Vermont Route 116 Crosswalk Scoping Study
Hinesburg, Vermont

March 2023

Prepared for:
The Chittenden County Regional Planning Commission (CCRPC) and
The Town of Hinesburg, Vermont

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EXECUTIVE SUMMARY

The Chittenden County Regional Planning Commission (CCRPC) and the Town of Hinesburg retained Hoyle, Tanner & Associates, Inc. (Hoyle Tanner) to prepare this Crosswalk Scoping Study to investigate potential crosswalk improvements at three locations along the Vermont Route 116 corridor in Hinesburg. The purpose of this study was to review two existing crosswalks and evaluate a potential new crosswalk at a third location. The three crosswalk locations include:

1. Mid-block crosswalk near United Church of Hinesburg
2. Mid-block crosswalk near Hinesburg Community School
3. Buck Hill Road intersection

The first two locations have existing mid-block crosswalks. There is currently no pedestrian crosswalk at the Buck Hill Road intersection, but it has been brought forward for assessment based on public input.

1.1 United Church of Hinesburg

The east side of the United Church of Hinesburg crosswalk suffers from poor drainage that results in ponding and icing. These conditions are a fall hazard for pedestrians and force pedestrians to walk in the road. Northbound visibility to existing signage is poor because the sign is more than 12 feet from the travel lane and hidden amongst utility poles and trees. The proposed Alternative 1 is a simple upgrade from existing warning signs to rectangular rapid flashing beacons (RRFBs). Alternative 2 addresses the drainage issues and brings the eastern RRFB closer to the travel lane and the drivers' line of sight. The Cathedral Square received a 2022 AARP Community Challenge Grant for a RRFB at this location. Older adults living at the Kelly's Field development use this crosswalk to access services and outreach programs at the church. Because the grant is time sensitive, Hoyle Tanner recommends installing the RRFB as described in Alternative 1 as an interim step until the implementation of Alternative 2, which would address the drainage issues and improve visibility to the RRFB. The cost of Alternative 2 is estimated to be $93,750. Construction estimates in this report do not include preliminary engineering design costs.

1.2 Hinesburg Community School

The crosswalk in front of Hinesburg Community School is used by the most vulnerable road users, namely children. The school crosswalk is heavily used during school hours when traffic around the school is busy as well as outside of school hours. At the Hinesburg Community School crosswalk, Alternative 1 is an upgrade to RRFB. Alternative 2 is an upgrade to RRFB, improvements to the landing pad on north side of the crosswalk, and an extension of the curb along the north side of Route 116 to visually narrow the road. Hoyle Tanner recommends Alternative 2 at a cost of $70,000.

1.3 Buck Hill Road Intersection

The new Meadow Mist development has increased pedestrian activity at the intersection of Buck Hill Road and Route 116. Pedestrians cross Route 116 to access the Russell family trails or to go for walks on Buck Hill Road. When the new sidewalk from Meadow Mist into the village is complete, it is anticipated that pedestrian demand to cross at this location will increase. There are currently no pedestrian facilities at the Buck Hill Road intersection. While visibility is good at the intersection, speeds can be high as drivers speed out of town or have failed to slow down as they enter town. At the Buck Hill Road intersection, the alternatives include Alternative 1 (Single, Large Gateway Median South of Buck Hill Road), Alternative 2 (Split, Large Medians at Buck Hill Road), Alternative 3 (Single, Narrow Gateway Median South of Buck Hill Road), and Alternative 4 (Split, Narrow Medians at Buck Hill Road). Descriptions of all the alternatives can be found in Section 5 of this study. Hoyle Tanner recommends the split median alternatives because

they will help deter southbound drivers from overtaking vehicles slowing down to turn left into Buck Hill Road. Alternative 4 with the four-foot median has an estimated cost of $87,500 and the larger eight foot median in Alternative 2 has an estimated cost of $110,000.

The main purpose of this project is to improve the safety conditions for pedestrians crossing at these three locations, outline alternatives and recommendations for each study area, and prepare cost estimates for budgetary purposes. Complete descriptions of the alternatives and the factors involved in determining the preferred alternatives are included in the body of the report.

1 INTRODUCTION

1.4 Overview

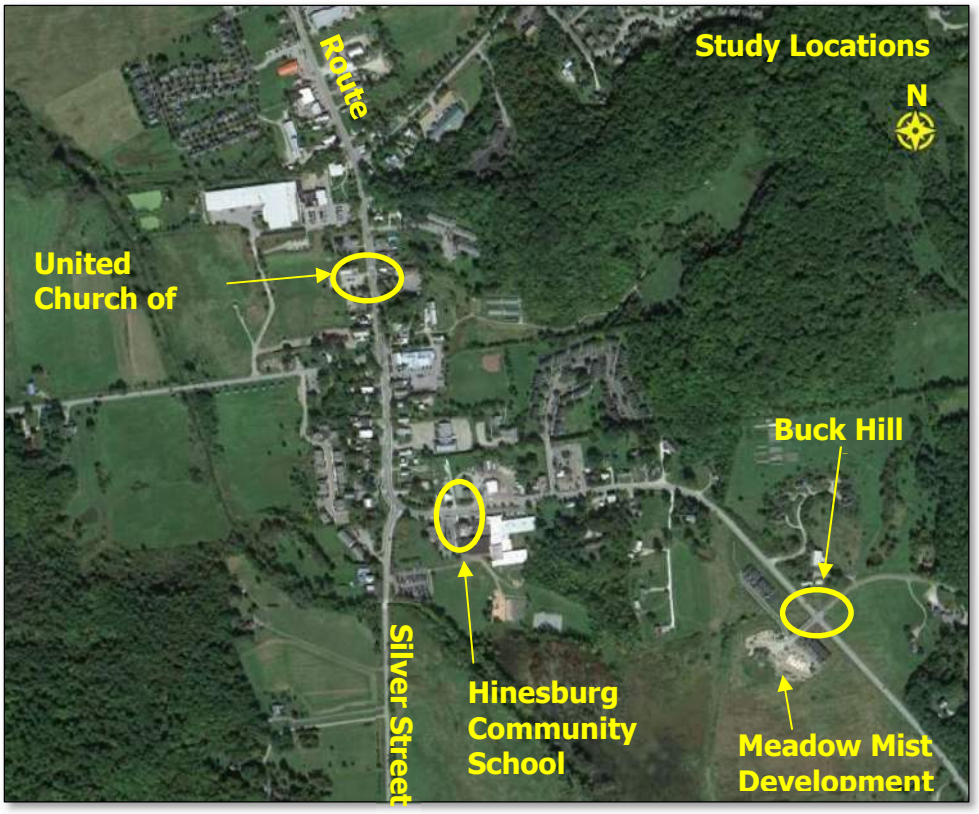
This Scoping Study for the Town of Hinesburg, Vermont, has been completed by Hoyle, Tanner and Associates, Inc. (Hoyle Tanner). The purpose of this study was to collect information on the existing pedestrian facilities at three locations along the Route 116 corridor in Hinesburg. Additionally, the purpose of this study was to solicit public feedback, develop proposed pedestrian facility alternatives that best meet the project purpose and need, and assist the municipality in the selection of the preferred alternative to advance into design and eventual construction.

This study presents the findings of Hoyle Tanner's review of existing conditions, recommended pedestrian improvements to the existing midblock pedestrian crosswalks at the United Church of Hinesburg and Hinesburg Community School, and details of the four proposed alternatives at the Buck Hill Road intersection with Vermont Route 116.

1.5 Study Area

The study area is comprised of three locations along the Route 116 corridor in the Town of Hinesburg (see Figure 1). The existing mid-block crosswalks are located outside the United Church of Hinesburg (between MM 4.6 and 4.7) and the second in front of the Hinesburg Community School (between MM 4.3 and 4.4). The third location in the study area is at the intersection of Route 116 and Buck Hill Road, just south of the town center (between MM 3.9 and 4.0).

FIGURE 1 – LOCATION MAP



2 PUBLIC INVOLVEMENT

Public involvement for this project included a Local Concerns Meeting combined with an Alternatives Presentation Meeting which was held on January 9, 2023, in Hinesburg. A copy of the meeting minutes and copies of written comments are included in Appendix G. The meeting included town officials, staff, residents, and Hoyle Tanner personnel and was held in-person with online participation using Zoom. The purpose of the meeting was to provide a general overview of the project and to gather input and concerns from residents and project stakeholders. The meeting also included a presentation of pedestrian facility alternatives. Topics of discussion or concern included the following:

Overall:

- Study definition and schedule.
- Need for improvements. Incremental improvements would be better than waiting years to implement grand/complicated plans. Incremental improvements should be implemented with the design of future project in mind.
- The Town could consider using American Rescue Plan Act (ARPA) funds to help speed up implementation.
- Town ownership of Route 116 would give flexibility to install crosswalks where needed, to determine speed limits and to implement traffic calming measures to provide safer and more pedestrian/bicycle friendly streets.

United Church of Hinesburg Crosswalk:

- Poor drainage at east side of United Church of Hinesburg crosswalk extends from the crosswalk area north to Kelly's Field Road.
- Longstanding drainage issues merit a comprehensive solution.
- Pedestrians walk in the road to avoid the puddle/ice at the crosswalk.

Hinesburg Community School Crosswalk:

- Heavy traffic at school and at the Silver Street intersection, especially during the morning peak.
- Add an advance flashing beacon/sign north of the Silver Street intersection that comes on when the Hinesburg Community School crosswalk RRFB is activated to warn drivers in advance as they come around the corner toward the crosswalk.
- Concern with high travel speeds through this area, especially southbound vehicles taking the corner at the Silver Street intersection.
- Issues at the Silver Street intersection effect the school crosswalk. Consider re-evaluating the intersection in the future, including realigning or removing the southbound right turn lane to slow vehicles, narrowing the intersection to reduce speeds, and building out the south side of Route 116 between Silver Street and the school to reduce the apparent width of the road.
- Young students often cross unaccompanied.
- An RRFB may give false sense of security. Help educate students on how to use the crosswalk.
- Crosswalk used for school related sport activities in the field behind Lantman's Market.

Buck Hill Road Intersection:

- High travel speeds through Buck Hill Road intersection.
- Dangerous overtaking of vehicles turning left into Buck Hill Road despite no passing zone.
- 30mph speed limit should be extended farther south to just south of the Buck Hill Road intersection.

- The number of pedestrians crossing at this location may increase with the construction of the public sidewalk from the Meadow Mist intersection into the village.
- Split median design preferred because it helps slow traffic in both north and south directions.
- Median must be designed to allow for truck/trailer/bus access in and out of Buck Hill Road.
- If a raised median, consider using a mountable design for large vehicles and reptile/amphibian passage.
- Recognize limitations of steep Route 116 side slopes on the width of the median. Narrow 4 foot wide median more feasible than wider 8-foot median options.
- In addition to the medians, include gateway features would serve as a visual cue to help slow speeds – e.g., streetlight on Buck Hill Road side of intersection, fencing (like Danville example), larger Hinesburg Village sign, additional landscaping, public art, etc. (even if outside the State highway ROW).
- Soft engineering such as street trees, attractive fencing, decorative fencing, public art, etc. from the Buck Hill Road intersection north toward Friendship Lane may help reduce the wide-open appearance of this road segment.
- Address persistent pothole in the northeast corner of the Buck Hill Road intersection and consider a slightly wider apron to facilitate turning right out of Buck Hill Road.
- Aware of potential issues with VTrans regarding medians and other gateway features in clear zones.
- Highway Department currently does not have enough staff to maintain Route 116.

3 PURPOSE AND NEED STATEMENT

3.1 Purpose

The purpose of the Hinesburg Crosswalk Scoping Study along Vermont Route 116 is to improve safety for pedestrians using existing mid-block crosswalks outside the Hinesburg Community School and the United Church of Hinesburg. Another purpose of this study is to address safety and traffic speed concerns at the southern gateway to the village area near the intersection of Route 116 and Buck Hill Road and to assess the need for potential new pedestrian facilities.

3.2 Need

1.1.1 United Church of Hinesburg

- Significant ponding on the east side of the crosswalk.
- Existing pedestrian warning sign outside the line of sight and obscured by trees.
- Crosswalk used by the vulnerable pedestrians crossing to the church.
- VT 116 in this area is a high crash location.
- Queuing traffic blocks visibility to pedestrians crossing between stationary vehicles.

1.1.2 Hinesburg Community School

- Critical crosswalk used by vulnerable pedestrians.
- Existing pedestrian warning sign outside the line of sight and obscured.
- Busy Silver Street intersection in close proximity to crosswalk.

1.1.3 Buck Hill Road Intersection

- No crosswalk present.
- Provide village area residents with safe access across VT 116 to enable the use of the public trails and rural roads on the east side of VT 116. These include Russell Family Trails, Passing the Buck Trail, Sullivan Trail, Buck Hill Road and Lavigne Hill Road.
- Provide residents in the Buck Hill Road and Lavigne Hill Road neighborhoods with safe pedestrian access across VT 116 to the village area sidewalk system.
- Vehicles speed an issue, as this location is a transition between lower town speeds and 50 mph rural road.
- Provide a southern gateway to the village area along this straight section of VT 116 to provide sufficient visual cues to help slow traffic speeds.

4 EXISTING CONDITIONS

4.1 Vermont Route 116

Crosswalk at the United Church of Hinesburg

Vermont Route 116 is a state-owned, two-lane, undivided highway maintained by VTrans. North of the intersection between Route 116 and Silver Street, Route 116 is a principal arterial, while south and east of the Silver Street intersection, Route 116 is classified as a minor arterial. Route 116 runs south to north and bisects the center of the Town. Residential housing, retail locations, light industry buildings, houses of worship, and the Hinesburg police and fire departments are located along Route 116 within the study area. Route 116 has a slight crest at the Charlotte Road signalized intersection, and the horizontal alignment is slightly rolling throughout the study area. Route 116 has 90-degree curve with a radius of approximately 180 feet at its intersection with Silver Street. A second curve is approximately at a 140-degree angle with a radius of 550 ft with the center of the curve located at Friendship Lane. The posted speed limit within the study area is 30 mph from just north of Commerce Street south to the intersection of Friendship Lane where the speed limit increases to 40 mph. The speed limit increases again to 50 mph about 800 feet south of Buck Hill Road.

By the United Church of Hinesburg, the Route 116 roadway consists of two 11.5-foot travel lanes and a three-foot western shoulder. The eastern shoulder width varies along this section of Route 116, but is 52 inches at the crosswalk. A utility pole is located in the eastern shoulder, adjacent to the sidewalk. At the crosswalk in front of the Hinesburg Community school, the Route 116 roadway has two travel lanes just over eleven feet each, with a 5.5-foot shoulder on the north side of the street and a three-foot shoulder on the south side of the street. By Buck Hill Road, Route 116 has 11.5-foot travel lanes and three-foot shoulders.

1.1.4 Traffic Count Data for Vermont Route 116

VTrans calculates estimated traffic volumes based on statewide average growth rates for the appropriate class of road as well as growth rates of the neighboring road network. The estimated traffic volumes for Hinesburg have not reached pre-COVID-19 levels, so this study used the 2019 Annual Average Daily Traffic (AADT) volumes available from VTrans. The traffic volumes vary along the study area. A significant amount of traffic uses Silver Street to travel to and from destinations south of Hinesburg. The most recent turning movement data for the intersection of Route 116 and Silver Street are from June 2014. According to that turning movement count, in the afternoon 41% of traffic traveling on Route 116 north of Silver Street also turned to or from Silver Street. This turning movement count was only from 12:00-6:00 pm and did not include the morning peak period.

The 2019 AADT traffic volumes provided by the online VTrans Transportation Data Management System for Route 116 by the existing crosswalk by the United Church of Hinesburg are as follows:

Route 116 between Charlotte and Commerce: Total = 11,145 vehicles per day (vpd) (5,613 vpd NB and 5,533 vpd SB)

The nearest count location for the crosswalk outside the Hinesburg Community School and the Buck Hill Road intersection is located between Silver Street and North Road. The 2019 traffic counts are as follows:

Route 116 between Silver Street and North Road: Total = 3,794 vpd (1917 vpd NB and 1877 vpd SB)

With the school and other businesses on the east-west section of Route 116, the AADT is assumed to be somewhere between 3,794 vpd and 11,145 vpd. Pedestrian counts were not available and were not completed during the study.

1.1.5 Crash Data

Vermont Route 116 is a identified by VTrans as a High Crash Location section from just north of the United Church of Hinesburg through the intersection with Silver Street. Details on this classification can be found in Appendix E. The high numbers of crashes along this section of Route 116 are an additional safety risk for pedestrians.

Ten years of crash data between July 2012 and July 2022 was accessed through the VTrans Public Crash Data Query Tool. According to the tool, there were five crashes near the United Church of Hinesburg Crosswalk. Two of those appear to be in parking lots. The remaining three crashes were rear end type crashes on dry pavement. One crash resulted in injuries. During the same ten-year period, there were five crashes reported near the Hinesburg Community School. One of those appear to be in a parking lot. Two crashes appear to be near the crosswalk. One of those was a rear end type crash, and the other involved a single vehicle crash in a driveway. Two crashes occurred closer to Silver Street with one broadside type crash just east of the intersection and the other a single vehicle crash at the intersection with Silver Street. There was one reported crash at the intersection of Buck Hill Road. That crash involved a single vehicle driving in freezing precipitation at night.

In April of 2015, an impaired driver exceeding the speed limit lost control on the curve just east of Friendship Lane and struck a cyclist who was riding in the shoulder. Both were traveling southbound and both men were killed. This crash was a tragedy for the community for Hinesburg, and it also highlights the problem of drivers increasing speed as they exit that curve as they leave the center of town.

4.2 United Church of Hinesburg Crosswalk

1.1.6 Existing Pedestrian Facilities

Existing Crosswalk outside the United Church of Hinesburg, Looking South

The existing crosswalk on Route 116 outside the United Church of Hinesburg has yellow-green pedestrian crossing signs and arrows. The crosswalk is used by parishioners of the church and local residents, including older adults living at the Kelley's Field development. Sidewalks are present on both sides of Route 116. On the west side of Route 116, the existing five-foot sidewalk is separated from the travel lane by a curb and a grassy strip. A 54-inch sidewalk perpendicular to the roadway and grassy strip connects the sidewalk to the existing crosswalk. The sidewalk is made of concrete and in good condition. On the east side, the bituminous concrete sidewalk is set back from the road and has a layer of grit and sand in the lower spots surrounding the crosswalk connection to the sidewalk. Existing detectable warning surfaces for blind and partially sighted pedestrians are present on both sides of the crosswalk and in meet current standards.

1.1.7 Sight Distance

The southbound visibility to the crosswalk is good and exceeds the minimum 200 feet for the 30-mph posted speed. There is no parking on either side of the street near the crosswalk. While northbound visibility meets the minimum sight distance required for a crosswalk at 30-mph, the existing crosswalk sign is somewhat obscured by the utility poles and vegetation. Because of the shoulder and sidewalk, the existing pedestrian crossing sign is more than 12 feet from the fog line further removing it from the line of sight. In addition, southbound traffic queuing for the Charlotte Road signalized intersection can sometimes extend North toward the Hinesburg United Church crosswalk and may result in pedestrians crossing eastbound between stationary traffic, which would be difficult for northbound traffic to see.

Northbound Approach to the United Church of Hinesburg Crosswalk

1.1.8 Roadway Drainage

The west side of Route 116 in the area of the crosswalk has a curb and a closed drainage system. A drain is located approximately 40 feet north of the crosswalk. The east side of Route 116 does not have a curb and the crosswalk appears to be located near a low point. A layer of grit and sand were noted across the entire sidewalk area near the crosswalk. This indicates that there is often standing water or ice on this side of the road. An icy sidewalk is a potential safety issue. It is understood that the drainage along this section of Route 116 has been a longstanding issue.

1.1.9 Lighting

Existing LED cobra-head lighting is provided on utility poles along this section of Route 116. The light on the utility pole immediately at the existing crosswalk provides illumination at the crosswalk.

4.3 Hinesburg Community School Crosswalk

1.1.10 Existing Pedestrian Facilities

An existing midblock crosswalk is located at the west end of the Hinesburg Community School driveway entrance. The crosswalk has yellow-green school crossing signs and arrows and detectable warning surfaces on both pedestrian approaches. The school is located on the south side of the street. An existing five-foot sidewalk runs along the west side of Route 116 with a crosswalk on Silver Street. The sidewalk continues to the school and runs between the school driveway and the school building, terminating at the eastern end of the school. A connecting sidewalk leads from this sidewalk to the crosswalk at the west end of the school driveway. This sidewalk is 83 inches wide at the south end of the crosswalk.

Looking West to Hinesburg Community School Crosswalk

The crosswalk is at a slight skew to the west as it crosses to the north side of Route 116. An existing five-foot sidewalk along the north side of Route 116 provides pedestrian access from Lyman Meadow Road to Memorial Park and further north on VT Route.

1.1.11 Sight Distance

The sight distance to the existing crosswalk meets the 200-foot minimum on both approaches. Visibility to the sign on the north side of the crosswalk is limited by foliage of an adjacent tree. Traffic entering and existing the school driveway may affect visibility to crossing pedestrians during school drop-off and pick-up time periods.

1.1.12 Roadway Drainage

VT 116 east of the Hinesburg Community School has curbs with a closed drainage system. A drain is located 40 feet east of the school driveway. To the east, Route 116 does not have a curb, and water drains from the road into the grassy strip between the road and the sidewalk.

1.1.13 Lighting

Street lighting on utility poles provides lighting along this section of Route 116. An existing cobra light fixture on the utility pole adjacent to the crosswalk on the north side of the street provides illumination on the crosswalk.

4.4 Buck Hill Road Intersection

Looking North to Buck Hill Road Intersection

1.1.14 Existing Pedestrian Facilities

There are limited pedestrian facilities currently provided at the Buck Hill Road intersection. There is a five-foot sidewalk from the new Meadow Mist development to the intersection. Pedestrians using Buck Hill Road for walking or to reach the Russell family trails walk along the side of Buck Hill Road. A planned sidewalk project will connect the Meadow Mist development and the town center. The sidewalk will originate at the Hinesburg Community School and continue along Route 116 until approximately 650 ft north of Buck Hill Road, where the sidewalk will branch off Route 116 and connect to Redbud Lane. There will be a public easement for this path so that it will be available to Meadow Mist residents as well as those living in the Buck Hill neighborhood.

1.1.15 Sight Distance to Intersection

This section of VT 116 is flat and straight, and therefore the visibility is very good, exceeding 325 feet from the intersection. There is no vegetation blocking visibility.

1.1.16 Roadway Drainage

There is no existing closed drainage system along this section of Route 116, and stormwater generally sheet flows off the roadway.

1.1.17 Lighting

No streetlighting is provided along this section of Route 116. A lamppost provides light for pedestrians using the development's sidewalk.

5 ALTERNATIVES ANALYSIS

Alternatives were considered and evaluated for each location as part of this study. See Appendix A for plans of each alternative.

