PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
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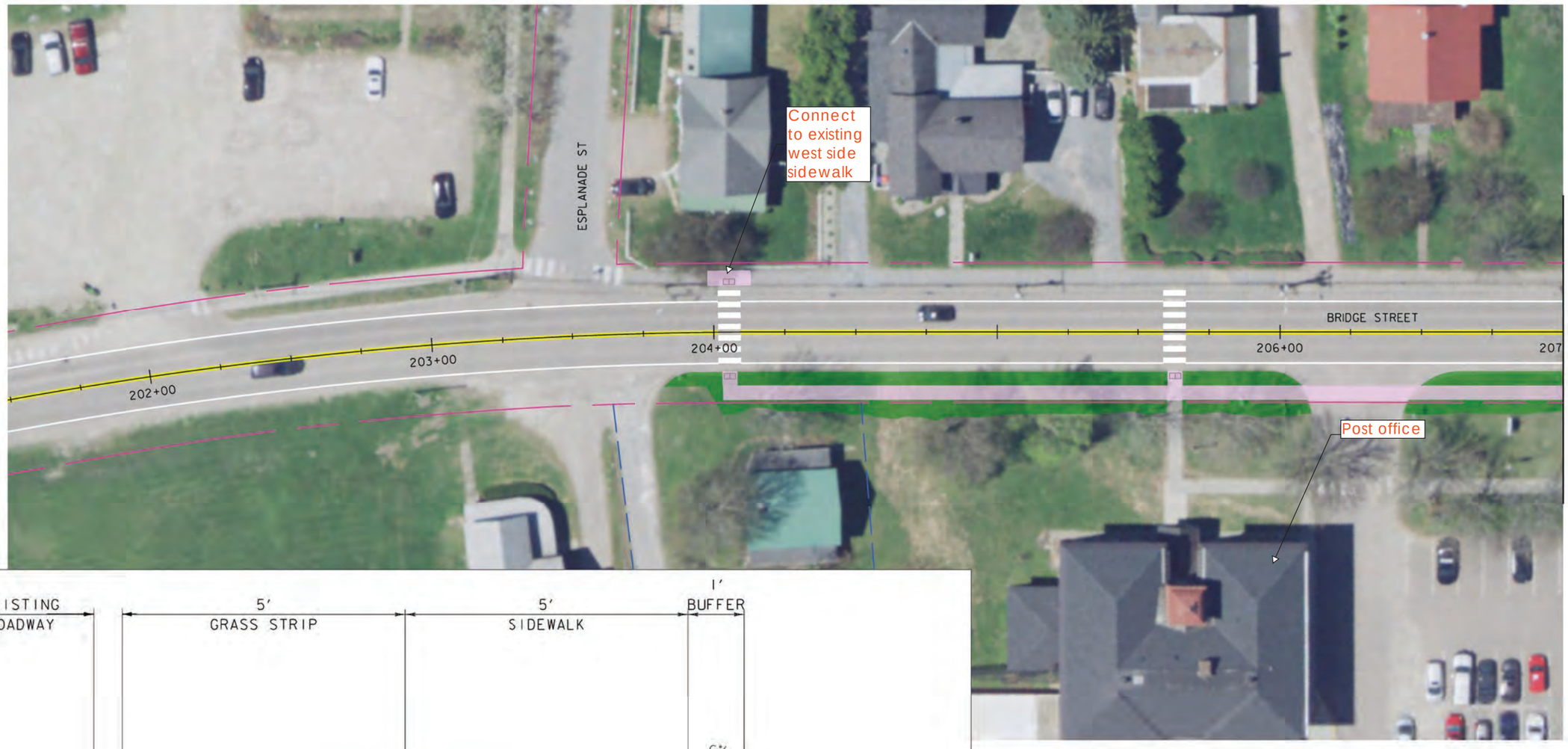
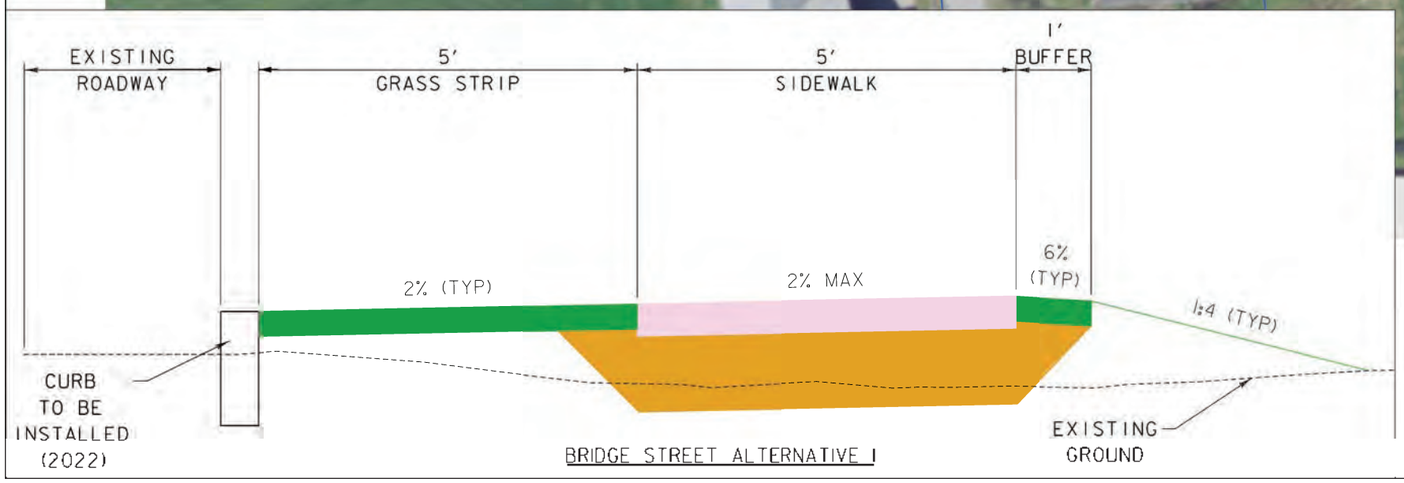
JERICHO ROAD ALTERNATIVE 2, SHEET 5	SHEET $S"$ OF $T"$