5.1 United Church of Hinesburg Crosswalk

1.1.18 Alternative 1 – Upgrade Signage to Rectangular Rapid Flashing Beacon (RRFB)

Alternative 1 proposes an upgrade of the existing crossing to a crossing with Rectangular Rapid Flashing Beacons. This would involve replacement of the existing crosswalk signs with double sided, pole mounted pedestrian warning signs with solar powered flashing LED light bar activated with a pedestrian push button. The RRFB would alert drivers to pedestrians who are crossing Route 116 and may be masked by stationary southbound traffic. This alternative does not address the ponding and icing problems on the east side of the crossing. This alternative may also be considered as an interim step with the drainage addressed as part of a future project.

Example of RRFB with push button activated flashing beacon powered by solar panel.

1.1.19 Alternative 2 – Rectangular Rapid Flashing Beacon (RRFB) and Drainage Improvements

Alternative 2 includes the installation of RRFBs and drainage improvements to address the ponding and icing issues on the east side of the crosswalk. This alternative proposes providing approximately 55-foot of curbing along the east side of Route 116, between the two residential driveways. Two new drainage structures, one on either side of the crosswalk and would remove water from the crosswalk area. The new curb would create formal grassy strip between the curb and sidewalk where grass is currently growing and would be 3'5" at its widest point. The sidewalk would remain in the same location but be raised a few inches to be level with the top of the proposed curb.

This alternative would address ponding and icing at the crosswalk, but the improvements may create new, unintended drainage issues at the edges of the project. It is recommended that new curbs and a closed drainage system be considered from Kelley's Field Road to where the sidewalk turns away from Route 116 just north of Charlotte Road. It is understood that the drainage issues on this section of sidewalk have been hindering pedestrians for some time, and the safety issues associated with ponding and icing should not be overlooked.

Evidence of ponding on the eastern side of the crosswalk.

As in Alternative 1, this alternative includes upgrading the existing crossing signs with double-sided, pole mounted pedestrian warning signs and pedestrian activated solar powered flashing LED light bar. Unlike Alternative 1, the east side RRFB post would be relocated to the proposed grassy strip so that it would be more visible to approaching drivers. The utility pole would block

visibility to the pedestrian warning sign. If amenable with the utility company who owns the utility pole, the pedestrian warning sign for southbound drivers could be mounted to the utility pole or mounted on a separate post adjacent to the utility pole.

5.2 Hinesburg Community School Crosswalk

1.1.20 Alternative 1 – Upgrade Signage to Rectangular Rapid Flashing Beacon (RRFB)

Alternative 1 proposes replacement of the existing pedestrian crosswalk signs with Rectangular Rapid Flashing Beacons (RRFB). This would involve replacement of the existing crosswalk signs with double sided, pole mounted pedestrian warning signs with solar powered flashing LED light bar activated with a pedestrian push button. The RRFB would alert drivers to pedestrians crossing to or from the school and playground. The existing utility pole may block visibility to the pedestrian warning sign for eastbound drivers. The pedestrian warning sign could be placed on the utility pole if amenable by the utility company. If that is not possible, the sign could be installed on a post immediately west of the pole. Because the crosswalk is located after a curve and busy intersection, an advanced RRFB should be located approximately 125 feet prior to the crosswalk. The border of the warning sign would flash when the RRFB is flashing and alert drivers to pedestrians in the upcoming crosswalk.

1.1.21 Alternative 2 – Upgrade to Rectangular Rapid Flashing Beacon and Sidewalk Improvements

Alternative 2 includes the upgrade to Rectangular Rapid Flashing Beacons (RRFBs) as outlined in Alternative 1 as well as some improvements to the north side of the crossing area. The landing pad on the north side of the crossing would be widened by several inches. As a traffic calming feature, a new curb along the north side of Route 116 would visually narrow the roadway and provide better protection for waiting pedestrians. As in Alternative 1, advanced RRFB's would be provided.

5.3 Buck Hill Road Intersection

There are currently no pedestrian crosswalk facilities at the Buck Hill Road intersection with Route 116. Pedestrians cross at Buck Hill Road to go for walks in the Buck Hill Road and Lavigne Hill Road neighborhoods or to access the trail network on the Russell family property. However, this location is unlikely to reach the 20 pedestrians per peak hour crosswalk warrant minimum required by VTrans. Pedestrian volumes may increase when the public sidewalk from the Meadow Mist development is constructed, but the criteria is unlikely to be met. Stopping sight distance at the Buck Hill Road intersection is good, but vehicle speeds can be high. Vehicles leaving town speed up after rounding the curve by Friendship Lane anticipating the increased speed limit ahead. Vehicles coming into town are traveling at speeds of 50 mph shortly before the Buck Hill Road intersection. These high vehicle speeds pose a danger to crossing pedestrians.

The proposed alternatives address the issues of speeding along this section of Route 116 as well as define the southern gateway to the village center. The proposed medians would work in conjunction with decorative streetlighting, signage, attractive fencing, tree plantings, artwork or other features to indicate to drivers that they are entering the town and need to slow down. US 2 in Danville Vermont has built gateways with medians, lighting and fencing and is a local example of gateway features on a state-maintained road.

A raised median would have the maximum traffic calming effect, and the median could be planted with low level perennials or other plants to create an attractive gateway feature. It is understood that a raised median may not be amenable to VTrans due to maintenance and plowing concerns, so the median could alternatively be flush with granite pavers or stamped concrete. The median could also be a simple painted surface. The three options for median installation provide varying levels of traffic calming, cost of installation, and maintenance. Centerline rumble strips along median edge lines are recommended for all alternatives.

Raised median with plantings.

Extending the 30-mph speed limit to just south of the gateway would also help improve safety for pedestrians crossing Route 116 as well as those using the shoulders.

Flush median with contrasting stamped concrete and granite edging on US 2 in Danville, Vermont

Regardless of how potential improvements at the Buck Hill Road location move forward, Hoyle Tanner recommends two near-term improvements to address safety concerns. Centerline rumble strips from Friendship Lane through Buck Hill Road are recommended to discourage dangerous overtaking of along this section of Route 116, especially of southbound vehicles slowing down to turn left into Buck Hill Road. Pedestrian warning signs should also be provided on the approaches to the Buck Hill Road intersection.

1.1.22 Alternative 1 – Single, Large Gateway Median South of Buck Hill Road

Alternative 1 proposes the construction of a single median south of Buck Hill Road to act as a gateway feature to indicate to drivers entering the town that they are entering a more built-up area and need to slow down to the posted speed limit of 40-mph. The median could be constructed with curbs, and the eight-foot width and is large enough to allow for attractive plantings in the center of the island. The median could also be flush with contrasting pavement or simply painted. The median would be eight-feet wide and 36-feet long.

1.1.23 Alternative 2 – Split, Large Medians at Buck Hill Road

Alternative 2 proposes the construction of a median split on the north and south approaches to Buck Hill Road. Each median would be eight-feet wide 36 feet long. As in Alternative 1, the median could be constructed with a raised curb with either grass or low-level perennial plants, a flush median with contrasting pavement, or simply painted. Because of the eight-foot median width, this alternative has the potential to be converted into a pedestrian refuge island in the future.

1.1.24 Alternative 3 – Single, Narrow Gateway Median South of Buck Hill Road

Alternative 3 proposes the construction of a single median south of Buck Hill Road to act as a gateway feature to indicate to drivers entering the town that they are entering a more built-up area and need to slow down to the posted speed limit of 40 mph. The median would be four-feet wide and 36-feet long. The narrower median presents a lower cost option with less construction impacts, but has a smaller traffic calming effect. For maximum traffic calming effect, the median would have a raised curb and could still be planted with low level perennials or grasses. Alternatively, the median could be flush with the surrounding pavement and constructed with granite pavers or stamped concrete. The median could also be a simple, painted hatched lines.

1.1.25 Alternative 4 – Split, Narrow Medians at Buck Hill Road

Alternative 4 proposes the construction of a narrow split on the north and south approaches to Buck Hill Road. Each median would be four feet wide, and each median would be 36 feet long. As in Alternative 1, the median could be constructed with a raised curb with either grass or low-level perennial plants, a flush median with contrasting pavement, or simply painted.

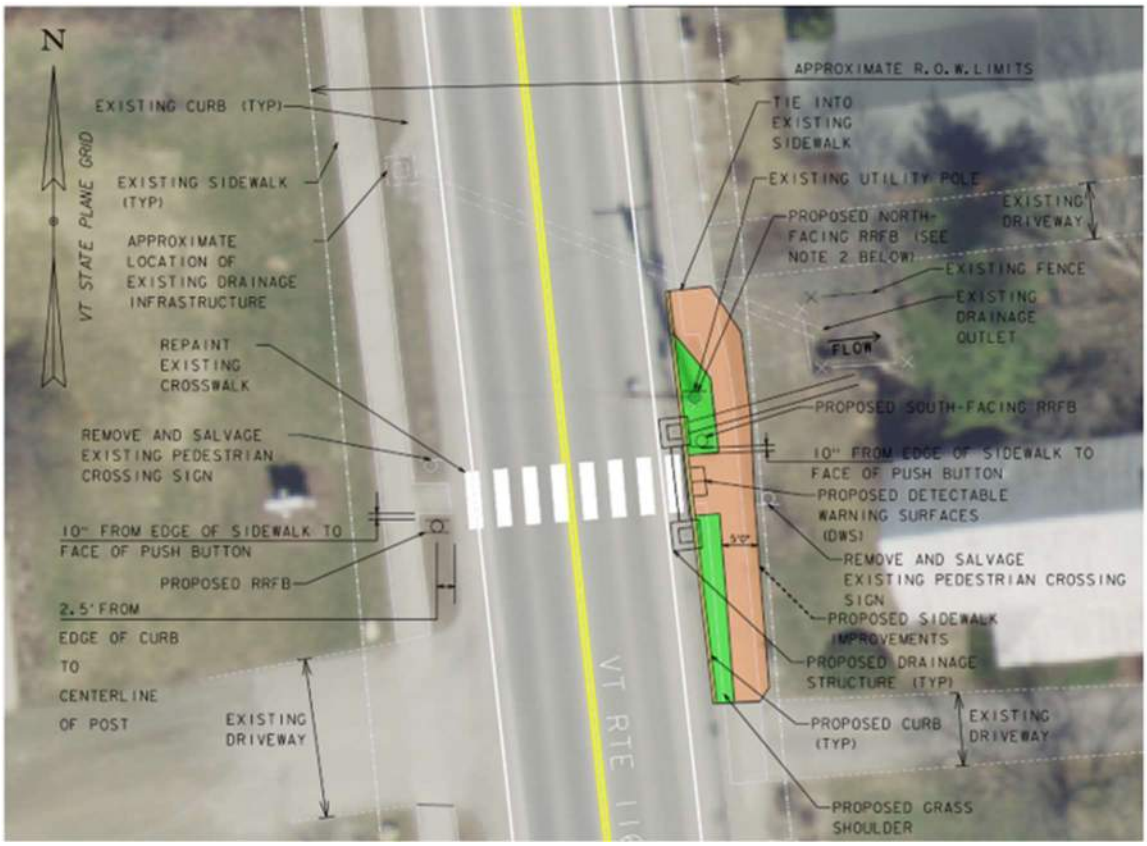
6 PREFERED ALTERNATIVES

For each of the three locations, the project team identified preferred alternatives based on the evaluation of the needs of pedestrians and bicyclists, existing roadway and traffic conditions, design implications, and input received from the community.

6.1 United Church of Hinesburg

The crosswalk in front of the United Church of Hinesburg is a popular with neighborhood residents, including seniors living at the soon-to-be expanded Kelly's Field community. The east side of the crosswalk suffers from long standing drainage issues that result in significant ponding and icing. Visibility to the existing pedestrian warning sign on the east side of the crosswalk is masked by vegetation and outside the line of sight. A grant from the AARP has provided funding for a Rectangular Rapid Flashing Beacon (RRFB). It is recommended that the Town of Hinesburg takes advantage of the funding for the RRFB and installs the RRFB and described in Alternative 1 as an interim measure. As Alternative 1 does not address the drainage issues or visibility to the east side warning sign, Hoyle Tanner recommends Alternative 2. This alternative addresses the drainage issue and bring the RRFB closer to the road and the driver's line of sight.

Figure 2 – Alternative 2 at the United Church of Hinesburg



6.2 Hinesburg Community School

The crosswalk outside Hinesburg Community School is used by students traveling to and from school and to afterschool sports activities. The community also uses this crosswalk outside of school hours. Traffic at the Silver Street intersection and in front of the school can be busy, especially during the morning peak hour. The current pedestrian warning sign on the north side of Route 116 is hidden behind a tree. Hoyle Tanner recommends Alternative 2, which would enlarge the north side landing pad, install RRFB's within the driver's line of sight, and visually narrow the road by the school. An advanced RRFB warning sign, which would flash when the RRFB at the crosswalk is activated, is recommended on the eastbound approach. This will help raise awareness of the crosswalk for drivers who are coming around the corner or have turned right from Silver Street. An in-street pedestrian warning sign is also recommended.

Figure 3 – Alternative 2 and the Hinesburg Community School

6.3 Buck Hill Road Intersection

The intersection of Route 116 and Buck Hill Road is at the southern edge of the village center. With the Meadow Mist development and existing homes in the Buck Hill Road neighborhood, the nature of the road changes from a rural road to a residential road. Although residents cross Route 116 at this location to access trails in and around the Buck Hill Road neighborhood, the pedestrian volumes do not meet VTrans warrant criteria for a crosswalk. Even through a crosswalk does not meet warrant criteria, it is recommended that traffic calming measures be implemented to improve the safety for pedestrians currently crossing at this location.

The engineering recommendations in the proposed alternatives can be combined with other measures to create a gateway at the southern entrance to the village. Village gateways are popular in Europe and they use a combination of visual cue to indicate to drivers that they are leaving a rural highway and entering a built up village. The Town of Danville Vermont recently installed gateway features on US Route 2. Gateway features can include:

- Attractive fencing like a split rail fence

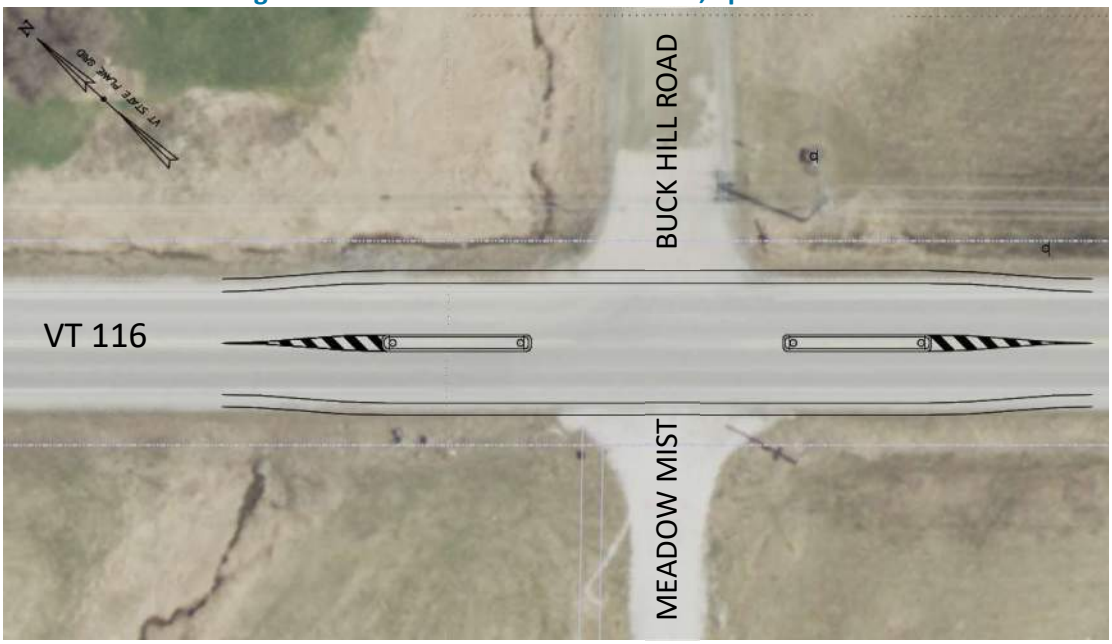
- Attractive plantings (the new trees planted along the west side of Route 116 will be a wonderful gateway feature as they mature)
- Ambient streetlights, some of which can have brackets to hang banners or flags
- Artwork relative to the Town of Hinesburg
- Larger Welcome to Hinesburg sign

Gateway feature on US 2 in Danville, Vermont with median, split rail fencing, decorate lighting and a prominent sign. Raised median is five feet at its widest point.

These features would need to be outside VTrans clear zones and likely outside of the right of way as long as the road is owned and maintained by VTrans. If Route 116 was owned and maintained by the town, there would be more flexibility with gateway treatments, raised medians and speed limit changes along this section of Route 116 as well as in town.

The proposed alternatives fall into two categories – a single median sound of the Buck Hill Road intersection or two separate medians, one on either side of Buck Hill Road. The single median alternatives do not address the issues with southbound vehicles overtaking vehicles slowing down to turn left into Buck Hill Road. Hoyle Tanner recommends the split median alternatives, either Alternative 2 or Alternative 4. The median on the north side of Buck Hill Road would deter southbound drivers from overtaking vehicles slowing down to turn left. The median on the north side of Buck Hill Road could also act as an informal refuge for pedestrians. The wider, eight-foot median in Alternative 2 has the potential to be a future formal pedestrian refuge island, and if raised, gives more opportunity for attractive gateway plantings. The four-foot-wide median in Alternative 4 reduces impacts outside of the right of way.

Figure 4 – Alternative 4 with Four-foot, Split Medians



A raised median would have the greatest traffic calming effect and provide the most protection for crossing pedestrians. However, it is understood that raised medians may receive resistance from VTrans, who own and maintain Route 116 through Hinesburg. If raised medians are not feasible at this time, then medians with a textured and contrasting surface would be preferred. The median can have a slight lip that is easily plowed over but would deter drivers from traversing over them. The flush stamped concrete medians with granite edging on US 2 in Danville are a good example of this. Rumble strips along the centerline and along the road markings around the median would also deter drivers from crossing the median. Centerline rumble strips and advanced pedestrian warning signs are recommended for all alternatives. It is also recommended that the 30-mph speed limit be extended through the gateway area. A speed study could be performed after the gateway features are installed since the 85th percentile speed is often a factor in determining the speed limit. Some of the gateway features such as attractive plantings, artwork and new welcome signs could be installed outside of the right of way at any time. If this section of Route 116 was owned and maintained by the town, there would be more flexibility for gateway features, raised medians and speed reductions.

This Study has been completed utilizing information available as of March 2023. Design criteria, permitting requirements, field data obtained by Hoyle Tanner and reports, or survey information prepared by others, are subject to change. The condition of an existing roadway can change rapidly, or it can be damaged through manmade or natural events that could alter the conclusions reached herein. Therefore, the conceptual design, estimate of construction cost, and conclusions reached in this Study should not be relied upon for an extended period.

APPENDIX A

Alternatives Conceptual Plans

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FIGURE 1 OF 9

FIGURE 1

PROJECT NO. 21120006.04

TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS

Project Location

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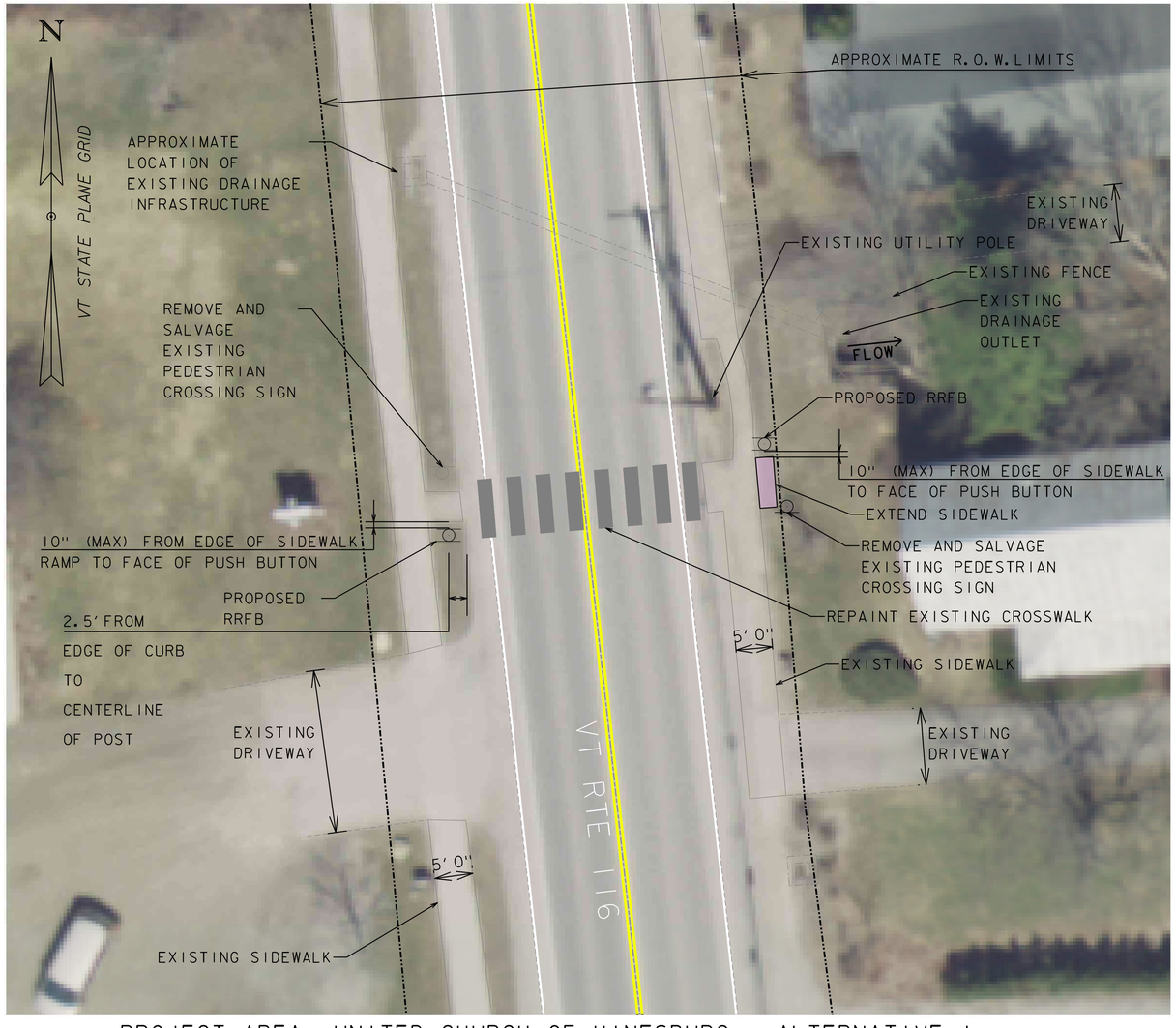
VTRANS BRIDGE NO.	N/A
FILENAME	2112000604nu1
DESIGNER	ZAR
MODEL NAME	Project Location
DRAWN	ZAR
SCALE	AS SHOWN
CHECKED	TAS
DATE	AUGUST 2022



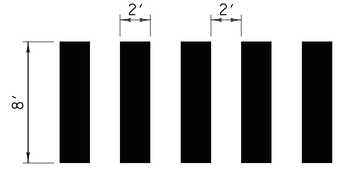
PROJECT AREA, UNITED CHURCH OF HINESBURG - ALTERNATIVE I

10 0 10 20

SCALE IN FEET

NOTES

1. GRAPHICS SHOWN TO CONVEY INTENT ONLY.
2. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. ON BOTH THE EAST AND WEST RRFBS, THE PUSH BUTTON AND R10-25 SIGNS WILL BE MOUNTED PARALLEL TO THE CROSSWALK.
4. PAVEMENT MARKINGS SHALL BE IN WATERBORNE PAINT IN ACCORDANCE WITH VTRANS 2018 STANDARD SPECIFICATIONS FOR CONSTRUCTION



CROSSWALK DETAIL

NOT TO SCALE

SIGN SUMMARY

NOT TO SCALE

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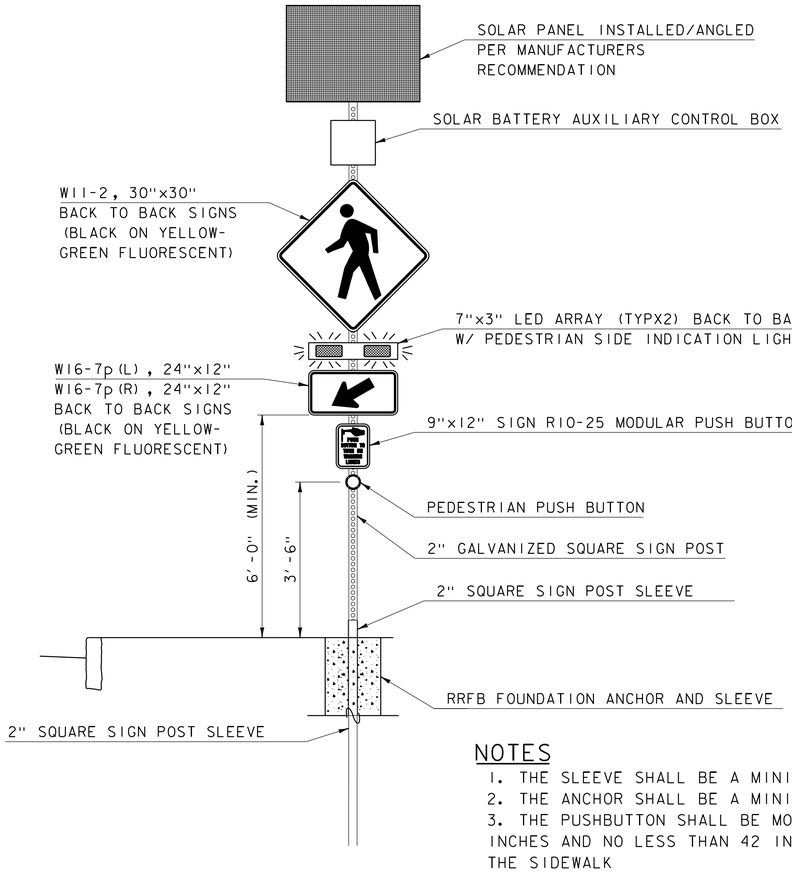
NEW (X2)

NEW (X2)

NEW (X2)

SALVAGE AND RESET (X2)



NOTES

1. THE SLEEVE SHALL BE A MINIMUM OF 18" LONG.
2. THE ANCHOR SHALL BE A MINIMUM OF 48" LONG.
3. THE PUSHBUTTON SHALL BE MOUNTED NO MORE THAN 48 INCHES AND NO LESS THAN 42 INCHES FROM THE TOP OF THE SIDEWALK

RECTANGULAR RAPID FLASHING BEACON (RRFB) DETAIL

NOT TO SCALE

VTRANS BRIDGE NO. N/A
DESIGNED ZAR
FILENAME 21120060604nu1
DRAWN ZAR
MODEL NAME U CHURCH RRFB
CHECKED TAS
SCALE AS SHOWN
DATE AUGUST 2022

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
RRFB at United Church of Hinesburg

PROJECT NO. 21.120006.04

FIGURE 2

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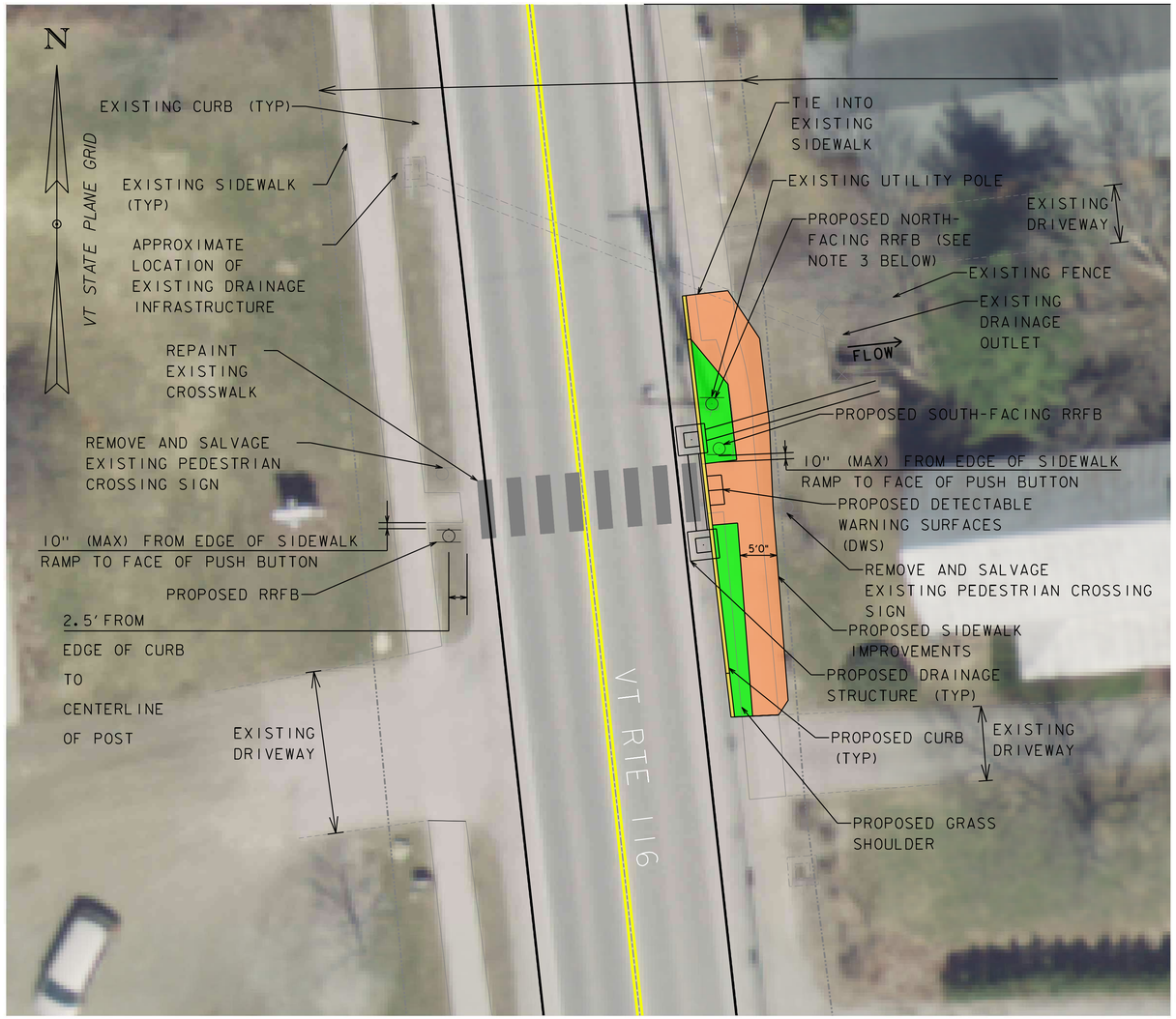

PROJECT AREA, UNITED CHURCH OF HINESBURG - ALTERNATIVE 2

10 0 10 20

SCALE IN FEET

NOTES

1. GRAPHICS SHOWN TO CONVEY INTENT ONLY.
2. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THE TOWN OF HINESBURG MUST COORDINATE WITH THE ELECTRIC UTILITY TO ARRANGE FOR THE INSTALLATION OF SIGNS ON THE EXISITNG POLE
4. ON BOTH THE EAST AND WEST RRFBS, THE PUSH BUTTON AND R10-25 SIGNS WILL BE MOUNTED PARALLEL TO THE CROSSWALK

SIGN SUMMARY

NOT TO SCALE

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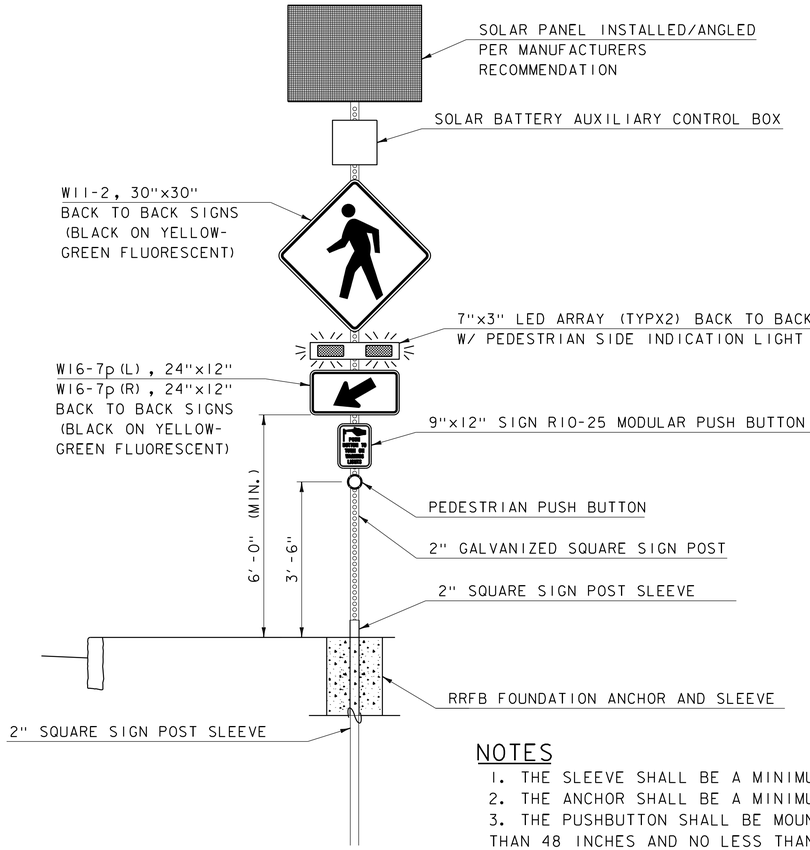
NEW (X2)

NEW (X2)

NEW (X2)

SALVAGE AND RESET (X2)



NOTES

1. THE SLEEVE SHALL BE A MINIMUM OF 18" LONG.
2. THE ANCHOR SHALL BE A MINIMUM OF 48" LONG.
3. THE PUSHBUTTON SHALL BE MOUNTED NO MORE THAN 48 INCHES AND NO LESS THAN 42 INCHES FROM THE TOP OF THE SIDEWALK

RECTANGULAR RAPID FLASHING BEACON (RRFB) DETAIL

NOT TO SCALE

VTRANS BRIDGE NO. N/A			
FILENAME 21120006004nu1	DESIGNED ZAR	DRAWN JBZZAR	CHECKED TAS
MODEL NAME UCHURCH RRFB - A	SCALE AS SHOWN	DATE AUGUST 2022	

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
RRFB at United Church of Hinesburg

PROJECT NO. 21.120006.04

FIGURE 3

FIGURE 3 OF 3

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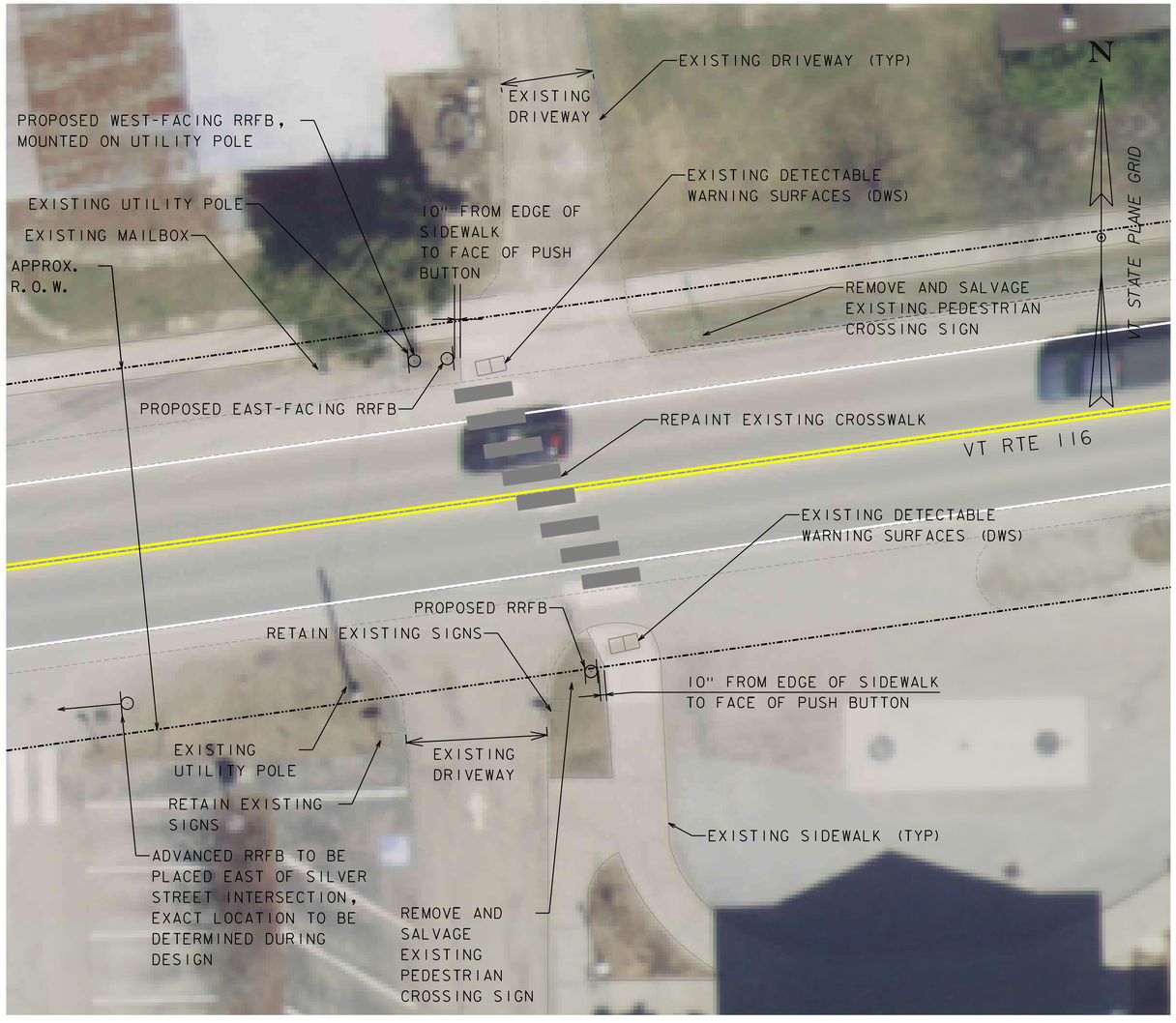

PROJECT AREA, HINESBURG COMMUNITY SCHOOL - ALTERNATIVE 1

10 0 10 20

SCALE IN FEET

NOTES

1. GRAPHICS SHOWN TO CONVEY INTENT ONLY.
2. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THE TOWN OF HINESBURG MUST COORDINATE WITH THE ELECTRIC UTILITY TO ARRANGE FOR THE INSTALLATION OF SIGNS ON THE EXISITNG POLE
4. ON BOTH THE NORTH AND SOUTH RRFBS, THE PUSH BUTTON AND R10-25 SIGNS WILL BE MOUNTED PARALLEL TO THE CROSSWALK

SIGN SUMMARY

NOT TO SCALE

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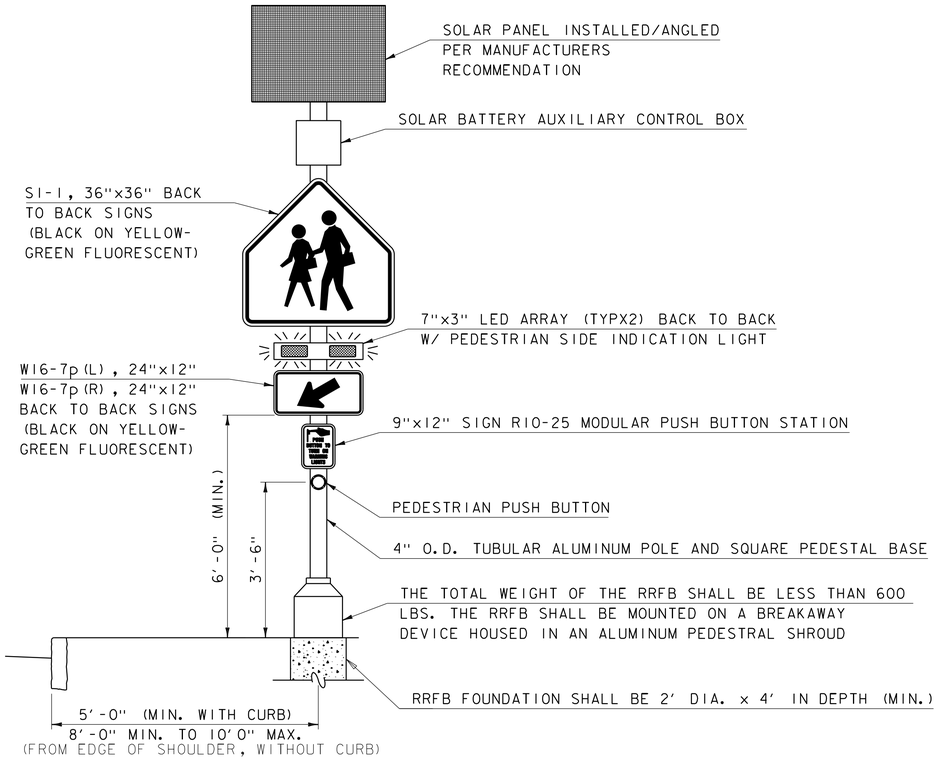
NEW (X2)

NEW (X2)

NEW (X2)

SALVAGE AND RESET (X2)



RECTANGULAR RAPID FLASHING BEACON (RRFB) DETAIL

NOT TO SCALE

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FILENAME 21120060604nu1
MODEL NAME School Crosswalk
SCALE AS SHOWN
DESIGNED ZAR
DRAWN ZAR
CHECKED TAS
DATE AUGUST 2022

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
Crosswalk at Hinesburg Community School

PROJECT NO. 21.120006.04

FIGURE 4

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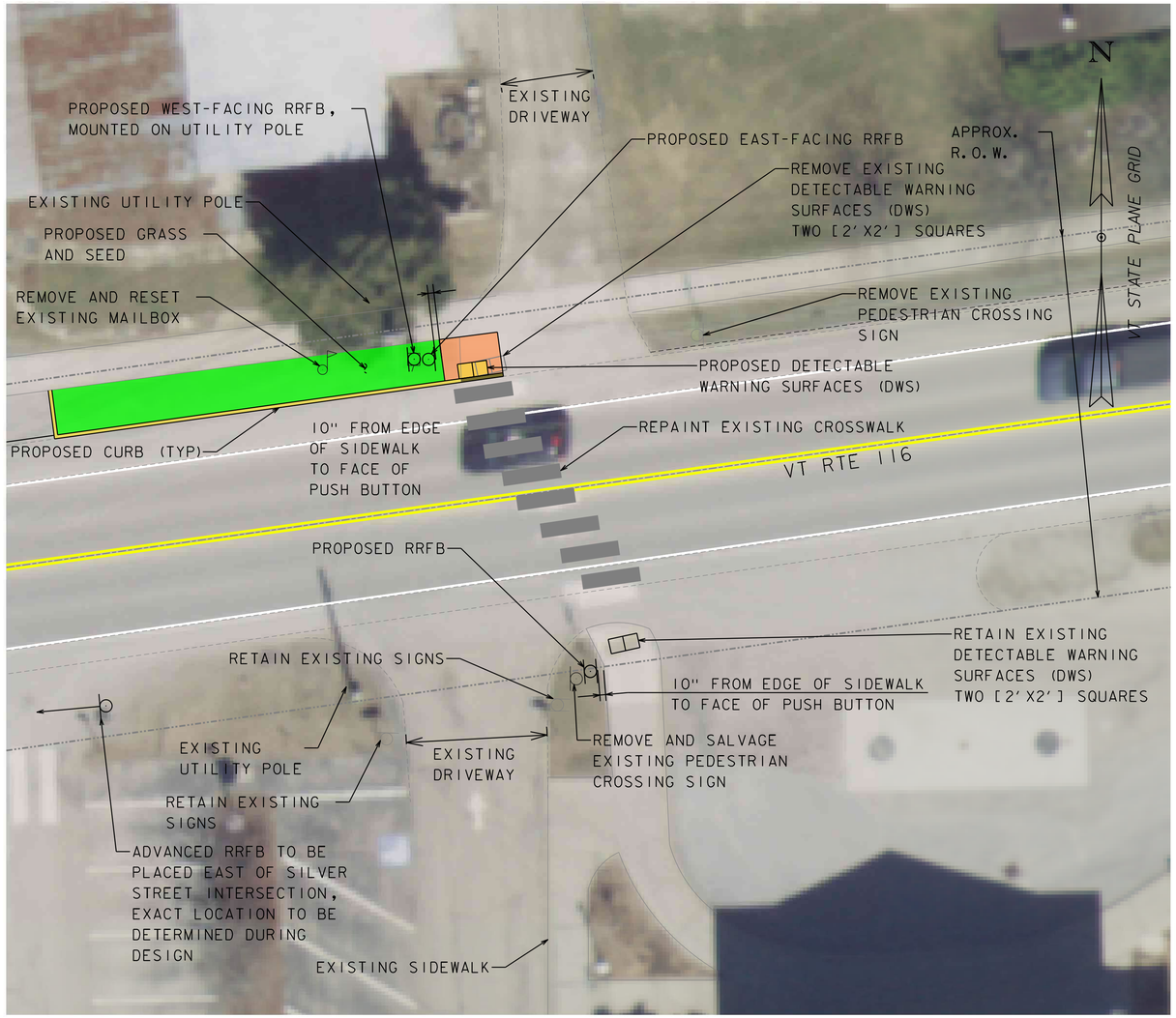


PROJECT AREA, HINESBURG COMMUNITY SCHOOL - ALTERNATIVE 2

10 0 10 20

SCALE IN FEET

NOTES

1. GRAPHICS SHOWN TO CONVEY INTENT ONLY.
2. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THE TOWN OF HINESBURG MUST COORDINATE WITH THE ELECTRIC UTILITY TO ARRANGE FOR THE INSTALLATION OF SIGNS ON THE EXISITNG POLE
4. ON BOTH THE NORTH AND SOUTH RRFBS, THE PUSH BUTTON AND RIO-25 SIGNS WILL BE MOUNTED PARALLEL TO THE CROSSWALK