BRIDGE STREET ALTERNATIVE 1 - 5 FOOT SIDEWALK WITH 5 FOOT GRASS STRIP





BRIDGE STREET ALTERNATIVE 1

0 20 40
SCALE IN FEET

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452
FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
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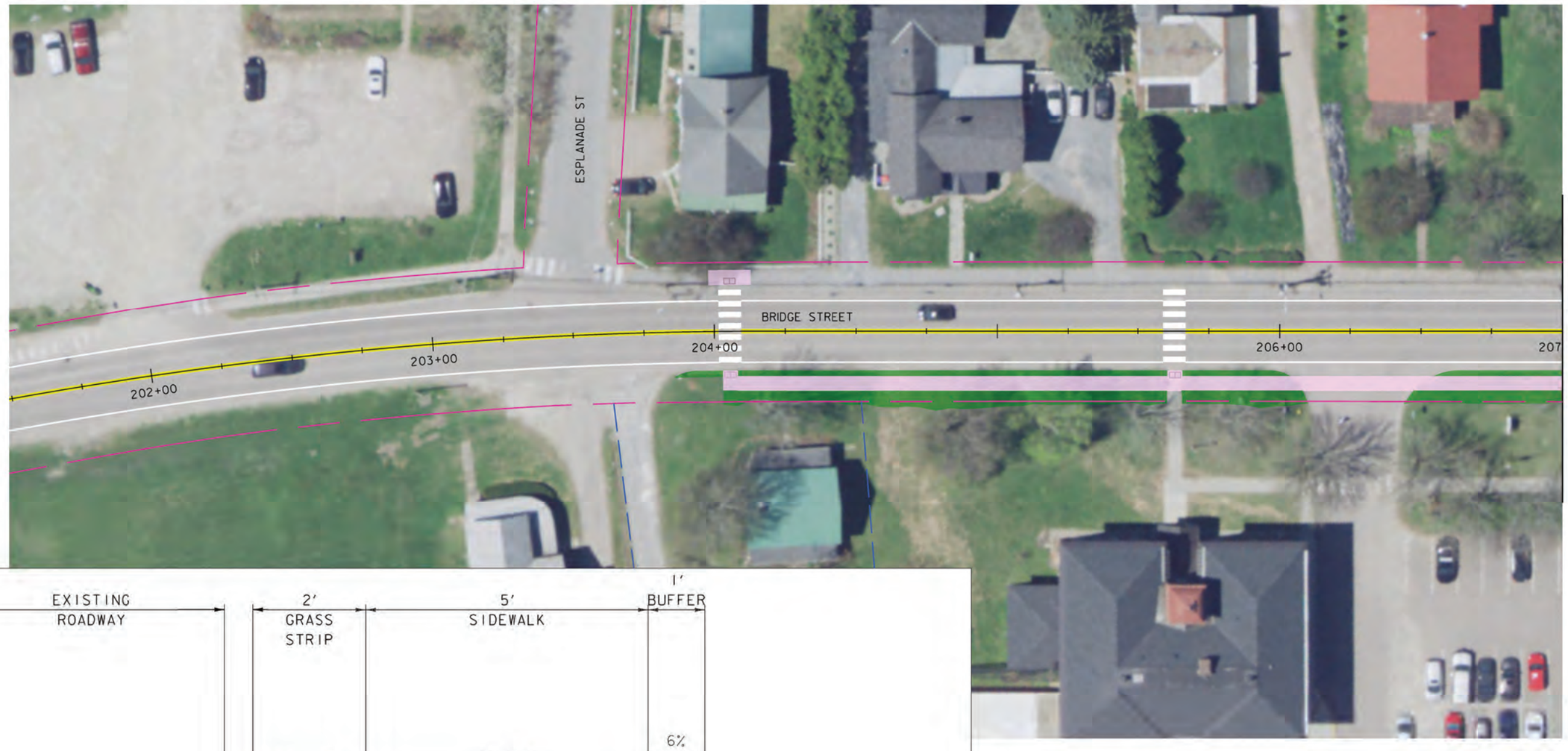
BRIDGE STREET ALTERNATIVE 1, SHEET 1	SHEET $S"$ OF $T"$