SIGN SUMMARY

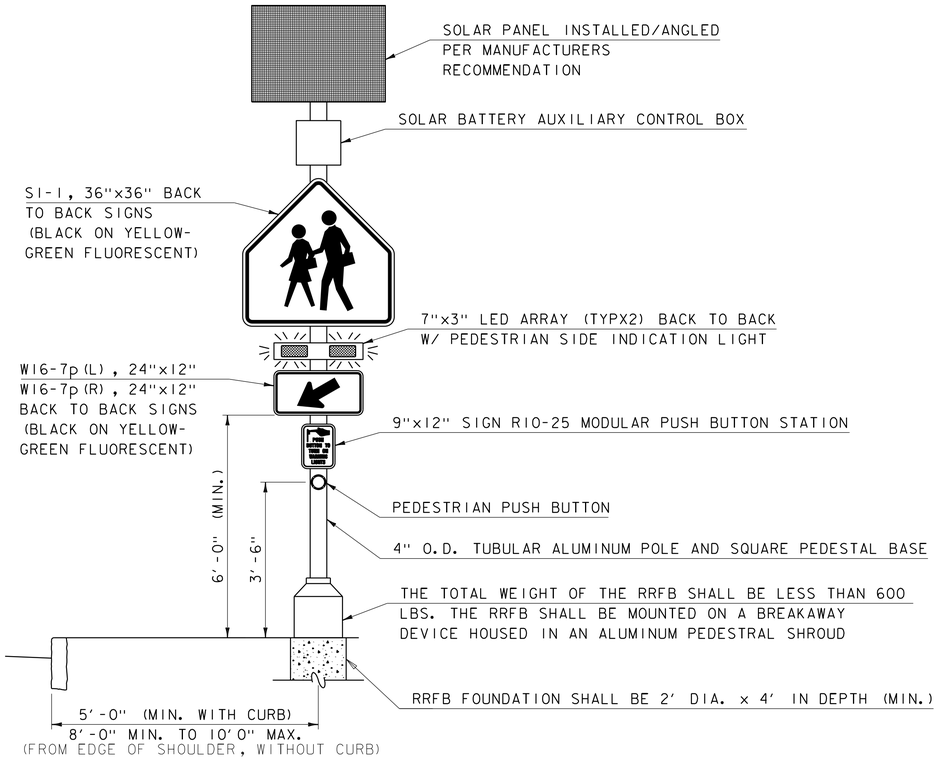
NOT TO SCALE

SALVAGE AND RESET (X2)
NEW (X2)

NEW (X2)

NEW (X2)

SALVAGE AND RESET (X2)



RECTANGULAR RAPID FLASHING BEACON (RRFB) DETAIL

NOT TO SCALE

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DESIGNED ZAR
DRAWN AJZ ZAR
CHECKED TAS
FILENAME 21120006004nu1
MODEL NAME School Crosswalk - A2
SCALE AS SHOWN
DATE AUGUST 2022

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
Crosswalk at Hinesburg Community School

PROJECT NO. 21.120006.04

FIGURE 5

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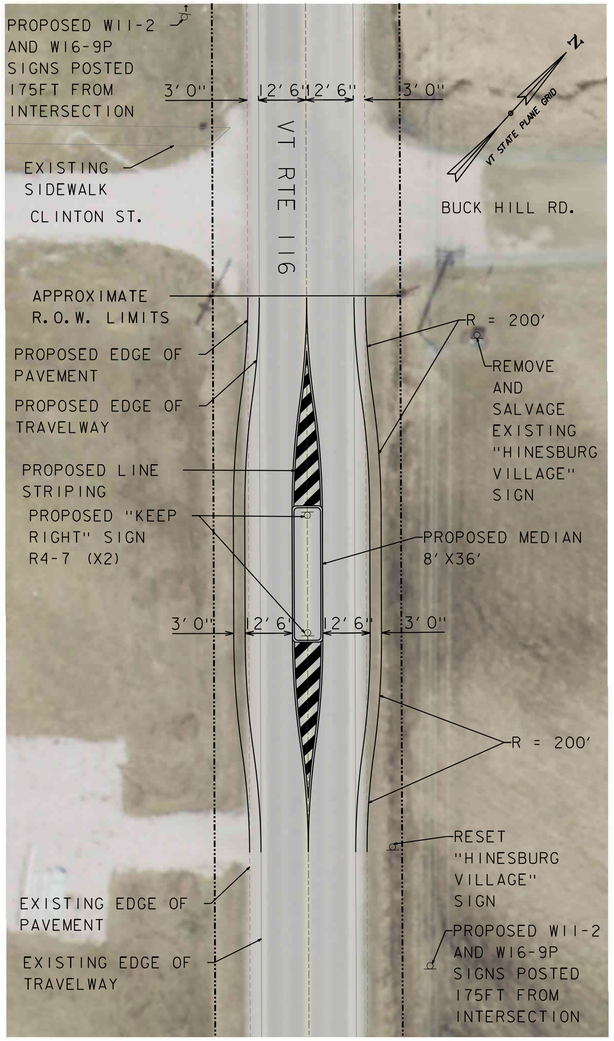

PROJECT AREA, BUCK HILL ROAD - ALTERNATIVE I

20 0 20 40

SCALE IN FEET

SIGN SUMMARY

NOT TO SCALE

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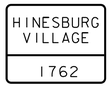
(WHITE AND BLACK)
NEW (X2)



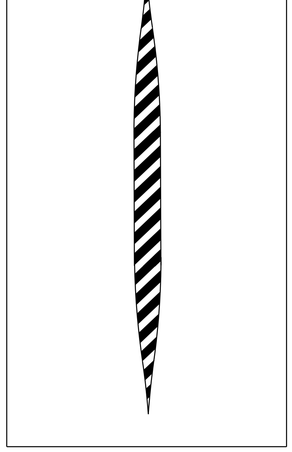
CUSTOM SIGN, READING:
"HINESBURG VILLAGE
1762"
5'X4'
SALVAGE (X1)

W11-2
30"X30"
NEW (X6)

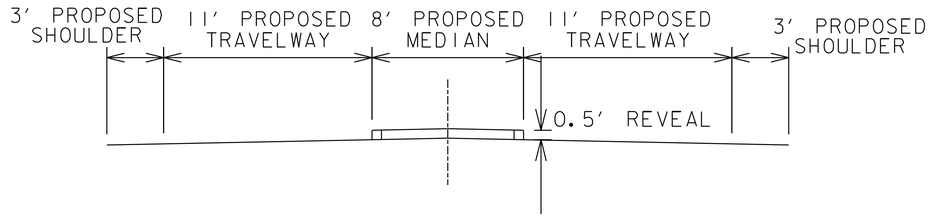
W16-9P
12"X24"
NEW (X2)

NOTES

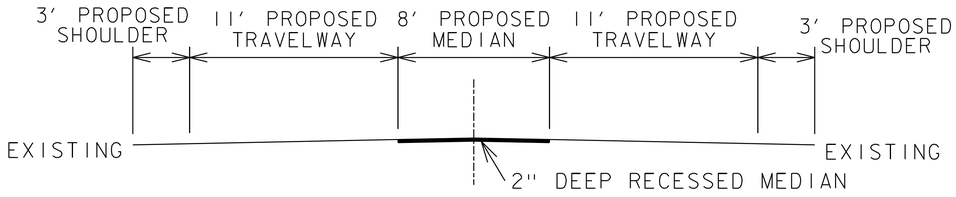
1. RECOMMENDATIONS FOR THREE ALTERNATIVE VERSIONS OF THE GATEWAY MEDIANS ARE AS FOLLOWS:
   A. RAISED CONCRETE MEDIAN (6" REVEAL)
   B. RECESSED/TEXTURED MEDIAN
   C. PAINTED MEDIAN
2. GRAPHICS SHOWN TO CONVEY INTENT ONLY. LAYOUT
3. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



RECESSED/PAINTED MEDIAN DETAIL



CONCRETE RAISED GATEWAY MEDIAN CROSS SECTION



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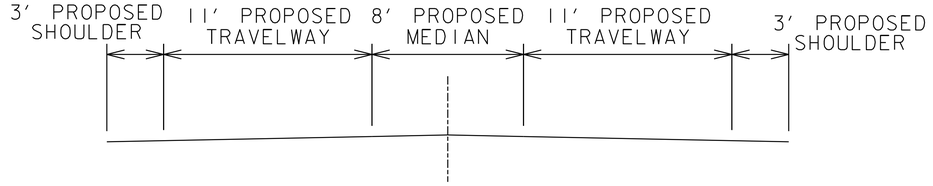

PAINTED GATEWAY MEDIAN CROSS SECTION

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DESIGNED ZAR
FILENAME 21120006004nu1
DRAWN ZAR
MODEL NAME Buck Hill Rd
CHECKED TAS
SCALE AS SHOWN
DATE AUGUST 2022

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
Intersection between VT RTE 116 and Buck Hill Rd

PROJECT NO. 21.120006.04

FIGURE
6

FIGURE 6 OF 9

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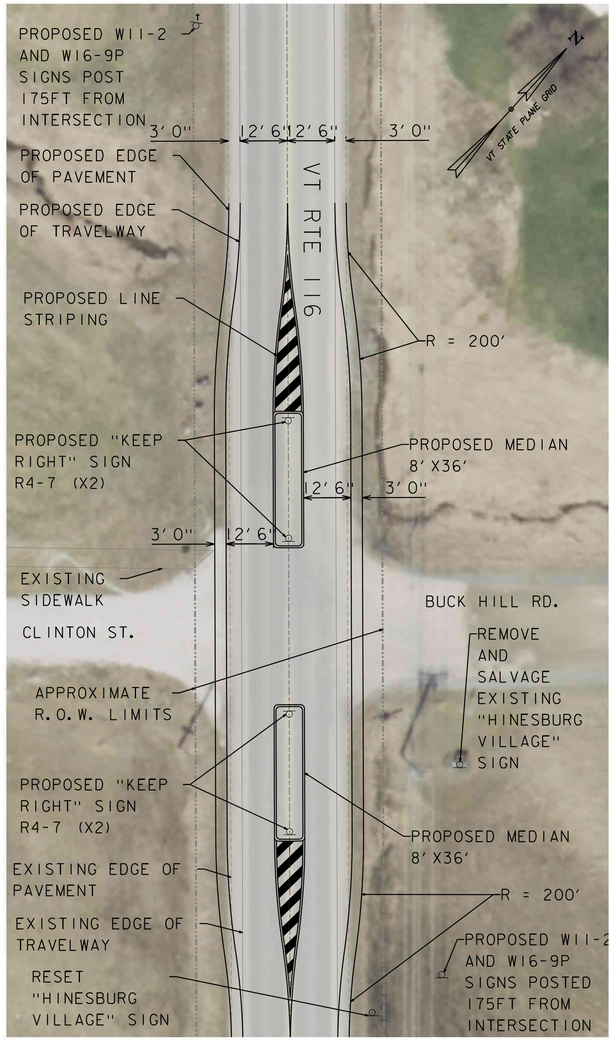


PROJECT AREA, BUCK HILL ROAD - ALTERNATIVE 2

20 0 20 40

SCALE IN FEET

SIGN SUMMARY

NOT TO SCALE

R4-7
24"X30"
(WHITE AND BLACK)
NEW (X2)

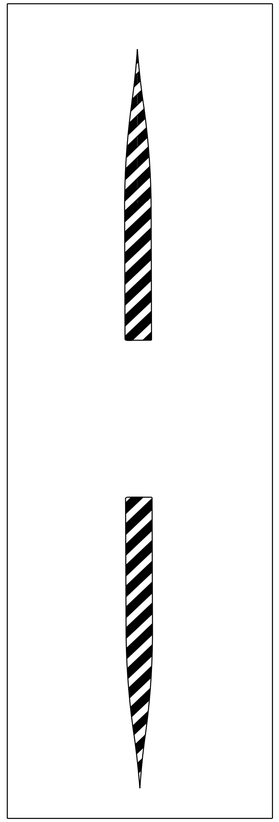
CUSTOM SIGN, READING:
"HINESBURG VILLAGE
1762"
5' X4'
SALVAGE (X1)

W11-2
30"X30"
NEW (X6)

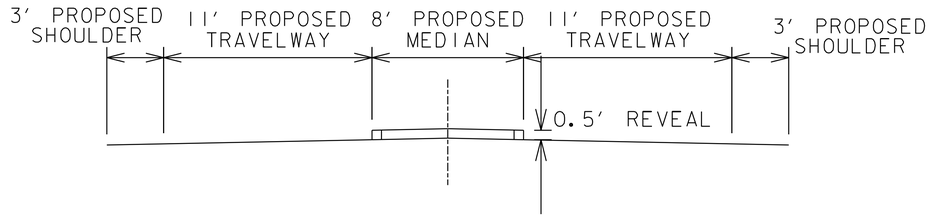
W16-9P
12"X24"
NEW (X2)

NOTES

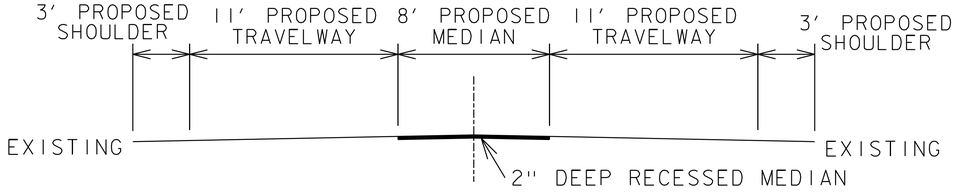
1. RECOMMENDATIONS FOR THREE ALTERNATIVE VERSIONS OF THE GATEWAY MEDIANS ARE AS FOLLOWS:
   A. RAISED CONCRETE MEDIAN (6" REVEAL)
   B. RECESSED/TEXTURED MEDIAN
   C. PAINTED MEDIAN
2. GRAPHICS SHOWN TO CONVEY INTENT ONLY. LAYOUT
3. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



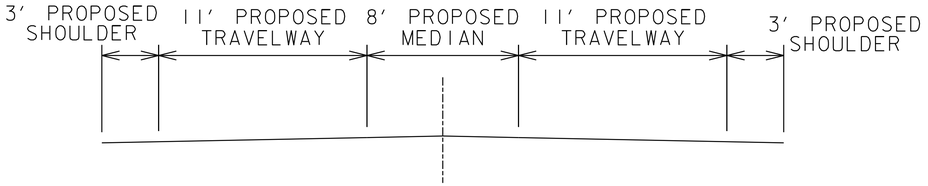
RECESSED/PAINTED MEDIAN DETAIL



CONCRETE RAISED GATEWAY MEDIAN CROSS SECTION



RECESSED GATEWAY MEDIAN CROSS SECTION



PAINTED GATEWAY MEDIAN CROSS SECTION

VTRANS BRIDGE NO. N/A
DESIGNED ZAR
FILENAME 21120006004nu1
DRAWN ZAR
MODEL NAME Buck Hill Rd - Alt2
CHECKED TAS
SCALE AS SHOWN
DATE AUGUST 2022

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
Intersection between VT RTE 116 and Buck Hill Rd

PROJECT NO. 21.120006.04
FIGURE
7
FIGURE 7 OF 9

2/2/2023
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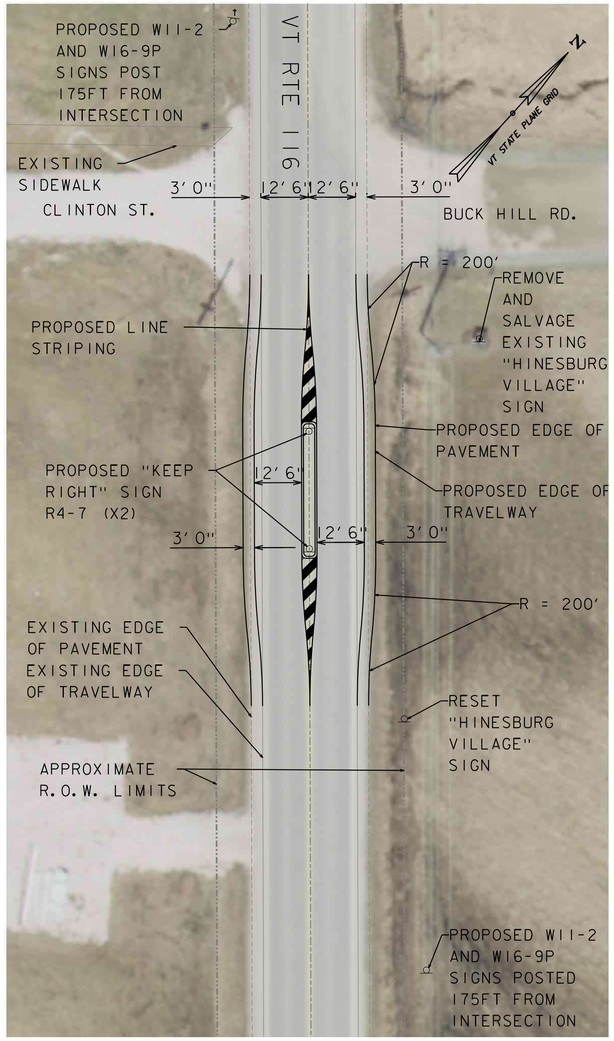


PROJECT AREA, BUCK HILL ROAD - ALTERNATIVE 3

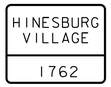
20 0 20 40

SCALE IN FEET

SIGN SUMMARY

NOT TO SCALE

R4-7
24"X30"
(WHITE AND BLACK)
NEW (X2)



CUSTOM SIGN, READING:
"HINESBURG VILLAGE
1762"
5'X4'
SALVAGE (X1)

WII-2
30"X30"
NEW (X6)

WI6-9P
12"X24"
NEW (X2)

NOTES

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   C. PAINTED MEDIAN
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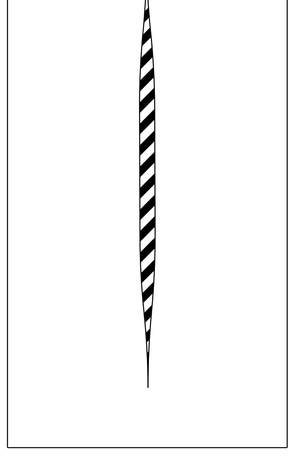
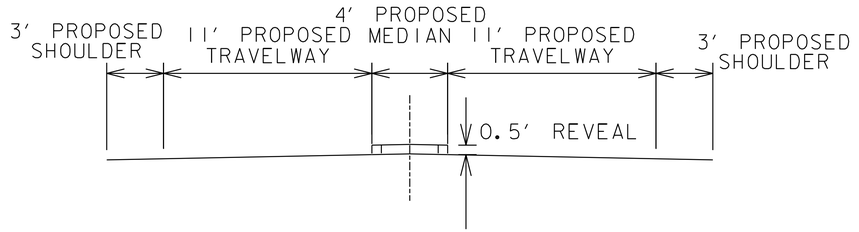
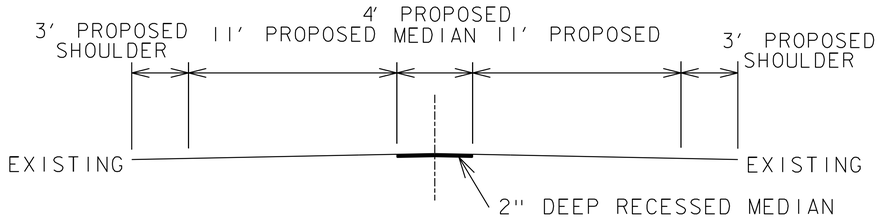


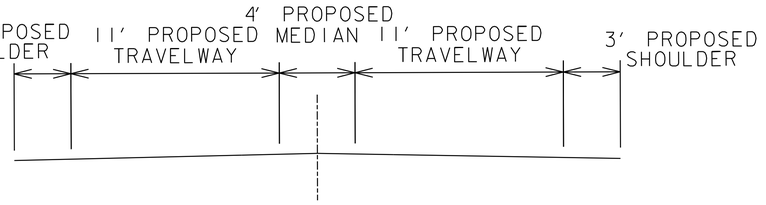
RECESSED/PAINTED MEDIAN DETAIL



CONCRETE RAISED GATEWAY MEDIAN CROSS SECTION



RECESSED GATEWAY MEDIAN CROSS SECTION



PAINTED GATEWAY MEDIAN CROSS SECTION

VTRANS BRIDGE NO. N/A
DESIGNED ZAR
FILENAME 21120006004nu1
DRAWN ZAR
MODEL NAME Buck Hill Rd - Alt3
CHECKED TAS
SCALE AS SHOWN
DATE AUGUST 2022

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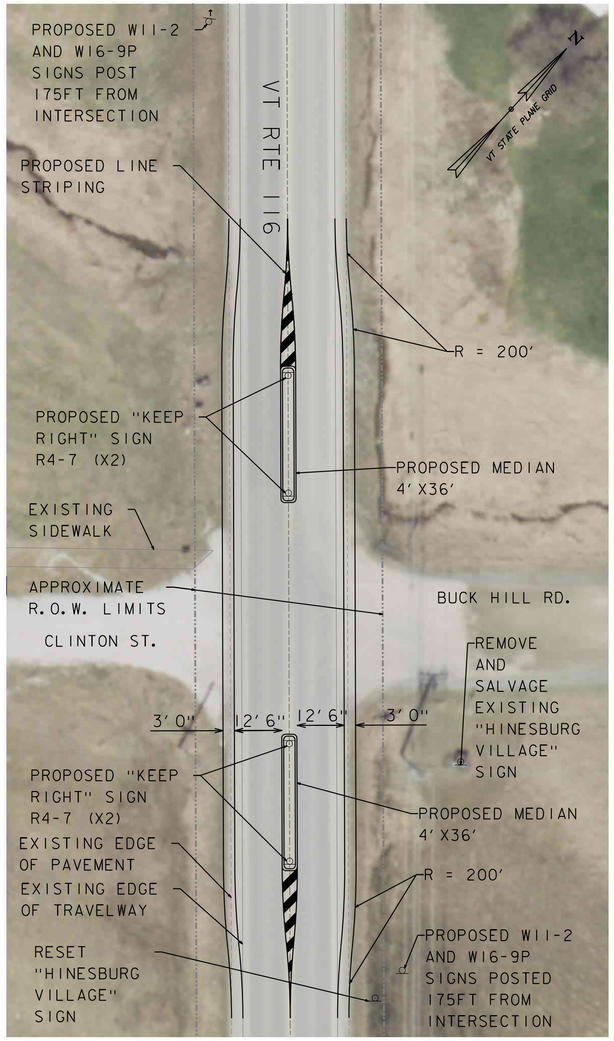
TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
Intersection between VT RTE 116 and Buck Hill Rd

PROJECT NO. 21.120006.04
FIGURE
8
FIGURE 8 OF 9

2/2/2023
9:53:26 AM
V:\1_PROJECTS\CCRPC-VT\21_120006_04-Hinesburg Crosswalks Task Order\2-CADD\21120006004nu1.dgn



PROJECT AREA, BUCK HILL ROAD - ALTERNATIVE 4

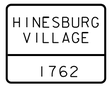
20 0 20 40

SCALE IN FEET

SIGN SUMMARY

NOT TO SCALE

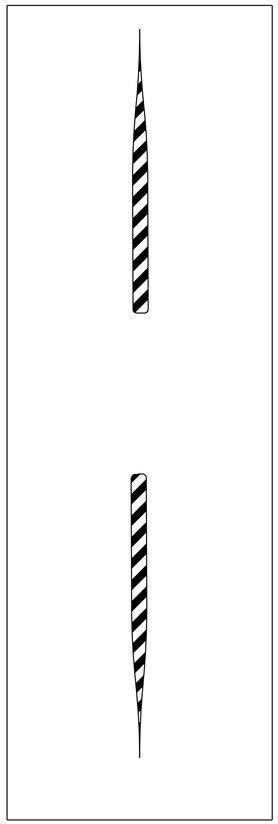
R4-7
24"X30"
(WHITE AND BLACK)
NEW (X2)



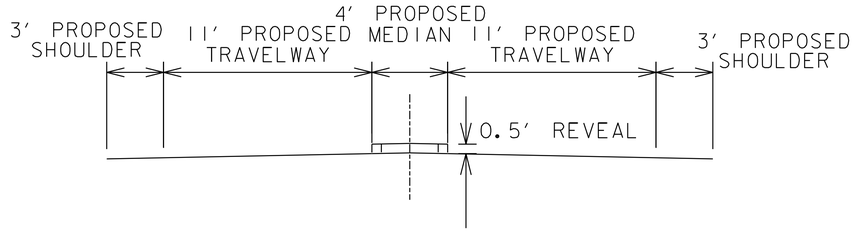
CUSTOM SIGN, READING:
"HINESBURG VILLAGE
1762"
5' X4'
SALVAGE (X1)

W11-2
30"X30"
NEW (X6)

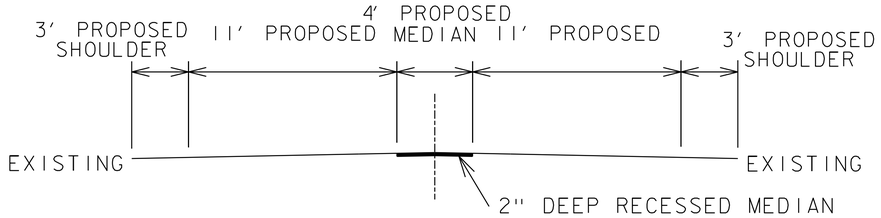
W16-9P
12"X24"
NEW (X2)



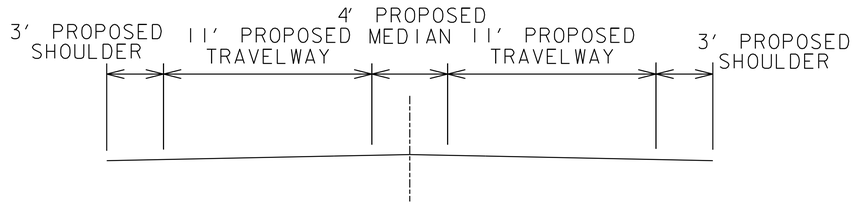
RECESSED/PAINTED MEDIAN DETAIL



CONCRETE RAISED GATEWAY MEDIAN CROSS SECTION



RECESSED GATEWAY MEDIAN CROSS SECTION



PAINTED GATEWAY MEDIAN CROSS SECTION

NOTES

1. RECOMMENDATIONS FOR THREE ALTERNATIVE VERSIONS OF THE GATEWAY MEDIANS ARE AS FOLLOWS:
   A. RAISED CONCRETE MEDIAN (6" REVEAL)
   B. RECESSED/TEXTURED MEDIAN
   C. PAINTED MEDIAN
2. GRAPHICS SHOWN TO CONVEY INTENT ONLY. LAYOUT
3. ALL SIGNS SHALL BE IN ACCORDANCE WITH LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

VTRANS BRIDGE NO. N/A
DESIGNED ZAR
FILENAME 21120006004nu1
DRAWN ZAR
MODEL NAME Buck Hill Rd - Alt4
CHECKED TAS
SCALE AS SHOWN
DATE AUGUST 2022

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TOWN OF HINESBURG
HINESBURG, VERMONT
VT RTE 116 CROSSWALKS
Intersection between VT RTE 116 and Buck Hill Rd

PROJECT NO. 21.120006.04
FIGURE
9
FIGURE 9 OF 9

2/2/2023
9:53:27 AM
V:\1_PROJECTS\CCRPC-VT\21_120006_04-Hinesburg Crosswalks Task Order\2-CADD\21120006004nu1.dgn

APPENDIX B

Conceptual Construction Cost Estimates

HOYLE TANNER

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Calc. By:	NLC	Date:	10/14/2022	
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Chck. By:		Date:		
Chck. By:		Date:		

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

UNITED CHURCH OF HINESBURG, ALT 1: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
646.311	CROSSWALK MARKING, WATERBORNE PAINT	LF	35	$ 10.00	$ 350.00
675.50	REMOVING SIGNS	LF	2	$ 25.00	$ 50.00
900.650	SPECIAL PROVISION (RECTANGULAR RAPID FLASHING BEACON)	LU	1	$ 18,000.00	$ 18,000.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 2,760.00
			SUBTOTAL A		**$ 21,160.00**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	50	$ 40.00	$ 2,000.00
641.10	TRAFFIC CONTROL	LS	1	$ 2,000.00	$ 2,000.00
			SUBTOTAL B		**$ 25,160.00**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%	$	2,516.00
	SUBTOTAL C	$	27,676.00

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$	28,000.00
CONTINGENCY	25%	$	7,000.00
HOYLE TANNER CONSTRUCTION ENGINEERING			0
CON TOTAL FOR PLANNING		$	35,000.00

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Chck. By:		Date:		
Chck. By:		Date:		

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

UNITED CHURCH OF HINESBURG, ALT 1: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)		
	TAKES	$0.00
	EASEMENTS	$0.00
	ROW TOTAL	$0.00
SECTION F - PRELIMINARY ENGINEERING (PE)		
	ENGINEERING STUDY	$0.00
	PRELIMINARY DESIGN	$0.00
	AMENDMENT NO.1	$0.00
	FINAL DESIGN	$0.00
	BID	$0.00
	PE TOTAL	$0.00
	PROJECT TOTAL COST (CON, ROW, PE)	$35,000.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as HoylE Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

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Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

UNITED CHURCH OF HINESBURG, ALT 2: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
203.15	COMMON EXCAVATION	CY	6	$ 30.00	$ 180.00
203.30	EARTH BORROW	CY	3	$ 30.00	$ 90.00
204.20	TRENCH EXCAVATION OF EARTH	CY	40	$ 30.00	$ 1,200.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	8	$ 60.00	$ 480.00
406.38	HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES	SY	8	$ 100.00	$ 800.00
601.0815	18" RCP CLASS III	LF	40	$ 200.00	$ 8,000.00
601.6815	18" RCPES CLASS III	EACH	1	$ 1,000.00	$ 1,000.00
604.18	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	EACH	2	$ 8,000.00	$ 16,000.00
616.21	VERTICAL GRANITE CURB	SF	50	$ 100.00	$ 5,000.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	40	$ 100.00	$ 4,000.00
618.30	DETECTABLE WARNING SURFACE	SF	8	$ 50.00	$ 400.00
646.311	CROSSWALK MARKING, WATERBORNE PAINT	LF	35	$ 10.00	$ 350.00
651.15	SEED	LB	0.5	$ 15.00	$ 7.50
651.18	FERTILIZER	LB	2	$ 5.00	$ 10.00
651.20	AGRICULTURAL LIMESTONE	TON	0.5	$ 800.00	$ 400.00
651.35	TOPSOIL	CY	2	$ 50.00	$ 100.00
675.50	REMOVING SIGNS	LF	2	$ 25.00	$ 50.00
900.650	SPECIAL PROVISION (RECTANGULAR RAPID FLASHING BEACON)	LU	1	$ 18,000.00	$ 18,000.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 2,837.63
			SUBTOTAL A		**$ 58,905.13**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	80	$ 50.00	$ 4,000.00
641.10	TRAFFIC CONTROL	LS	1	$ 5,000.00	$ 5,000.00
			SUBTOTAL B		**$ 67,905.13**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%	$ 6,790.51
	SUBTOTAL C	$ 74,695.64

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$ 75,000.00
CONTINGENCY	25%	$ 18,750.00
HOYLE TANNER CONSTRUCTION ENGINEERING		0
CON TOTAL FOR PLANNING		$ 93,750.00

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Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

UNITED CHURCH OF HINESBURG, ALT 2: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)	
TAKES	$0.00
EASEMENTS	$0.00
ROW TOTAL	$0.00
SECTION F - PRELIMINARY ENGINEERING (PE)	
ENGINEERING STUDY	$0.00
PRELIMINARY DESIGN	$0.00
AMENDMENT NO.1	$0.00
FINAL DESIGN	$0.00
BID	$0.00
PE TOTAL	$0.00
PROJECT TOTAL COST (CON, ROW, PE)	$93,750.00

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Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

HINESBURG COMMUNITY SCHOOL, ALT 1: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
646.311	CROSSWALK MARKING, WATERBORNE PAINT	LF	35	$ 10.00	$ 350.00
675.50	REMOVING SIGNS	LF	2	$ 25.00	$ 50.00
900.650	SPECIAL PROVISION (RECTANGULAR RAPID FLASHING BEACON)	LU	1	$ 24,000.00	$ 24,000.00
900.651	SPECIAL PROVISION (ADVANCED RECTANGULAR RAPID FLASHING BEACON)	LU	1	$ 5,000.00	$ 5,000.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 3,660.00
			SUBTOTAL A		**$ 33,060.00**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	50	$ 50.00	$ 2,500.00
641.10	TRAFFIC CONTROL	LS	1	$ 2,000.00	$ 2,000.00
			SUBTOTAL B		**$ 37,560.00**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%	$	3,756.00
	SUBTOTAL C	$	41,316.00

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$	42,000.00
CONTINGENCY	25%	$	10,500.00
HOYLE TANNER CONSTRUCTION ENGINEERING			0
CON TOTAL FOR PLANNING		$	52,500.00

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Chck. By:		Date:		
Chck. By:		Date:		

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

HINESBURG COMMUNITY SCHOOL, ALT 1: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)

TAKES	$0.00
EASEMENTS	$0.00
ROW TOTAL	$0.00

SECTION F - PRELIMINARY ENGINEERING (PE)

ENGINEERING STUDY	$0.00
PRELIMINARY DESIGN	$0.00
AMENDMENT NO.1	$0.00
FINAL DESIGN	$0.00
BID	$0.00
PE TOTAL	$0.00

PROJECT TOTAL COST (CON, ROW, PE) $52,500.00

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Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

HINESBURG COMMUNITY SCHOOL, ALT 2: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
203.15	COMMON EXCAVATION	CY	12	$ 30.00	$ 360.00
203.30	EARTH BORROW	CY	6	$ 30.00	$ 180.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	1	$ 60.00	$ 60.00
406.38	HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES	SY	10	$ 100.00	$ 1,000.00
616.21	VERTICAL GRANITE CURB	SF	60	$ 100.00	$ 6,000.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	5	$ 100.00	$ 500.00
618.30	DETECTABLE WARNING SURFACE	SF	8	$ 50.00	$ 400.00
646.311	CROSSWALK MARKING, WATERBORNE PAINT	LF	35	$ 10.00	$ 350.00
651.15	SEED	LB	1	$ 15.00	$ 15.00
651.18	FERTILIZER	LB	4	$ 5.00	$ 20.00
651.20	AGRICULTURAL LIMESTONE	TON	0.5	$ 800.00	$ 400.00
651.35	TOPSOIL	CY	4	$ 50.00	$ 200.00
675.50	REMOVING SIGNS	LF	2	$ 25.00	$ 50.00
900.650	SPECIAL PROVISION (RECTANGULAR RAPID FLASHING BEACON)	LU	1	$ 24,000.00	$ 24,000.00
900.651	SPECIAL PROVISION (ADVANCED RECTANGULAR RAPID FLASHING BEACON)	LU	1	$ 5,000.00	$ 5,000.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 3,755.25
			SUBTOTAL A		**$ 42,290.25**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	80	$ 40.00	$ 3,200.00
641.10	TRAFFIC CONTROL	LS	1	$ 5,000.00	$ 5,000.00
			SUBTOTAL B		**$ 50,490.25**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%	$ 5,049.03
	SUBTOTAL C	$ 55,539.28

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$ 56,000.00
CONTINGENCY	25%	$ 14,000.00
HOYLE TANNER CONSTRUCTION ENGINEERING		0
CON TOTAL FOR PLANNING		$ 70,000.00

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Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

HINESBURG COMMUNITY SCHOOL, ALT 2: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)	
TAKES	$0.00
EASEMENTS	$0.00
ROW TOTAL	$0.00
SECTION F - PRELIMINARY ENGINEERING (PE)	
ENGINEERING STUDY	$0.00
PRELIMINARY DESIGN	$0.00
AMENDMENT NO.1	$0.00
FINAL DESIGN	$0.00
BID	$0.00
PE TOTAL	$0.00
PROJECT TOTAL COST (CON, ROW, PE)	$70,000.00

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Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 1: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
203.15	COMMON EXCAVATION	CY	80	$ 30.00	$ 2,400.00
210.10	COARSE-MILLING, BITUMINOUS PAVEMENT	SY	470	$ 3.00	$ 1,410.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	60	$ 40.00	$ 2,400.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	6	$ 60.00	$ 360.00
406.25	MARSHALL BITUMINOUS CONCRETE PAVEMENT	TON	85	$ 200.00	$ 17,000.00
616.21	VERTICAL GRANITE CURB	SF	90	$ 100.00	$ 9,000.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	35	$ 100.00	$ 3,500.00
646.231	8 INCH YELLOW LINE, WATERBORNE PAINT	LF	90	$ 0.50	$ 45.00
675.20	TRAFFIC SIGN, TYPE A	SF	22.5	$ 20.00	$ 450.00
675.341	SQUARE TUBE SIGN POST AND ANCHOR	LF	40	$ 15.00	$ 600.00
675.50	REMOVING SIGNS	LF	1	$ 25.00	$ 25.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 112.00
			SUBTOTAL A		**$ 37,302.00**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	160	$ 50.00	$ 8,000.00
641.10	TRAFFIC CONTROL	LS	1	$ 5,000.00	$ 5,000.00
			SUBTOTAL B		**$ 50,302.00**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%		$ 5,030.20
	SUBTOTAL C		$ 55,332.20

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$ 56,000.00
CONTINGENCY	25%	$ 14,000.00
HOYLE TANNER CONSTRUCTION ENGINEERING		0
CON TOTAL FOR PLANNING		$ 70,000.00

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Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 1: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)

TAKES	$0.00
EASEMENTS	$0.00
ROW TOTAL	$0.00

SECTION F - PRELIMINARY ENGINEERING (PE)

ENGINEERING STUDY	$0.00
PRELIMINARY DESIGN	$0.00
AMENDMENT NO.1	$0.00
FINAL DESIGN	$0.00
BID	$0.00
PE TOTAL	$0.00

PROJECT TOTAL COST (CON, ROW, PE) $70,000.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as HoylE Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

HOYLE TANNER
125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	NLC	Date:	10/14/2022
Chck. By:	TAS	Date:	10/14/2022
Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 2: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
203.15	COMMON EXCAVATION	CY	160	$ 30.00	$ 4,800.00
210.10	COARSE-MILLING, BITUMINOUS PAVEMENT	SY	750	$ 3.00	$ 2,250.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	110	$ 40.00	$ 4,400.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	12	$ 60.00	$ 720.00
406.25	MARSHALL BITUMINOUS CONCRETE PAVEMENT	TON	140	$ 200.00	$ 28,000.00
616.21	VERTICAL GRANITE CURB	SF	180	$ 100.00	$ 18,000.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	70	$ 100.00	$ 7,000.00
646.231	8 INCH YELLOW LINE, WATERBORNE PAINT	LF	90	$ 0.50	$ 45.00
675.20	TRAFFIC SIGN, TYPE A	SF	28.5	$ 20.00	$ 570.00
675.341	SQUARE TUBE SIGN POST AND ANCHOR	LF	40	$ 15.00	$ 600.00
675.50	REMOVING SIGNS	LF	1	$ 25.00	$ 25.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 186.00
			SUBTOTAL A		**$ 66,596.00**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	160	$ 50.00	$ 8,000.00
641.10	TRAFFIC CONTROL	LS	1	$ 5,000.00	$ 5,000.00
			SUBTOTAL B		**$ 79,596.00**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%		$ 7,959.60
	SUBTOTAL C		$ 87,555.60

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$ 88,000.00
CONTINGENCY	25%	$ 22,000.00
HOYLE TANNER CONSTRUCTION ENGINEERING		0
CON TOTAL FOR PLANNING		$ 110,000.00

HOYLE TANNER

125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	NLC	Date:	10/14/2022
Chck. By:	TAS	Date:	10/14/2022
Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 2: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)		
	TAKES	$0.00
	EASEMENTS	$0.00
	ROW TOTAL	$0.00
SECTION F - PRELIMINARY ENGINEERING (PE)		
	ENGINEERING STUDY	$0.00
	PRELIMINARY DESIGN	$0.00
	AMENDMENT NO.1	$0.00
	FINAL DESIGN	$0.00
	BID	$0.00
	PE TOTAL	$0.00
	PROJECT TOTAL COST (CON, ROW, PE)	$110,000.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as HoylE Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

HOYLE TANNER
125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	NLC	Date:	10/14/2022
Chck. By:	TAS	Date:	10/14/2022
Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 3: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
203.15	COMMON EXCAVATION	CY	37.7	$ 30.00	$ 1,131.00
210.10	COARSE-MILLING, BITUMINOUS PAVEMENT	SY	420	$ 3.00	$ 1,260.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	30	$ 40.00	$ 1,200.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	4	$ 60.00	$ 240.00
406.25	MARSHALL BITUMINOUS CONCRETE PAVEMENT	TON	60	$ 200.00	$ 12,000.00
616.21	VERTICAL GRANITE CURB	SF	80	$ 100.00	$ 8,000.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	18	$ 100.00	$ 1,800.00
646.231	8 INCH YELLOW LINE, WATERBORNE PAINT	LF	45	$ 0.50	$ 22.50
675.20	TRAFFIC SIGN, TYPE A	SF	22.5	$ 20.00	$ 450.00
675.341	SQUARE TUBE SIGN POST AND ANCHOR	LF	40	$ 15.00	$ 600.00
675.50	REMOVING SIGNS	LF	1	$ 25.00	$ 25.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 164.63
			SUBTOTAL A		**$ 26,893.13**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	160	$ 50.00	$ 8,000.00
641.10	TRAFFIC CONTROL	LS	1	$ 5,000.00	$ 5,000.00
			SUBTOTAL B		**$ 39,893.13**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%		$ 3,989.31
	SUBTOTAL C		$ 43,882.44

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$ 44,000.00
CONTINGENCY	25%	$ 11,000.00
HOYLE TANNER CONSTRUCTION ENGINEERING		0
CON TOTAL FOR PLANNING		$ 55,000.00

HOYLE TANNER

125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	NLC	Date:	10/14/2022
Chck. By:	TAS	Date:	10/14/2022
Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 3: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)		
	TAKES	$0.00
	EASEMENTS	$0.00
	ROW TOTAL	$0.00
SECTION F - PRELIMINARY ENGINEERING (PE)		
	ENGINEERING STUDY	$0.00
	PRELIMINARY DESIGN	$0.00
	AMENDMENT NO.1	$0.00
	FINAL DESIGN	$0.00
	BID	$0.00
	PE TOTAL	$0.00
	PROJECT TOTAL COST (CON, ROW, PE)	$55,000.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as HoylE Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

HOYLE TANNER
125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	NLC	Date:	10/14/2022
Chck. By:	TAS	Date:	10/14/2022
Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

BUCK HILL ROAD, ALT 4: CONCEPTUAL ESTIMATE

SECTION A - MAJOR ITEMS

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
203.15	COMMON EXCAVATION	CY	80	$ 30.00	$ 2,400.00
210.10	COARSE-MILLING, BITUMINOUS PAVEMENT	SY	750	$ 3.00	$ 2,250.00
301.25	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	CY	60	$ 40.00	$ 2,400.00
301.26	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	CY	7	$ 60.00	$ 420.00
406.25	MARSHALL BITUMINOUS CONCRETE PAVEMENT	TON	115	$ 200.00	$ 23,000.00
616.21	VERTICAL GRANITE CURB	SF	160	$ 100.00	$ 16,000.00
618.10	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	SY	35	$ 100.00	$ 3,500.00
646.231	8 INCH YELLOW LINE, WATERBORNE PAINT	LF	45	$ 0.50	$ 22.50
675.20	TRAFFIC SIGN, TYPE A	SF	28.5	$ 20.00	$ 570.00
675.341	SQUARE TUBE SIGN POST AND ANCHOR	LF	40	$ 15.00	$ 600.00
675.50	REMOVING SIGNS	LF	1	$ 25.00	$ 25.00
	MISCELLANEOUS ROADWAY		15% OF ABOVE TOTAL		$ 182.63
			SUBTOTAL A		**$ 51,370.13**

SECTION B - TRAFFIC CONTROL

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT COST	COST
630.15	FLAGGERS	HR	160	$ 40.00	$ 6,400.00
641.10	TRAFFIC CONTROL	LS	1	$ 5,000.00	$ 5,000.00
			SUBTOTAL B		**$ 62,770.13**

SECTION C - MOBILIZATION AND CONTINGENCIES

ROADWAY MOBILIZATION	10%		$ 6,277.01
	SUBTOTAL C		$ 69,047.14

SECTION D - CONSTRUCTION (CON)

ROUNDED CONSTRUCTION SUBTOTAL:		$ 70,000.00
CONTINGENCY	25%	$ 17,500.00
HOYLE TANNER CONSTRUCTION ENGINEERING		0
CON TOTAL FOR PLANNING		$ 87,500.00

HOYLE TANNER

125 College Street
4th Floor
Burlington, VT 05401
(802) 860-1331

Calc. By:	NLC	Date:	10/14/2022
Chck. By:	TAS	Date:	10/14/2022
Chck. By:		Date:	
Chck. By:		Date:	

Hinesburg Crosswalks Task Order
Engineers Estimate of Probable Construction Costs
Hoyle Tanner Project No. 21.120006.04