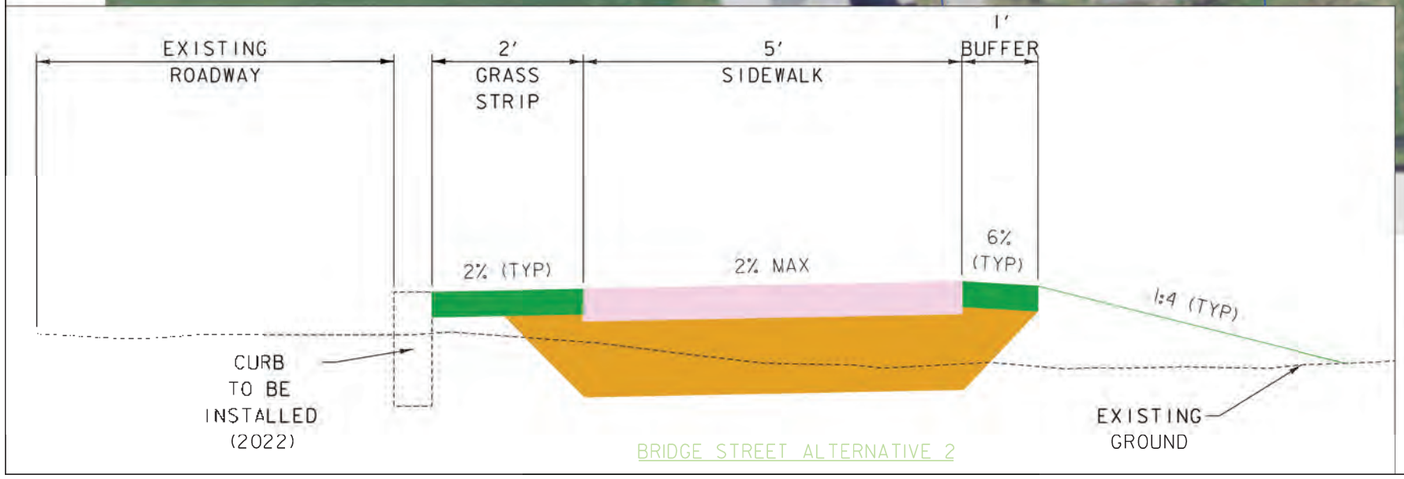
0 20 40
SCALE IN FEET

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452
FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
BRIDGE STREET ALTERNATIVE 1, SHEET 2	SHEET $S"$ OF $T"$

BRIDGE STREET ALTERNATIVE 2 - 2 FOOT SIDEWALK WITH 5 FOOT GRASS STRIP





BRIDGE STREET ALTERNATIVE 2

0 20 40
SCALE IN FEET

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452
FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
BRIDGE STREET ALTERNATIVE 2, SHEET 1	SHEET $S"$ OF $T"$

0 20 40
SCALE IN FEET

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
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FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
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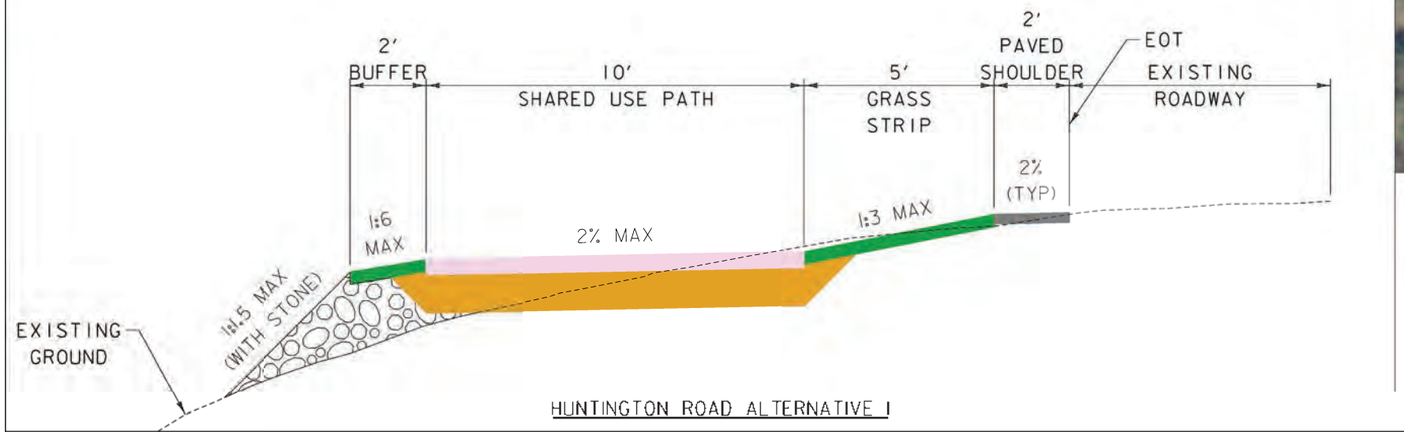
BRIDGE STREET ALTERNATIVE 2, SHEET 2	SHEET $S"$ OF $T"$