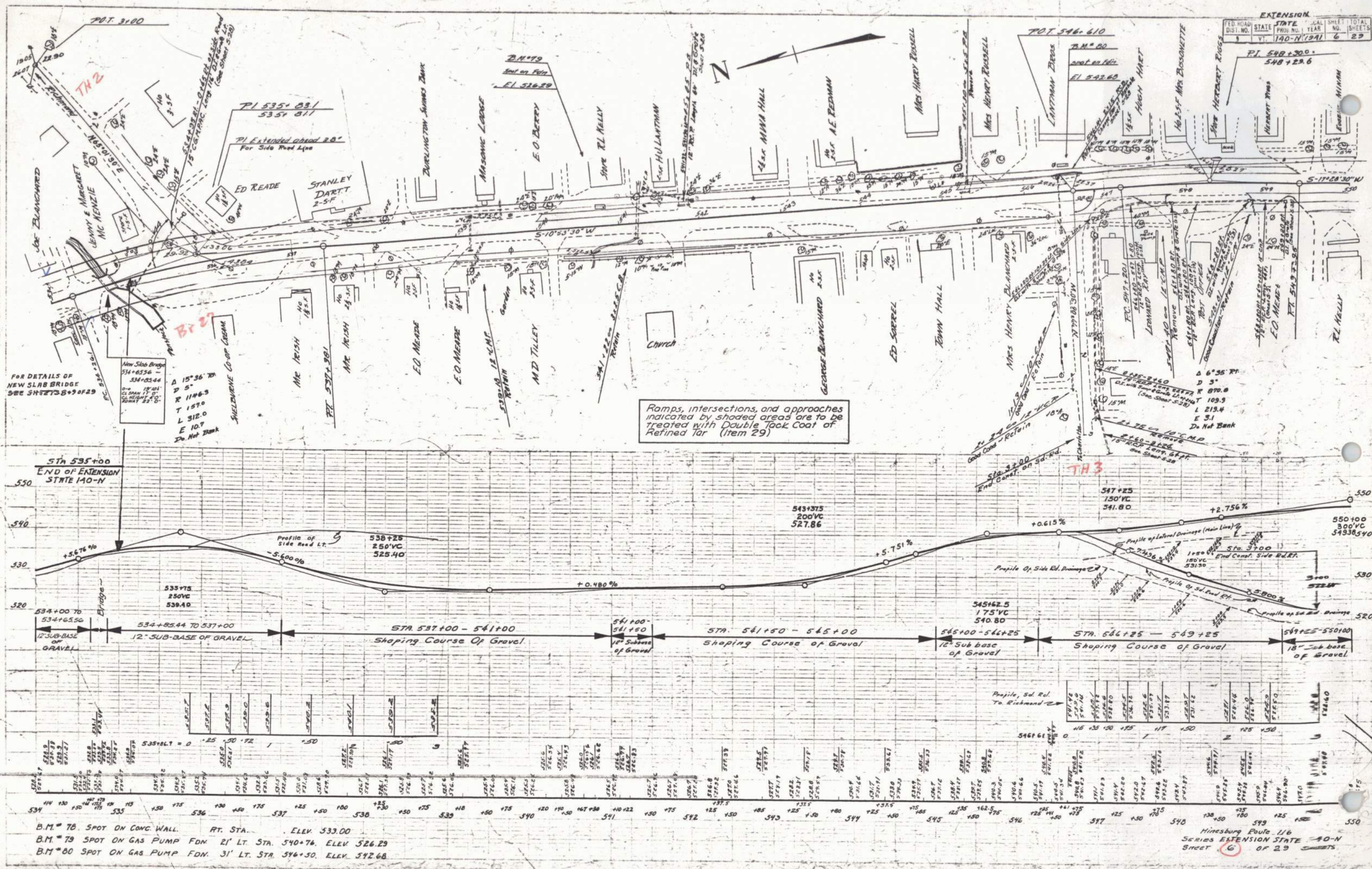
BUCK HILL ROAD, ALT 4: CONCEPTUAL ESTIMATE

SECTION E - RIGHT-OF-WAY (ROW)		
	TAKES	$0.00
	EASEMENTS	$0.00
	ROW TOTAL	$0.00
SECTION F - PRELIMINARY ENGINEERING (PE)		
	ENGINEERING STUDY	$0.00
	PRELIMINARY DESIGN	$0.00
	AMENDMENT NO.1	$0.00
	FINAL DESIGN	$0.00
	BID	$0.00
	PE TOTAL	$0.00
	PROJECT TOTAL COST (CON, ROW, PE)	$87,500.00

This Engineers Estimate of Probable Construction Costs is based on the anticipated scope of work, as well as HoylE Tanner's experience with similar projects and understanding of current industry trends. The estimate has not been based on a final design for this project, and as such, it is intended to be preliminary in nature. It should be noted that changes in material or labor costs in the construction industry could impact the project cost in either direction.

APPENDIX C

VTrans Right of Way



EXTENSION
FED. ROAD DIST. NO. | STATE | STATE PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS
1 | VT. | 140-N | 1941 | 6 | 29
P.O.T. 3+00
P.O.T. 546+610
PI 535+831
PI 548+30.0
548+29.6
PI Extended ahead 28' For Side Road Line
B.M.#79 Spot on Fdn. El 526.29
B.M.#80 Spot on Fdn. El 542.68
N
TH2
TH3
Br 27
ED READE
STANLEY DARTT 2-S-F
BURLINGTON SAVINGS BANK
MASONIC LODGE
E.O. BERRY
Store R.L. KELLY
H.U. LANTMAN
A.E. REDMAN
MRS HENRY RUSSELL
LANTMAN BROS.
HUGH HART
MRS. BISSONETTE
HERBERT RIGGS
JOE BLANCHARD
HENRY & MARGARET MC KENZIE
SHELBURNE CO-OP CREAM.
M.R. IRISH
E.O. MEADE
M.D. TILLEY
CHURCH
GEORGE BLANCHARD
ED SORREL
TOWN HALL
MRS HENRY BLANCHARD
LEONARD
E.O. MEADE
R.L. KELLY
S-10°53'30" W
S-17°28'30" W
FOR DETAILS OF NEW SLAB BRIDGE SEE SHEETS 8+9 OF 29
New Slab Bridge 534+65.56 – 534+85.44
Δ 15°36' Rt. D 5° R 1146.3 T 157.0 L 312.0 E 10.7 Do Not Bank
Δ 6°35' Rt. D 3° R 879.8 T 109.3 L 215.4 E 3.1 Do Not Bank
Ramps, intersections, and approaches indicated by shaded areas are to be treated with Double Tack Coat of Refined Tar (Item 29)
STA 535+00 END OF EXTENSION STATE 140-N
+5.676%
-5.600%
+0.480%
+5.751%
+0.615%
+2.756%
535+75 250'VC 539.40
538+25 250'VC 525.40
543+37.5 200'VC 527.86
545+62.5 175'VC 540.80
547+25 150'VC 541.80
550+00 300'VC 549.38
Profile of Side Road Lt.
Profile of Lateral Drainage (Main Line)
Profile of Side Rd. Drainage
Profile of Sd. Road Rt.
Sta. 3+00 End Const. Side Rd. Rt.
Sta. 32+00 End Const. on Sd. Rd.
534+00 TO 534+65.56 12" SUB-BASE OF GRAVEL
534+85.44 TO 537+00 12" SUB-BASE OF GRAVEL
STA. 537+00 – 541+00 Shaping Course of Gravel
541+00 – 541+50 12" Subbase of Gravel
STA. 541+50 – 545+00 Shaping Course of Gravel
545+00 – 546+25 12" Sub base of Gravel
STA. 546+25 – 549+25 Shaping Course of Gravel
549+25 – 550+00 18" Sub base of Gravel
Profile, Sd. Rd. To Richmond
550
540
530
520
B.M.# 78 SPOT ON CONC. WALL RT. STA. ELEV. 533.00
B.M.# 79 SPOT ON GAS PUMP FDN. 21' LT. STA. 540+76. ELEV. 526.29
B.M.# 80 SPOT ON GAS PUMP FDN. 31' LT. STA. 546+50. ELEV. 542.68
Hinesburg Route 116
SERIES EXTENSION STATE 140-N
SHEET 6 OF 29 SHEETS

10

EXCAVATION OF SURFACES AND PAVEMENTS

STA. 1+50, LT. - SL STA. 105+00, RT.
SL STA. 104+50, LT. - STA. 3+40, LT.

COLD PLANING, BITUMINOUS PAVEMENT

SL STA. 100+75 - 101+25
STA. 1+00 - 1+50
STA. 6+31 - 6+81

RELOCATE MAILBOX, SINGLE SUPPORT

SL STA. 101+63, LT.
SL STA. 104+90, LT.
STA. 4+35, LT.
STA. 4+54, RT.
STA. 4+90, LT.
STA. 5+18, RT
STA. 6+39, RT.
STA. 6+55, LT.

RELOCATE MAILBOX, MULTIPLE SUPPORT

STA. 3+87, LT.

VERTICAL GRANITE CURB

STA. 1+50, LT. - SL STA. 105+08, RT.
STA. 105+25, LT. - STA. 3+35, LT.
STA. 3+78 - STA. 4+28, LT.
STA. 4+86 - STA. 6+07, LT.

CONSTRUCT DRIVES - 1½" BCP, TYPE IV

SL STA. 101+75, RT. - 28' WIDE
SL STA. 102+73, LT. - 30' WIDE
SL STA. 105+01, LT. - 10' WIDE
STA. 3+35, RT. - 29' WIDE (COMM.)
STA. 3+57, LT. - 23' WIDE
STA. 4+43, LT. - 20' WIDE (COMM.)
STA. 4+70, LT. - 13.5' WIDE
STA. 4+73, RT. - 14.5' WIDE
STA. 5+85, RT. - 99' WIDE
STA. 6+30, LT. - 24' WIDE

TRANSPLANTING SHRUBS

SL STA. 103+00 - 104+15, RT. (14 SHRUBS)

DRAINAGE NOTES

(1) STA. 2+15, RT. 25 - STA. 2+13, RT. 17
NEW PRECAST DI, TYPE A
RIM ELEV. = 355.15
NEW 18" x 5 LF CPEP(SL)
INV. OUT = 351.95

(2) STA. 2+13, RT. 17
ADJUST DI
REMOVE DI GRATE & FRAME
REPLACE WITH MH COVER & FRAME
RIM ELEV. = 356.08

(3) STA. 3+71, RT. 41
REMOVE EXIST. PRIVATE DI
NEW PRECAST DI, TYPE D
CONST. OVER EXIST. 6" PVC
RIM ELEV. = 356.00

(4) STA. 3+54, RT. 25
ADJUST DI
REMOVE DI GRATE & FRAME
REPLACE WITH MH COVER & FRAME
RIM ELEV. = 356.47

(5) STA. 4+88, LT. 25 - STA. 4+13, LT. 26
NEW PRECAST DI, TYPE D
RIM ELEV. = 359.69
NEW 18" X 72 LF CPEP(SL)
18" INV. OUT (S) = 354.25

(6) STA. 4+05, LT. 42 - STA. 4+13 LT. 26
NEW PRECAST DI, TYPE A
RIM ELEV. = 357.64
NEW 18" x 14 LF CPEP(SL)
INV. OUT = 354.43

(7) STA. 4+13, LT. 26
NEW PRECAST DI, TYPE D
RIM ELEV. = 359.27
15" INV. OUT (E) = 353.3 (Exist.)
18" INV. IN (N) = 353.55
18" INV. IN (W) = 353.65
REMOVE EXIST. CB

(8) STA. 3+00, LT. 26 - SL STA. 105+25, LT. 18
NEW PRECAST DI, TYPE D
RIM ELEV. = 358.10
NEW 18 X 56 LF CPEP(SL)
INV. OUT = 352.76

(9) STA. 105+10, LT. 28 - STA. 105+25, LT. 18
NEW PRECAST DI,TYPE A
RIM ELEV. = 353.00
NEW 18" X 16 LF CPEP(SL)
18" INV. OUT = 349.83

(10) SL STA. 105+25 LT. 18 - SL STA. 105+25, RT. 59
NEW PRECAST DI, TYPE D
RIM ELEV. = 355.05
NEW 18" X 75 LF CPEP(SL)
18" INV. OUT = 349.75
18" INV. IN (S) = 349.75
18" INV. IN (N) = 350.43
INV. AT OUTLET = 349.37
CONST. TYPE II STONE PAD (2' x 5' x 2')

(11) SL STA. 103+00, LT. 21
NEW PRECAST DI, TYPE A
RIM ELEV. = 337.50
INV. OUT = 331.0 (Exist.)

(R1) STA. 5+03, LT. 29 - STA. 5+53, LT. 27
REMOVE 47 LF X 12" RCP
REMOVE DI, STA. 5+53, LT. 27

(R2) STA. 4+14, LT. 27 - STA. 5+03, LT. 29
REMOVE 83 LF X 12" RCP
REMOVE DI, STA. 5+03, LT. 29

VT 116	TH4 SILVER STREET		
CURVE 1 DATA	CURVE 2 DATA	CURVE 3 DATA	
Δ = 90°05'37"	Δ = 3°20'36"	Δ = 37°03'22"	
D = 33°30'12"	D = 1°13'09"	D = 22°55'06"	
R = 170.7'	R = 4700'	R = 250'	
T = 170.7'	T = 137.17'	T = 83.78'	
L = 267.5'	L = 274.26'	L = 161.69'	
E = 70.9'	E = 2.00'	E = 13.67'	

REFERENCE:
LEASE TO HINESBURG TOWN SCHOOL DISTRICT
VOL. 122 P. 518

AERIAL SURVEY BY: COL-EAST, INC.
SURVEYED DATE: 2004

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83

0 40 80
SCALE IN FEET

☒ EXISTING RIGHT-OF-WAY POINT

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

NOTES

1. THE DRAINAGE STRUCTURE RIM AND INVERT ELEVATIONS ARE BASED ON SURVEY INFORMATION FROM AERIAL SURVEY. THE CONTRACTOR SHALL SET ACTUAL RIM ELEVATIONS ONE INCH BELOW FINISHED PAVEMENT ELEVATIONS. THE CONTRACTOR SHALL FIELD CHECK PROPOSED PIPE INVERTS BEFORE ORDERING DRAINAGE STRUCTURES.
2. THE USE OF BRICK AND MORTAR TO ADJUST THE ELEVATION OF DRAINAGE STRUCTURES IS PROHIBITED. ALL ELEVATION ADJUSTMENTS SHALL BE MADE USING EITHER GRADE RINGS OR A SYNTHETIC RISER.
3. ALL CONNECTIONS BETWEEN PRECAST DRAINAGE STRUCTURES AND DRAINAGE PIPES SHALL BE A BOOTED CONNECTION.

DATE PLOTTED: 02/18/09

FOR R.O.W. USE ONLY

VHB Vanasse Hangen Brustlin, Inc.

RIGHT OF WAY PLAN SHEET

PROJECT NAME: HINESBURG
PROJECT NUMBER: HES 021-1(20)

FILE NAME: R04B206ZZZ.DGN
PROJECT LEADER: G. BAKOS
DESIGNED BY: D. PECK
R. O. W. SHEET 9 OF 9

PLOT DATE: $$$$DATE$$$
DRAWN BY: D. PECK
CHECKED BY: G. BAKOS
SHEET 14 OF 25

CONSTRUCT DRIVES

STA. 3+10, LT. - 16' WIDE, GRAVEL
STA. 3+29, RT. - 24' WIDE, PAVED COMM.
STA. 4+58, RT. - 34' WIDE, PAVED COMM.
STA. 5+20, RT. - 20' WIDE PAVED

VT ROUTE 116		TH3
CURVE #1 DATA	CURVE #2 DATA	CURVE #3 DATA
Δ = 8°26'37.63"	Δ = 1°48'21.94"	Δ = 12°31'48.77"
D = 2°29'28.04"	D = 1°41'6.61"	D = 16°22'12.80"
R = 2300'	R = 3400'	R = 350'
T = 169.79'	T = 53.59'	T = 38.42'
L = 338.96'	L = 107.18'	L = 76.54'
E = 6.26'	E = 0.42'	E = 2.10'

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

VT STATE PLANE GRID
N
N/F MONACELLA
N/F DAMERON
TOWN OF HINESBURG TH3 HWY EASE
47.21' MEASURED
TH 3 (CHARLOTTE RD)
PROPOSED TOWN HIGHWAY RIGHT-OF-WAY
TOWN OF HINESBURG
END R.O.W. PROJECT
6+16.31 32.70' LT
STA. 101+25
END APPROACH
STA. 101+00
END CONSTRUCTION
BEGIN APPROACH
R=375.00'
L=82.01'
END MAINT. AGREE. ZONE #1
TH3 100+33.05 CL
LENGTH=14.76'
BEGIN MAINT. AGREE. ZONE #1
TH3 100+18.29 CL
N/F CARROLL
Sta 100+88.69 (CURVE #3)
WALKER, DONA H., DAPHNE, & DAVID N.
N/F GRILLO
RECONST. SIDEWALK
COORDINATE SIDEWALK LOCATION WITH NEW SIDEWALK TO BE BUILT BY OTHERS.
POB Sta 0+00.00
PC Sta 0+50.00
POE Sta 6+50.00
STA. 3+09
BEGIN PROJECT
END APPROACH
STA. 2+84
BEGIN APPROACH
STA. 5+65
END APPROACH
VT 116
STATE OF VT. HWY. EASE. 4 RODS
BEGIN R.O.W. PROJECT
2+88.22 32.49'RT
Sta 2+19.79 (CURVE #1) PI
STA. 5+40
END PROJECT
BEGIN APPROACH
Sta 5+97.20 PT
Sta 4+90.03 PC
Sta 5+43.62 (CURVE #2) PI
N/F K B REAL ESTATE LLC
MEAD, EMMA E.
BUSIER, BRIAN L. & KATHY H.
N/F RUSSELL
ML POT 4+48.08 = CHARLOTTE RD. POT 100+00
CONST. DRIVE APPROACH. MATCH EXISTING ELEV. AT R.O.W.

NOTE: THE DRAINAGE STRUCTURE RIM AND INVERT ELEVATIONS ARE BASED ON SURVEY INFORMATION FROM AERIAL SURVEY, AND CONTRACTOR SHALL SET ACTUAL RIM ELEVATIONS ONE INCH BELOW FINISHED PAVEMENT ELEVATIONS, AND CONTRACTOR SHALL FIELD CHECK PROPOSED PIPE INVERTS BEFORE ORDERING DRAINAGE STRUCTURES.

(1) STA. 3+77.3, LT. 18.6 - STA. 3+87.8, LT. 33.8
NEW DI, TYPE D
RIM ELEV. = 355.33
NEW 12" x 15 LF PCCSP
INV. OUT = 350.12

(2) STA. 4+21.3, RT. 19.5
ADJUST CB (TO NEW GRADE)
RIM ELEV. = 355.75

(3) STA. 3+87.8, LT. 33.8
ADJUST CB (TO NEW GRADE)
REMOVE CB GRATE & FRAME
REPLACE WITH MH COVER & FRAME
RIM ELEV. = 353.9 ±

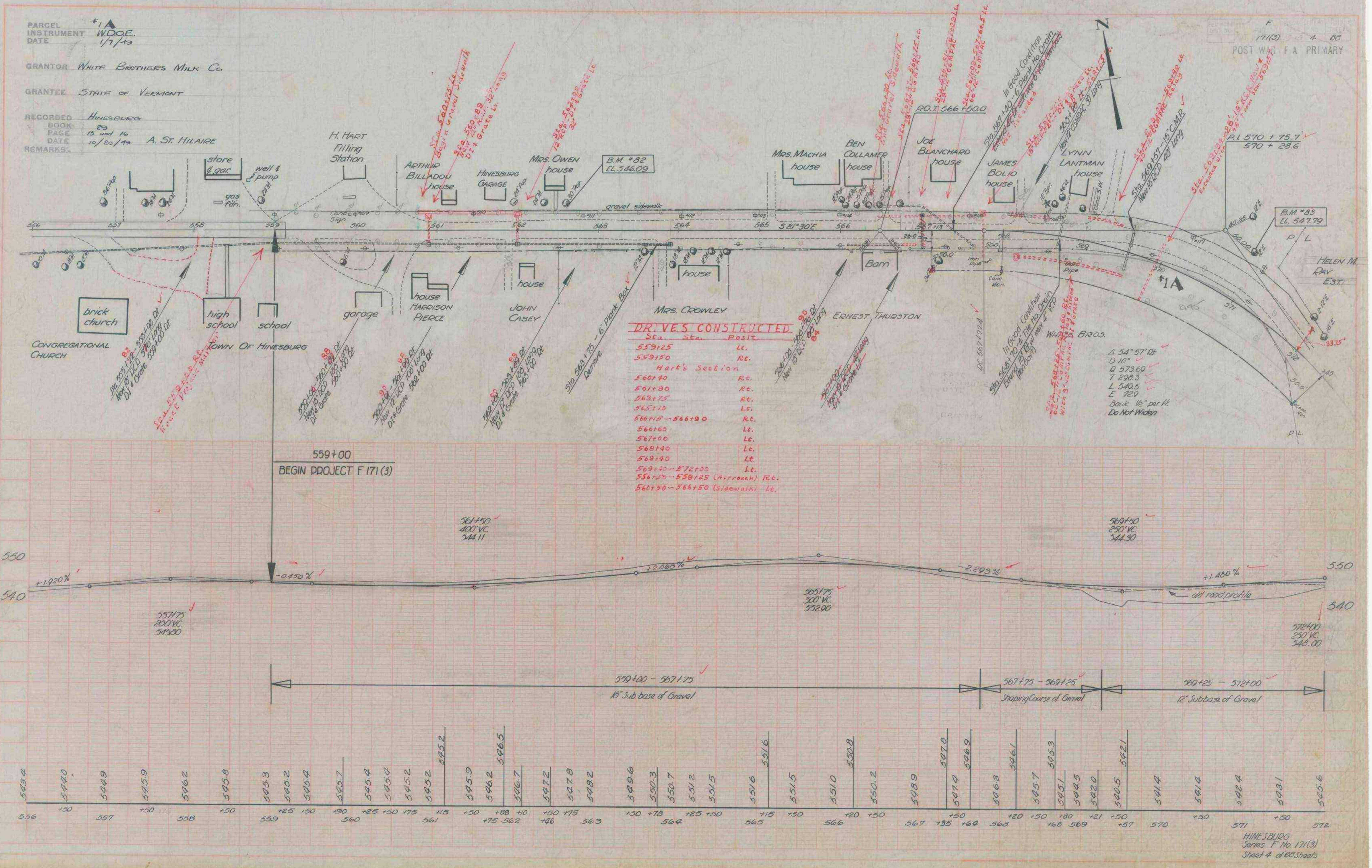
0 20 40
SCALE IN FEET

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83

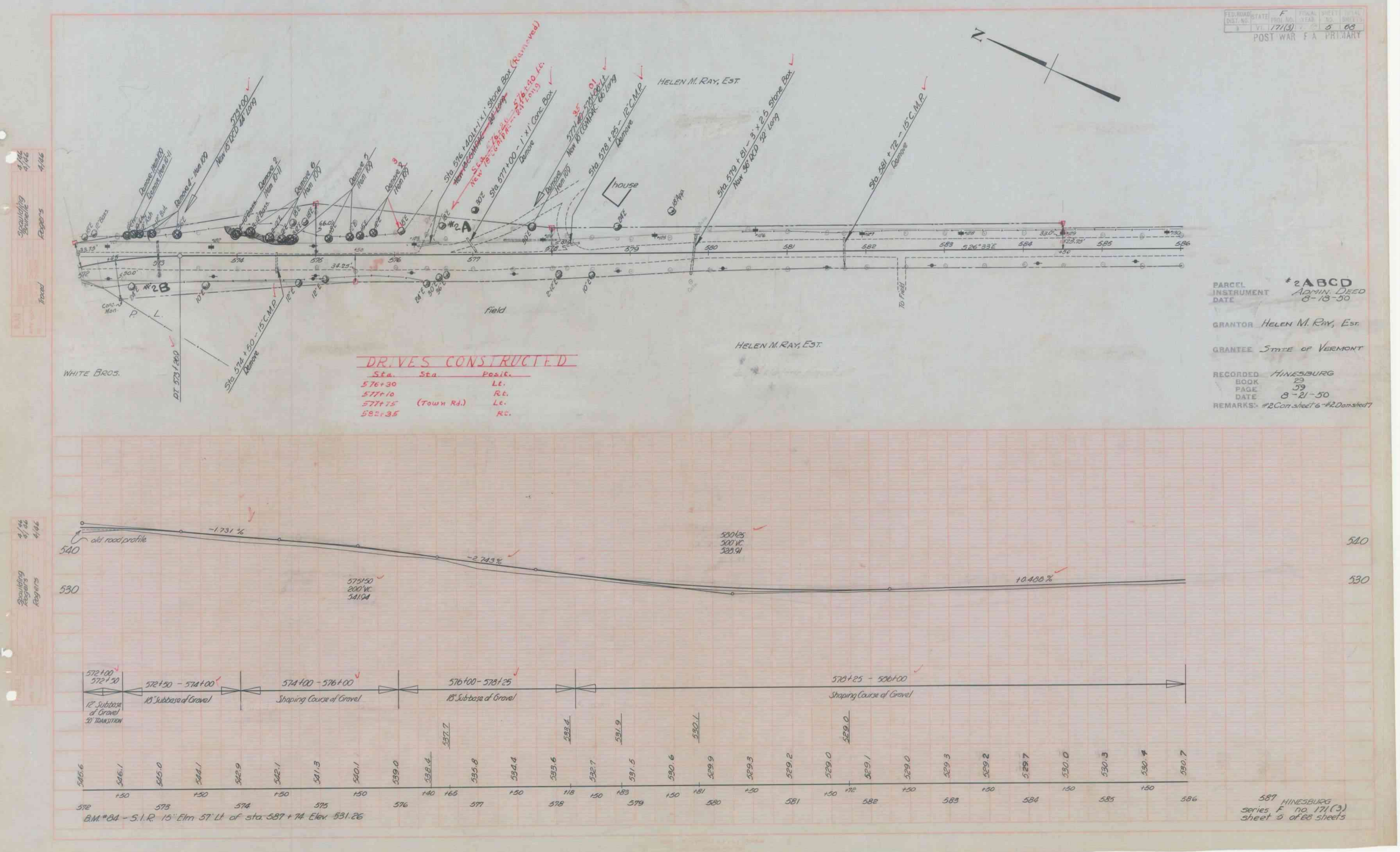
VHB Vanasse Hangen Brustlin, Inc.