N

VT STATE PLANE GRID



HUNTINGTON ROAD ALTERNATIVE I

Stantec

PROJECT NAME: RICHMOND SCOPING STUDY	
PROJECT NUMBER: 179450452	
FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
HUNTINGTON ROAD ALTERNATIVE I, SHEET I	SHEET $S"$ OF $T"$

N

VT STATE PLANE GRID

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
PROJECT NUMBER:	179450452

FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
DESIGNED BY: C. PETERSON	CHECKED BY: E. ALLING
HUNTINGTON ROAD ALTERNATIVE 1, SHEET 2	SHEET $S"$ OF $T"$

Stantec

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PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
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HUNTINGTON ROAD ALTERNATIVE 1, SHEET 3	SHEET $S"$ OF $T"$

N

VT STATE PLANE GRID

Stantec

PROJECT NAME:	RICHMOND SCOPING STUDY
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HUNTINGTON ROAD ALTERNATIVE 1, SHEET 4	SHEET $S#$ OF $T#$

Stantec

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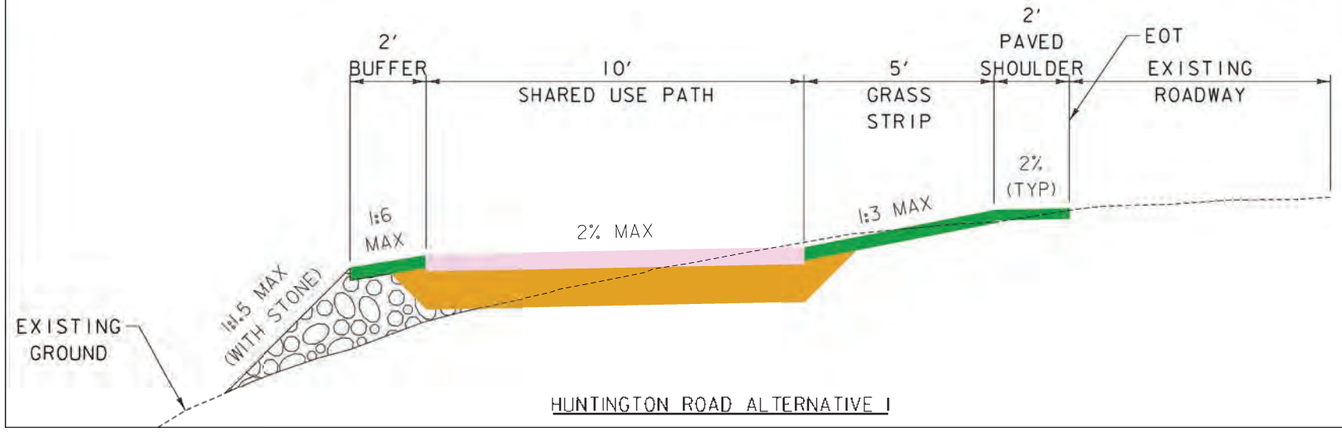
HUNTINGTON ROAD ALTERNATIVE 1, SHEET 5	SHEET $S"$ OF $T"$

HUNTINGTON ROAD ALTERNATIVE 1 - 10' SHARED USE PATH WITH 5 FOOT GRASS STRIP (ALTERNATE ALIGNMENT)