RIGHT OF WAY PLAN

PROJECT: HINESBURG	PROJECT NO.: HES 021-1(21)
DESIGN FILE NAME: ...\te\planset\ROW\r04b208LAI.dgn	
IPARM FILE NAME:	PLOT DATE: 1/11/2007
SURVEYED BY: COL-EAST, Inc.	SURVEY DATE: 2004
SQUAD LEADER: G. BAKOS	DRAWN BY: D. PECK
TEXT FILE:	SHEET: 8 OF 19



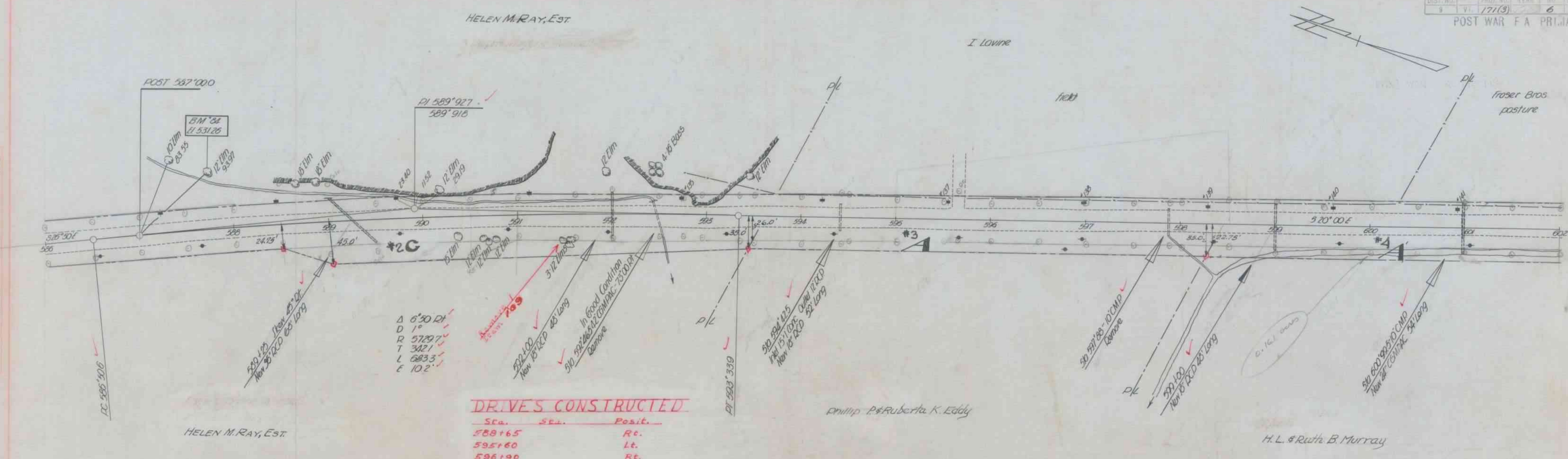
PARCEL #1A
INSTRUMENT W.DOE.
DATE 1/7/49
GRANTOR WHITE BROTHERS MILK CO.
GRANTEE STATE OF VERMONT
RECORDED HINESBURG
BOOK 29
PAGE 15 and 16
DATE 10/20/49 A. ST. HILAIRE
REMARKS:
F
171(3)
POST WAR F.A. PRIMARY
H. HART Filling Station
store & gar.
well & pump
gas Pump
ARTHUR BILLADOU house
HINESBURG GARAGE
MRS. OWEN house
B.M. #82 EL. 546.09
gravel sidewalk
MRS. MACHIA house
BEN COLLAMER house
JOE BLANCHARD house
JAMES BOLIO house
LYNN LANTMAN house
P.O.T. 566+50.0
P.I. 570 + 75.7
570 + 28.6
B.M. #83 EL. 547.79
S 81° 30' E
HELEN M. RAY EST.
brick church
CONGREGATIONAL CHURCH
high school
school
TOWN OF HINESBURG
garage
house HARRISON PIERCE
house JOHN CASEY
house
MRS. CROWLEY
Barn
ERNEST THURSTON
WHITE BROS.
#1A
Δ 54° 57' Rt
D 10°
R 573.69
T 298.3
L 549.5
E 72.9
Bank 1/2" per Ft.
Do Not Widen
DRIVES CONSTRUCTED
Sta. Sta. Posit.
559+25 Lt.
559+50 Rt.
Hart's Section
560+40 Rt.
561+90 Rt.
563+75 Rt.
565+15 Lt.
566+15 – 566+90 Lt.
566+60 Lt.
567+00 Lt.
568+40 Lt.
569+40 Lt.
569+40 – 572+00 Lt.
556+50 – 558+25 (Approach) Rt.
561+50 – 566+50 (sidewalk) Lt.
559+00
BEGIN PROJECT F 171(3)
561+50 400' V.C. 544.11
569+50 250' V.C. 544.30
557+75 200' V.C. 545.80
565+75 300' V.C. 552.90
572+00 250' V.C. 548.60
+1.920%
-0.450%
+2.068%
-2.293%
+1.480%
old road profile
559+00 – 567+75
16" Sub-base of Gravel
567+75 – 569+25
Shaping Course of Gravel
569+25 – 572+00
12" Subbase of Gravel
HINESBURG
Series F No. 171(3)
Sheet 4 of 66 Sheets



FED. ROAD DIST. NO. | STATE | F PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS
3 | VT. | 171(3) | | 5 | 68
POST WAR F.A. PRIMARY
N
HELEN M. RAY, EST.
Sta. 576+40 Lt.-1'x1' Stone Box (Removed)
Sta. 577+00 - 1'x1' Conc. Box
Demove
Sta. 578+25 - 12" C.M.P.
Demove
New 18" CCM.P.C. 66' Long
Sta. 579+81 - 3' x 2.5' Stone Box
New 36" RCD 52' Long
Sta. 581+72 - 15" C.M.P.
Demove
575+00
New 15" RCD 44' Long
house
#2A
#2B
field
To Field
S 26° 33' E
WHITE BROS.
P. L.
P.T. 573+28.0
Sta. 574+50 - 15" C.M.P.
Demove
HELEN M. RAY, EST.
DRIVES CONSTRUCTED
Sta. | Sta. | Posit.
576+30 | | Lt.
577+10 | | Rt.
577+75 | (Town Rd.) | Lt.
582+35 | | Rt.
PARCEL #2ABCD
INSTRUMENT Admin. Deed
DATE 8-18-50
GRANTOR Helen M. Ray, Est.
GRANTEE State of Vermont
RECORDED Hinesburg
BOOK 29
PAGE 59
DATE 8-21-50
REMARKS: #2C on sheet 6 - #2D on sheet 7
Spaulding Brunelle Rogers Traced
old road profile
-1.731 %
-2.743 %
+0.400 %
575+50 200' V.C. 541.94
580+25 500' V.C. 528.91
540
530
572+00 572+50 12" Subbase of Gravel 50' Transition
572+50 - 574+00 18" Subbase of Gravel
574+00 - 576+00 Shaping Course of Gravel
576+00 - 578+25 18" Subbase of Gravel
578+25 - 586+00 Shaping Course of Gravel
545.6 546.1 545.0 544.1 542.9 542.1 541.3 540.1 539.0 538.4 537.7 535.8 534.4 533.6 533.4 532.7 531.9 531.5 530.6 530.1 529.9 529.3 529.2 529.0 529.0 529.1 529.0 529.3 529.2 529.7 530.0 530.3 530.4 530.7
572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587
B.M. #84 - S.I.R. 15" Elm 57' Lt of sta. 587+74 Elev. 531.26
HINESBURG
Series F no. 171(3)
Sheet 5 of 68 sheets

FED. ROAD DIST. NO.	STATE	F PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	VT.	171(3)		6	68

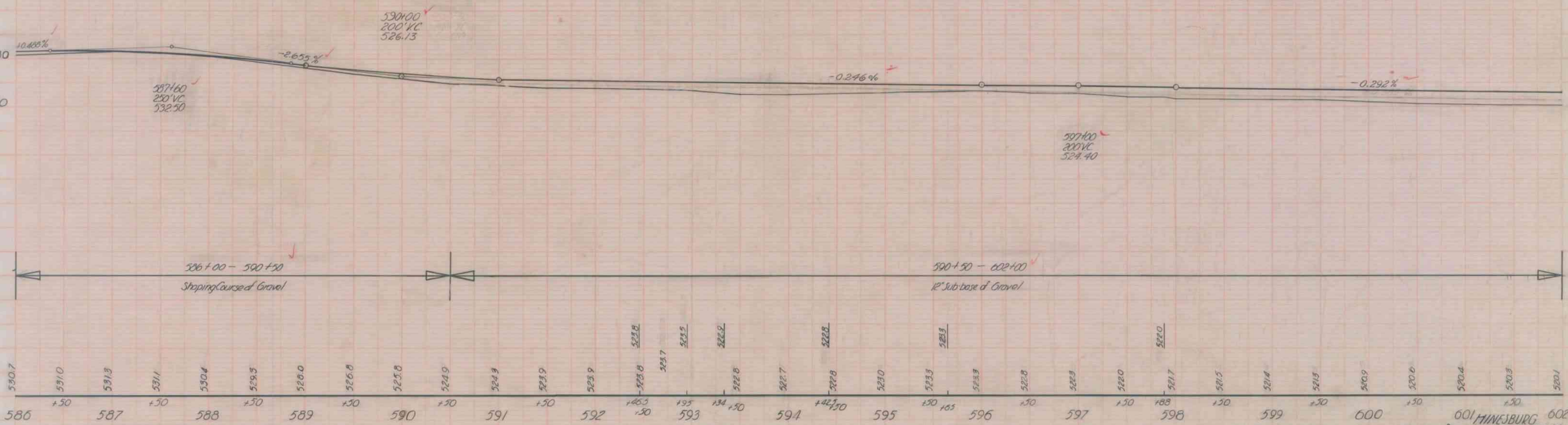
POST WAR F A PRIMARY



DRIVES CONSTRUCTED

Sta.	St.	Posit.
588+65		Rt.
595+60		Lt.
596+90		Rt.

PARCEL	INSTRUMENT	DATE	GRANTOR	GRANTEE	RECORDED HINESBURG BOOK	PAGE	DATE	REMARKS
#3 A	W. D.	12-1-48	PHILIP P. & RUBERTA K. EDDY	ST. OF VT.	28	539	1-17-49	
#4 A'	W. D.	9-29-48	H.L. & RUTH B. MURRAY	" " "	28	264	10-5-48	



BM #84 S.I.R. 15" Elm 57 Ft Lt Sta 587+74 Elev = 531.26

HINESBURG
Series F pg 171(3)
Sheet 6 of 68 sheets

APPENDIX D

Site Imagery

Photo 1. Southbound view on VT Route 116, taken north of the United Church of Hinesburg on the west side of the street, looking south.

Photo 2. Northbound view on VT Route 116 by United Church of Hinesburg, taken south of the Church crosswalk on the east side of the street, looking north. Existing pedestrian warning sign partially obscured by tree and outside of drivers' field of view.

Photo 3. Layer of dirt and grit on east side of crosswalk indicates ponding. Dirt is deep enough for vegetation to grow.

Photo 4. Existing drainage inlet southeast of the United Church crosswalk, in poor condition, overgrown.

Photo 5. Westbound view of VT Route 116 taken stopping sight distance in front of Hinesburg Community school. Note that pedestrian crossing warning sign obstructed by tree foliage.

Photo 6. Eastbound view of VT Route 116 taken on the south side of the road in front of Hinesburg Nursery School. Crosswalk is well used outside of school hours.

Photo 7. Southbound view on VT Route 116, taken North of Buck Hill Road on the West side of the road.

Photo 8. Westbound photo taken on Buck Hill Road, just east of its intersection with VT Route 116.

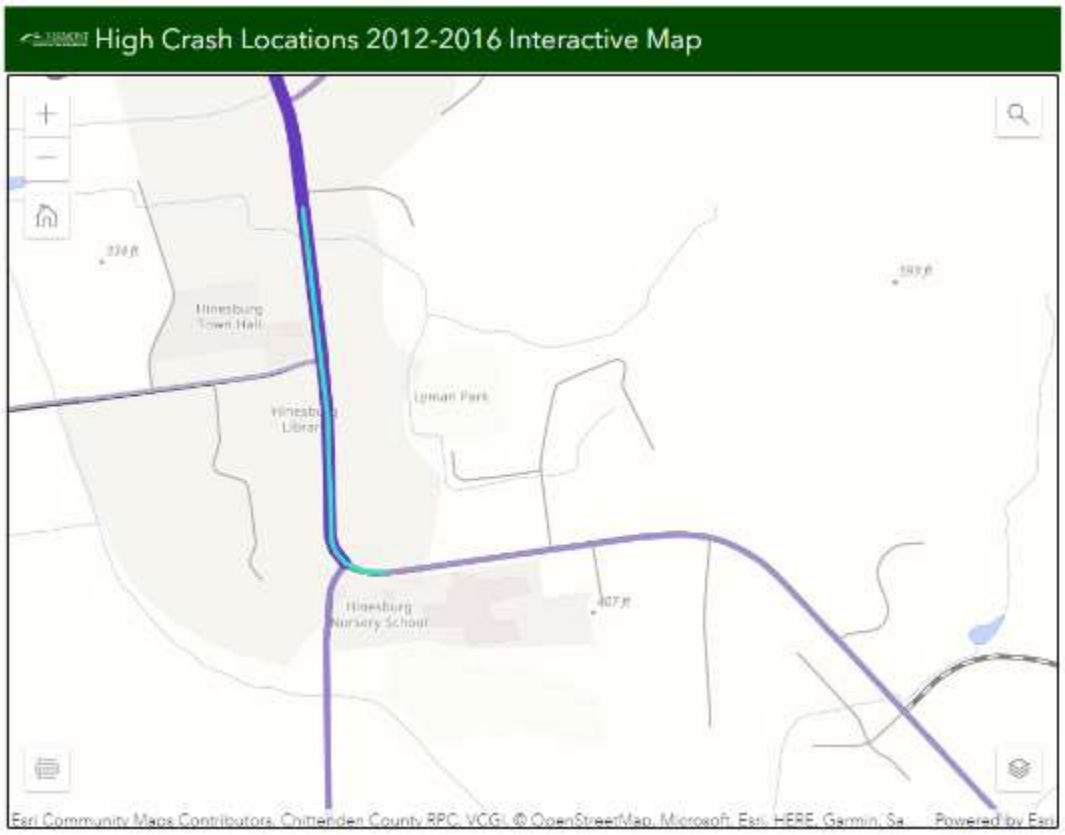
Photo 9. Northbound view on VT Route 116, taken south of Buck Hill Road on the west side of the road.

Photo 10. Eastbound photo taken on Clinton St. (newly developed road to housing), just east of its intersection with VT Route 116 showing the newly installed sidewalk connecting the housing development to VT Route 116.

APPENDIX E

High Crash Location Map and Report

Map of VTrans High Crash Locations in Hinesburg, Vermont



Formal Statewide Sections - Route Log Order /2 - Statewide

Years: 2012 - 2016

H.C.L No.	/3.	Route	System	Town	Mileage	AADT	Years	Crashes	Fatalities	Injuries	PDO Crashes	Critical Rate	Actual Rate	Ratio Actual/Critical	Severity Index ($/Crash/1.)
	67	VT-108	Major Collector (r)	Stowe	1.000 - 1.300	8,200	5	21	0	3	19	1.933	4.678	2.420	$22,867
	730	VT-108	Major Collector (r)	Stowe	1.500 - 1.800	8,200	5	9	0	0	9	1.933	2.005	1.037	$11,300
	31	VT-108	Major Collector (r)	Stowe	1.800 - 2.100	7,691	5	25	0	1	24	1.963	5.937	3.025	$14,388
	336	VT-108	Major Collector (r)	Stowe	3.200 - 3.500	6,800	5	11	0	2	9	2.023	2.955	1.461	$25,336
	426	VT-108	Major Collector (r)	Stowe	4.400 - 4.700	6,800	5	10	0	1	9	2.023	2.686	1.328	$19,020
	427	VT-108	Major Collector (r)	Stowe	4.900 - 5.200	6,800	5	10	0	1	9	2.023	2.686	1.328	$19,020
	510	VT-108	Major Collector (r)	Stowe	5.900 - 6.200	3,800	5	6	0	1	5	2.343	2.884	1.231	$24,167
	513	VT-108	Major Collector (r)	Stowe	6.800 - 7.100	3,800	5	6	0	0	6	2.343	2.884	1.231	$11,300
	15	VT-108	Major Collector (r)	Stowe	7.300 - 7.600	1,500	5	9	0	0	9	2.975	10.959	3.684	$11,300
	129	VT-108	Major Collector (r)	Cambridge	0.566 - 0.866	1,500	5	5	0	5	1	2.975	6.088	2.046	$90,760
	126	VT-108	Major Collector (r)	Cambridge	3.666 - 3.966	2,800	5	8	0	3	5	2.536	5.219	2.057	$40,250
	599	VT-108	Major Collector (r)	Cambridge	7.366 - 7.666	5,100	5	7	0	1	6	2.173	2.507	1.153	$22,329
	155	VT-108	Minor Arterial (r)	Cambridge	9.466 - 9.766	1,196	5	5	0	3	3	4.023	7.636	1.898	$59,880
	112	VT-110	Major Collector (r)	Tunbridge	4.480 - 4.780	1,433	5	5	0	3	4	3.009	6.373	2.118	$62,140
	44	VT-112	Minor Arterial (r)	Halifax	2.500 - 2.800	1,200	5	7	0	6	4	4.020	10.654	2.651	$82,314
	755	VT-114	Major Collector (r)	Lyndon	0.600 - 0.900	3,850	5	5	0	3	4	2.335	2.372	1.016	$62,140
	271	VT-114	Major Collector (r)	Burke	0.270 - 0.570	3,351	5	7	0	0	7	2.421	3.815	1.576	$11,300
	174	VT-116	Minor Arterial (r)	Middlebury	0.300 - 0.600	1,250	5	5	0	1	4	3.979	7.306	1.836	$26,740
	389	VT-116	Minor Arterial (r)	Middlebury	4.000 - 4.300	2,352	5	6	0	1	5	3.380	4.659	1.378	$24,167
	550	VT-116	Minor Arterial (r)	Middlebury, Bristol	6.500 - 0.213	2,240	5	5	0	2	3	3.424	4.077	1.191	$42,180
	201	VT-116	Minor Arterial (r)	Bristol	2.113 - 2.413	2,500	5	8	0	2	7	3.327	5.845	1.757	$32,012
	306	VT-116	Minor Arterial (r)	Hinesburg	0.278 - 0.578	3,600	5	9	0	0	9	3.030	4.566	1.507	$11,300
	598	VT-116	Minor Arterial (r)	Hinesburg	2.278 - 2.578	4,400	5	8	0	3	5	2.881	3.321	1.153	$40,250
	274	VT-116	Minor Arterial (r)	Hinesburg	4.378 - 4.678	9,808	5	20	0	3	18	2.384	3.724	1.562	$23,445
	76	VT-116	Minor Arterial (r)	Hinesburg	4.878 - 5.178	8,600	5	27	0	2	25	2.456	5.734	2.335	$17,019
	441	VT-116	Minor Arterial (r)	Hinesburg	6.278 - 6.578	8,500	5	15	0	3	12	2.462	3.223	1.309	$26,740
	137	VT-116	Minor Arterial (r)	St. George	0.240 - 0.540	6,154	5	18	0	7	13	2.654	5.342	2.013	$42,578
	450	VT-116	Minor Arterial (r)	St. George, Shelburne	1.437 - 1.182	5,100	5	10	0	10	4	2.778	3.581	1.289	$93,020
	176	VT-117	Minor Arterial (r)	Jericho	0.269 - 0.569	5,500	5	15	0	3	12	2.727	4.981	1.827	$26,740
	133	VT-117	Minor Arterial (r)	Richmond	0.276 - 0.576	5,200	5	16	0	4	13	2.765	5.620	2.033	$31,306
	223	VT-118	Major Collector (r)	Montgomery	5.514 - 5.814	1,926	5	5	0	0	5	2.794	4.742	1.697	$11,300
	387	VT-122	Major Collector (r)	Lyndon	0.500 - 0.800	2,541	5	5	0	0	5	2.601	3.594	1.382	$11,300
	237	VT-122	Major Collector (r)	Lyndon	1.800 - 2.100	2,000	5	5	0	1	4	2.767	4.566	1.650	$26,740

North of United Church of Hinesburg to Silver Street

Crashes from July 2012 to July 2022, Hinesburg Vermont

Crash Date	Address	Crash Type	Collision Direction	Road Group	AOT Actual Milepoint	Time of Day	Intersection With	Road Characteristics	Surface Condition
United Church of Christ									
September 27, 2012 at 4:50 PM	10581 Vt Rt 116	Property Damage Only	Rear-to-rear	State System (State Highways and Class I TH links)	4.64	Day		Parking Lot	Dry
May 18, 2013 at 7:05 PM	VT-116 (10581 Vt Rt 116)	Property Damage Only	Rear End	State System (State Highways and Class I TH links)	4.64	Night		Parking Lot	Dry
January 11, 2013 at 4:10 PM	VT-116 (10600 Vt Rt 116)	Property Damage Only	Rear End	State System (State Highways and Class I TH links)	4.61	Day	Charlotte Road	Not at a Junction	Dry
November 4, 2020 at 3:04 PM	10600 VT RT 116	Injury	Rear End	State Highway numbered route, State owned	4.619	Day	Charlotte Road	Not at a Junction	Dry
June 6, 2021 at 1:31 PM	10613 VT Route 116	Property Damage Only	Rear End	State Highway numbered route, State owned	4.61	Day	Charlotte Road	Not at a Junction	Dry
Hinesburg Community School									
June 13, 2014 at 1:00 PM	Vt Rt 116	Property Damage Only	Single Vehicle Crash	State System (State Highways and Class I TH links)	4.39	Day	Silver Street	T - Intersection	Wet
December 21, 2015 at 1:47 AM	10888 Vt Rt 116	Property Damage Only	Rear End	Other Public Roadway (Rest Areas, Shopping Center -	999.99	Night	Hinesburg Community School	Parking Lot	Dry
September 17, 2017 at 4:30 PM	10851 Vt Rt 116	Property Damage Only	Other	Other Public Roadway (Rest Areas, Shopping Center -	999.99	Day	Parking Lot	Parking Lot	Dry
October 25, 2018 at 8:55 AM	10888 VT ROUTE 116	Property Damage Only	Broadside	State Highway numbered route, State owned	4.32	Day	Silver Street	Not at a Junction	Dry
April 6, 2021 at 7:48 AM	10888 VT ROUTE 116; HINESBURG ELEMENTAR	Property Damage Only	Single Vehicle Crash	State Highway numbered route, State owned	4.34	Day	Hinesburg Community School	Driveway	Dry
Buck Hill Road									
February 7, 2014 at 6:40 PM	Vt Rt 116	Property Damage Only	Single Vehicle Crash	State System (State Highways and Class I TH links)	3.91	Night		Not at a Junction	Snow

APPENDIX F

Crosswalk Warrant Analysis
Buck Hill Road

HOYLE TANNER

Project:	Hinesburg Crosswalk Scoping Study
Project No.	21.120006.04
Location:	Vermont Route 116 at Buck Hill Road
Town:	Hinesburg, Vermont
Date:	September 14, 2022

Crosswalk Warrant Analysis

Vermont Route 116 at Buck Hill Road

Traffic — Meets Warrant

Speed Limit of 40 mph or Less — **Yes**

Posted Speed: 40 mph

Vehicle Volume Exceeds 3000 vehicles per day (both directions combined) — **Yes**

AADT: 3,794 vpd

Sight Distance

Adequate sight distance from all vehicular approaches to both ends of the crossing — **Yes**

Posted Speed (mph)	Required Sight Distance (feet)
25	155
30	200
35	250
40	305

Existing Facilities

No other crosswalk within 200 ft — **Yes**

No parking within 20 feet of crosswalk — **Yes**

Unless crosswalk is located mid-block with build-outs.