N

VT STATE PLANE GRID



HUNTINGTON ROAD ALTERNATIVE 1

Stantec

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FILE NAME: $FILES$	PLOT DATE: $$$$DATE$$$
PROJECT LEADER: E. ALLING	DRAWN BY: C. PETERSON
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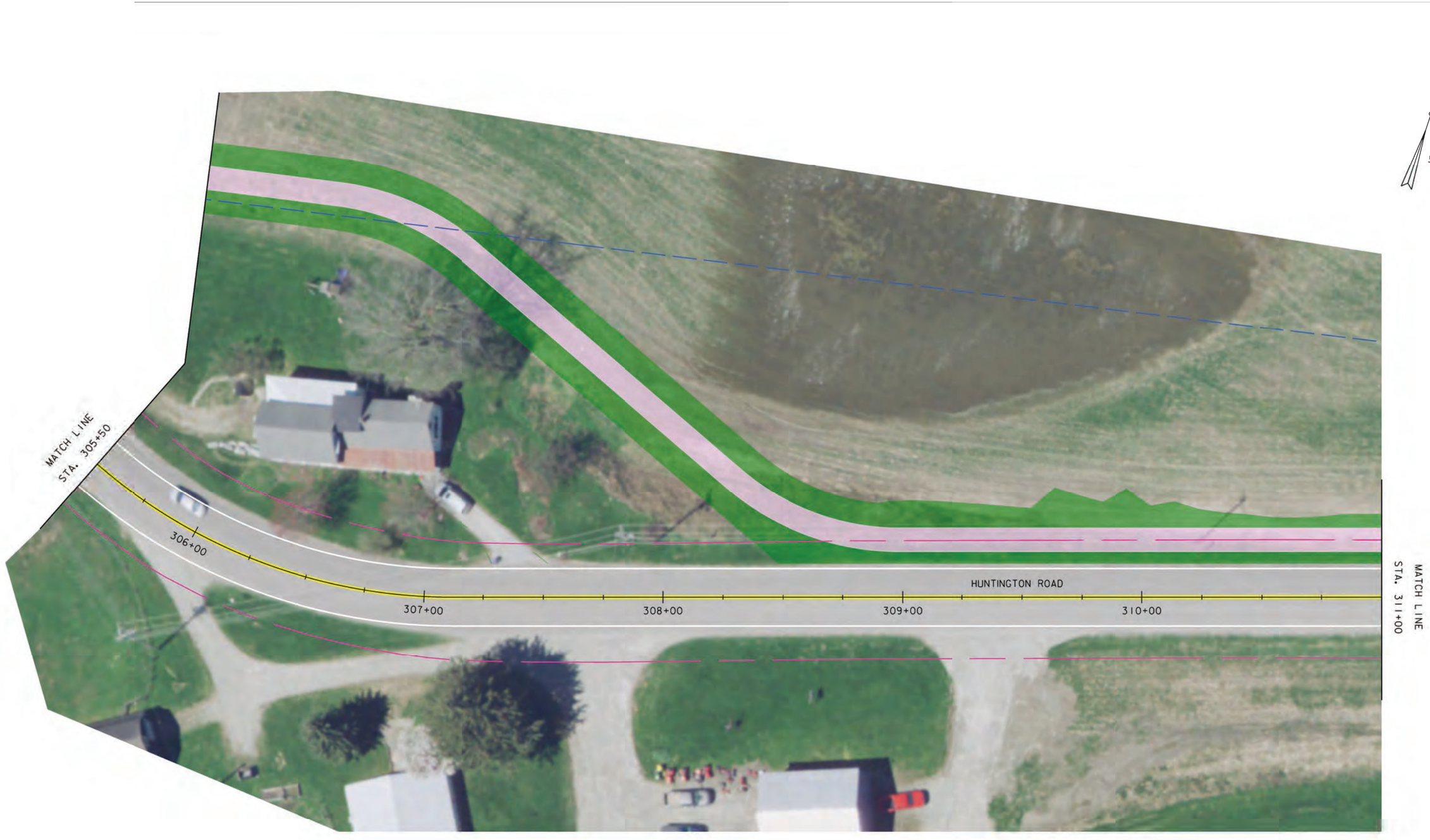
HUNTINGTON ROAD ALTERNATIVE 2, SHEET 1	SHEET $S"$ OF $T"$



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HUNTINGTON ROAD ALTERNATIVE 2, SHEET 2	SHEET $S"$ OF $T"$