There is a sidewalk or adequate shoulder for use by pedestrians on both sides of crossing. — **No**

The determination of adequate shoulder should be based upon an assessment of traffic volumes, adjacent land use patterns and other site-specific conditions. The shoulder shall be a minimum of three feet wide, and a maximum of six feet wide (in order to minimize potential conflict with parking activities) Mid-block crossings may also be considered where there is a pedestrian destination, such as a recreation field, where a low potential for vehicles/pedestrian conflicts exists on both sides of the roadway.

Pedestrian Crossing Volume

The pedestrian crossing volumes exceed 20 per hour in the highest pedestrian hour of the day — **No**

Elementary aschool age (12 and under) and people over 60 count as 2 each.

Other Considerations

While there are no pedestrian facilities on Buck Hill Road, traffic volumes on Buck Hill Road are low and the road is used for pedestrians as a place to go for a walk.

Conclusion

The number of pedestrians crossing Route 116 at Buck Hill Road does not meet warrant criteria for a formal crosswalk.Geometric improvements such as traffic calming, median refuge islands, and curb extensions are alternatives that can be considered.

No

APPENDIX G

Local Concerns/Alternatives Meeting Minutes and Submitted Comments

Hinesburg Crosswalks Local Concerns/Alternatives Meeting
Meeting Notes

January 9, 2023
7:00 PM
Virtual/In-Person

Attendees:

In Person:

Todd Sumner (Hoyle Tanner)
Zachary Roussel (Hoyle Tanner)
Alex Weinhagen (Hinesburg)
Christine Ford (CCRPC)
Larry Munson
George Munson
Mark Pendergrass
Jamie Cudney
Anne Sullivan
Tom Whitney
Keith Roberts

Virtual:

Alyssa Smith (Hoyle Tanner)
Sam Lash
Carl Bohlen
Phil Pouech (State Representative)
Catherine Goldsmith
Merrily Lovell (Select Board)
Beth Whitlock
Vicky Gilbert
Sally Reiss
Frank Twarog
Chuck Reiss
Bradley Friesen
Maggie Gordon (Select Board)
Shawn Barth
Carl Bohlen
Patty Whitney
Kristin Neibur
Nicandra Galper
Katharina Frazier

(Written comments – *see attached*) Michael Anthony, Bethanne Cellars, Jeff Cellars, Mitch Cypes, Scott Johansen, Kate Kelly, Don Lagro, Jake Twarog, Tom Whitney,

There was significant amount of discussion during this 2 hour public presentation. The following meeting minutes captures the general intent of several similar questions in relation to the Hinesburg Crosswalk Assessment Study. If the contents of these meeting notes are incomplete or are not to your understanding of the meeting, please contact the preparer at Hoyle Tanner as soon as possible.

Purpose:

The purpose of the meeting was present to the public the possible alternatives developed for improving pedestrian infrastructure/safety and receive feedback and concerns at the following locations:

- The United Church of Hinesburg
- Hinesburg Community School
- Buck Hill Road (Intersection with VT Route 116)

Overview:

Alex Weinhagen gives a brief introduction on the projects and project locations. There will be three intersections/crosswalks covered in this scoping study and 4 covered in the next phase. The existing crosswalk at the Silver Street intersection is included in those covered next year.

Hoyle Tanner explains the draft purpose and need and inquires if any edits should be considered. Everyone present seemed comfortable with the wording.

United Church of Hinesburg:

Overview and Alternatives

Alex Weinhagen explains the background story to Alternative 1 at the United Church crosswalk. Explaining that the senior community on Kelly's Field Road is being expanded by 24 units. Residents currently do not feel safe crossing to reach the church, so they independently acquired an AARP grant to fund the installation of a Rectangular Rapid-Flashing Beacon (RRFB) which required a section-1111 permit from VTrans for installation. This scoping study served as the design guidance for the approval and installation of an RRFB at the church.

Hoyle Tanner presents Alternative 1 and Alternative 2 for the United Church crosswalk. Alternative 2 adds a curb and green strip to the area to address drainage and safety concerns on the east side of the existing crosswalk.

Existing Drainage Question

Tom Whitney (Hinesburg Resident): Are there any existing drainage structures by the church?

Alex Weinhagen: Not on the East side of the road. Water just sheet flows off into the grass. There is a culvert just Northeast of the crosswalk.

Drainage Question

George (Hinesburg Resident): I would be delighted to see the flashing beacons installed. The drainage issue at the church is terrible. Pedestrians often have to go off the sidewalk into the road to avoid the mud/water/ice. Pedestrians also get splashed by the pooling water. It's a terrible situation that's been an issue since 1980s. Is there a short-term solution to fix this issue?

Hoyle Tanner: With the curb presented in alternative 2, it is expected that the runoff causing these issues will enter the proposed catch basins and be routed away from the area.

Discussion on Improvements and Alternative 2

Around the room a sentiment was shared that the residents are looking for any fix at this location. They agreed that the current conditions were not ideal and that, especially Alternative 2, would fix many of the apparent issues.

More agreement throughout the room for Alternative 2.

Crossing through Queuing Traffic

Phil Pouech: It is difficult to cross in queuing traffic. A flashing beacon would help.

Visibility of RRFB

Community Member: The sign needs to be moved forward so it is not blocked by the trees.

Hinesburg Community School:

Hoyle Tanner presents the existing conditions and the two proposed alternatives for the Hinesburg Community School crosswalk.

Question on Advance Warning

Brad Friesen (Hinesburg Resident): The northbound traffic makes it difficult for people crossing South across VT route 116 toward the school to be seen by Northbound traffic from Silver St. turning right. Is there a way to alert drivers of pedestrians in advance of the crosswalk?

Hoyle Tanner: Yes, advanced warning lights, synced with the RRFBs can be used. There are certainly possibilities for that.

Comment on Silver Street and General Traffic Calming

Keith Roberts (Hinesburg Resident): I am in favor of any improvements to this crosswalk. The schoolboard encourages pedestrian traffic to school. The issue of traffic on Route 116 is all day, not just when kids are coming into and leaving school. The Silver St. intersection has always been an issue. Anything to warn drivers of pedestrians would be helpful. I would consider a median here, similar to that proposed at Buck Hill Road that will physically break up the road so people have to pay close attention when driving through this section. Since most users are vulnerable (children), when a crossing guard is not present, better conditions would be helpful.

Question Regarding Driveway on Northside

Mark Pendergrass (Hinesburg Resident): Does the driveway being restricted on the North side of the crosswalk pose any issues?

Hoyle Tanner: No, the observed existing conditions showed tire tracks in the sidewalk area, southwest of the driveway, where the new detectable warning pads are being installed. The proposed curb will discourage vehicles from entering the pedestrian zone and will make using the sidewalk here safer. Space isn't being taken from the driveway, a key distinction is just being made between the driveway and sidewalk.

Comments on Need for Change

General agreement and support for changes to be made.

Comment on Crosswalk Use for Access to Sports Fields

Fields behind Lantman's market used by school's sports team.

Question on False Sense of Security with RRFB

Jamie Cudney (Hinesburg Resident): The RRFBs at the school may give a false sense of security that is safe to cross when the lights are on, especially if children are using this crosswalk. Do you have any recommendations for this.

Hoyle Tanner: Advanced warning signs could be utilized here to warn drivers before they round the corner (Southbound on VT 116) that pedestrians are in the crosswalk.

CCRPC: The reality of the situation is, it is Vermont law to stop for pedestrians in a crosswalk. By adding the RRFB, the conditions would only be improved.

Community Member: The main issue is that people need to be slowed down coming around the corner. That would solve a lot of the issues here.

Question and Discussion on Moving Crosswalk Further East

Community Member: Why can't we move the crosswalk further East? Connecting the school area to the fields across the street. Many students use this area for sports practice and cross here.

Alex Weinhagen (Town of Hinesburg): There used to be a crosswalk here I think, not sure what happened with that.

Keith Roberts (Hinesburg Resident): The main issue with that is that kids would have to cross the bus lane to get to a crosswalk further East. Although this is a bus lane, it is often used by parents dropping off and picking up students throughout the day.

Alex Weinhagen (Town of Hinesburg): With the sidewalk being installed North from the Meadow Mist complex, Southeast toward the school, this should not be an issue in the future.

Comment on Silver Street Intersection and Advanced Warning

Catherine Goldsmith (Hinesburg Resident): As someone who often drives South on Route 116, I find that my eyes are usually on the Silver St. intersection, not necessarily the crosswalk before I actually get there. I am interested in the advanced beacon to give drivers an advanced warning of pedestrians.

Catherine recommends the placement of an advanced beacon further North than the existing crosswalk warning sign.

Frank (Hinesburg Resident): Silver Street. has a deceptive visual line that makes people think their further away from the curves. The intersection should be tightened up for less flow. Some drivers exiting Silver St. are not sure if southbound vehicles are turning right or going through the intersection. Some just pull out. Because of the current conditions, drivers are worried about other vehicles mainly, not pedestrians.

Keith Roberts (Hinesburg Resident): Speed is also an issue here.

Comment on Incremental Change and Available Funding

Phil Pouech (Hinesburg Resident): It is important to recognize and support incremental change here. An improvement to the crosswalk would be nice, but the main issue here is the Silver St. intersection. Crosswalk improvements won't fix the issue. If there are ideas to improve the community, let the selectboard know. There is ARPA funding available.

Buck Hill Road

Hoyle Tanner presents the existing conditions and the 4 proposed alternatives for the Buck Hill Road intersection with VT Route 116.

Question of What is the Warrant Criteria for a Crosswalk

Community Member: What are the criteria for a crosswalk?

Hoyle Tanner: Explains the crosswalk warrant criteria.

(See the presentation slides or final scoping report for more details.)

Keith Roberts (Hinesburg Resident): Won't building the sidewalk to the Meadow Mist development bring people to cross Route116?

Alex Weinhagen (Town of Hinesburg): Yes, that will probably happen. But, with current conditions, a crosswalk is not warranted according to VTrans standard.

Discussion of Clearzones at the Danville Gateway

Alex Weinhagen (Town of Hinesburg): How was Danville able to put the fence so close to the road at their gateway with clear zones concepts in place?

Hoyle Tanner: There are a few factors than impact clear zones, the two biggest being vertical barriers (curbing) and speed. The fence likely falls outside the clear zone given that the road is curbed.

Discussion on Tight Turning Radius at Buck Hill Road

Tom Whitney (Hinesburg Resident): Currently, turning is very tight at Buck Hill Road. Even hard for left turning school buses onto Buck Hill Road.

(General concerns with widening the road 4 ft on each side, especially grading it out. This also raises concerns for the existing culvert below Buck Hill Road.)

Question on "Best" Median Option

Sam Lash (Hinesburg Resident): Are any of the alternatives at Buck Hill Road "the best one"?

Hoyle Tanner: Generally, the 8-ft medians are most favorable since they can accommodate pedestrians. This gives protection to all users and provides vulnerable pedestrians a place to rest if needed.

Comment on Alternatives

Keith Roberts (Hinesburg Resident): Something needs to be done here, the main problem is speed. Long-term, people want a crosswalk here, but in the meantime, before warrant criteria are met, speed issues need to be addressed. The town needs to take over ownership of Route 116. This provides a viable solution for all our issues. If speed is reduced, the road will be more viable to cross for pedestrians. Of the four alternatives, the split median at 8-foot width is preferred.

Comment on Median

Mark Pendergrass (Hinesburg Resident): The spit median will mitigate speed in both directions. The split medians are preferred for both widths. Recognize concerns leaving the ROW, if the 8-foot width is not possible, the 4-foot width would also work. Prefer texture on medians rather than just paint to reduce passing.

Discussion on Overtaking Vehicles

Hinesburg Resident: Drivers overtaking vehicles turning left into Buck Hill Road a danger.

More than one resident shared incidence of near misses with overtaking vehicles.

Discussion on Speed Limits

Larry (Hinesburg Resident): Speed limits entering town from each direction are different. People entering and exiting town are speeding up at Meadow Mist, should be down to 30 mph in this area.

Alex Weinhagen (Town of Hinesburg): In the past, the selectboard advocated for 30mph south of meadow mist, VTrans didn't allow it.

Speed studies probably advocated for this; speed studies were done before Meadow Mist was constructed.

We should talk to the selectboard about making this request again.

Comment on Gateway

Sam Lash (Hinesburg Resident): Gateway is compelling to show a clear visual distinction.

Comment on Speed Limit, Buck Hill Road Geometry and Gateway Lighting

Tom Whitney (Hinesburg Resident): Reduction of the speed limit to 30 mph, great idea.

As it stands, you can't pull onto 116 quickly with fast moving vehicles. Would like to widen entrance to Buck Hill, but there are drainage concerns with the existing culvert. Like the gateway and welcome to Hinesburg sign, a lightpost could be installed on the Buck Hill Rd side of Route 116 to create a distinction that you are entering the village.

Comment on Crosswalk Location

Vicky Gilbert: The proposed crosswalk should be installed on the Bristol side of Buck Hill Road, so that vehicles turning into town from Buck Hill Road or Meadow Mist don't have to stop twice (for traffic on Route 116 and crossing pedestrians).

Question on Gateway Feasibility

Maggie Gordon: The whole idea behind the gateways is to slow down northbound traffic. We need to slow people coming in. Is VTrans going to put up a fight for all of the alternatives? Do any have a better chance?

Hoyle Tanner: It likely, they don't want to make changes. Painting, textured, stamped, colored pavement would be preferred by VTrans, raised medians would be a fight. District gave that indication in a previous informal discussion. As a town, Hinesburg can still do things outside the

ROW. There's a line of trees along the Meadow Mist property that contribute to the gateway feature. More additional features are possible to restrict the road that do not have to be in the Highway ROW. Some soft engineering may be more helpful in cases like this.

Question of a Traffic Light

Chuck Reiss (Hinesburg Resident): Is there any potential for a traffic light?

Hoyle Tanner: This location would not meet requirements for a traffic light.

Chuck Reiss (Hinesburg Resident): We've had two deaths on this road. This is a safety issue. Something painted on the road is not going to stop this safety issue. A traffic light would certainly stop people. Another thing about non-raised medians, with snow, that wouldn't be visible. Both fatalities were leaving town and going south, the issue isn't all about vehicles entering town.

Alex Weinhagen (Town of Hinesburg): Hoyle Tanner comments on soft engineering may help more than a traffic light could here.

Question about Taking over Maintenance of Route 116

Sally Reiss (Hinesburg Resident): What's the process for taking over the road?

Alex Weinhagen (Town of Hinesburg): Back in 2014, a scoping study was performed on all of the Route 116 corridor. VTrans has been encouraging Hinesburg to take over any part of the road. The study estimated a $10,000 per year cost for ownership of the road. Since 2014 study, selectboard has not moved forward.

The highway department is not in agreement with this. Understaffed department, difficult sell for it to become the town's duty to maintain.

Sally Reiss (Hinesburg Resident): Creating a sense of gateway for the community would help people traveling south have a visual sense of still being in the community. In support of making a community feel.

Question of a Roundabout

Catherine Goldsmith: Speed signs don't stop people from speeding, feelings of danger slow people down. Lowering speed doesn't slow people down. Was a roundabout considered?

Hoyle Tanner: This is not an appropriate location for a roundabout. Roundabouts should have balanced traffic volumes on each approach. They are also not great for pedestrians crossing without a crosswalk. Roundabouts are expensive. They have been used as part of gateway and traffic features elsewhere. T.

Alex Weinhagen (Town of Hinesburg): A roundabout is not an option with VTrans in control. Would need to be town owned and would still be difficult to get approved and installed.

Question about Repeating Speed Study.

Meadow Mist resident: A speed sign was moved about a year ago, but cars are still speeding. I know they did a speed test before the sign was moved, can they do another test to see how speeds are impacted by changing the speed limit.

Alex Weinhagen (Town of Hinesburg): Yes, we can talk to CCRPC.

Comment on Incremental Change

Keith Roberts: I would like to echo Phil's comment about incremental change. Community members are in agreement, anything is better.

Prepared by:
Zachery Roussel, EIT
Hoyle Tanner

From: Michael Anthony <
Sent: Wednesday, December 28, 2022 12:50 PM
To: aweinhagen@hinesburg.org
Subject: RE: Route 116, Buck Hill Rd Intersection - ideas & Jan 9 meeting

Alex ,

My preference would be Alternative 4 but with Alternative 3 design . Just to make it easier for trucks and trailers turning on and off Buck Hill Rd

Michael Anthony
Hinesburg Road Foreman

From: Alex Weinhagen
Sent: Thursday, December 22, 2022 12:13 PM
To: Michael Anthony
Cc: Todd Odit
Subject: Route 116, Buck Hill Rd Intersection - ideas & Jan 9 meeting

Mike,
With the help of the CCRPC, we have a transportation consultant (Hoyle Tanner) studying improvement options for the Route 116, Buck Hill Road West intersection. They are also putting plans together for RRFBs at two existing Route 116 crosswalks – near the United Church and near the Hinesburg Community School. We are having a public meeting on January 9, 2023 at 7pm to show proposed alternatives and get community feedback.

There's information about the alternatives and the meeting on the Town website.

I wanted to give you a heads up, as I just got the draft presentation from the consultant (see attached), and I'm going to start advertising for the public meeting next week. Let me know if you have comments or ideas.

Not sure that VTrans would allow a raised median in the middle of Route 116 (similar to Route 2 in Danville), but I want to make sure that it doesn't interfere with your ability to get Town trucks/plows on and off Buck Hill Road.

FYI – Thanks to a grant from AARP, the RRFB for the United Church crosswalk should be installed by contractors in May.

Alex Weinhagen
Director of Planning & Zoning, Town of Hinesburg
aweinhagen@hinesburg.org
www.hinesburg.org - Planning/Zoning page
802-482-4209
10632 Route 116, Hinesburg, VT 05461

From: Bethanne Cellars [redacted]
Sent: Tuesday, December 27, 2022 7:54 PM
To: aweinhagen
Subject: Fully support crossing beacons

Hi Alex
we fully support the crossing beacons at United Church and HCS. Will there be a solution for Silver Street?
Thanks and regards
Bethanne and Jeff Cellars

From: mcypes@[redacted]
Sent: Monday, January 9, 2023 4:27 PM
To: aweinhagen@hinesburg.org
Subject: Intersection comments

Buck Hill Road: I believe that Alternatives 1 & 3 are poor ideas. Drivers will be more focused on the turn and less attentive to anyone crossing 116. Alternatives 2 & 4 will allow the desired pedestrian refuge. Alternate 2 with the wider medium will slow down traffic more and provide more refuge. Choice – Alternative 2.

Hinesburg Community School: Often in these studies is an Alternative 0, which is to do nothing. That said, an RRFB is appropriate for that location. There should be signage warning of the crosswalk. I do not believe the new curbs, which would be far from view would reduce traffic velocities. Choice – Alternative 1.

United Church of Hinesburg: As said in HCS, Alternative 1 is better than Alternative 0. Having an RRFB is beneficial. The description on page 5 of 8 showing a layer of sand and grit, I believe is on the east side, not the west. The question is 'would adding the drainage be helpful?' I question if two catch basins are needed. The flow arrow on the existing drainage outlet structure is facing the wrong way. That said connecting the drainage to the structure should drain the area. If there is as much sediment deposited on the east side, then adding drainage would appear to be warranted. Choice – Alternative 2.

Mitchel Cypes, P.E.
Hinesburg Development Review Coordinator
[redacted]

From: Scott Johansen <
Sent: Sunday, January 8, 2023 10:49 PM
To: aweinhagen@hinesburg.org
Subject: Buck Hill Intersection

Alex,
I'm not able to attend the meeting Monday night but I would like to pass along one consideration for the group.
Given the width of buck hill road, the angle at which it intersects Rt116 and the pot hole that has been at the north east corner of the intersection as long as I can remember, it is impossible to pull out of Buck Hill heading north with any kind of trailer in tow without waiting for traffic to clear in both directions and using the entire roadway. Setback for this should be considered if placing curbs, signs or islands in the center of the roadway.

Sincerely,

Scott

Sent from my iPad

From: Kate Kelly <[redacted]>
Sent: Sunday, January 1, 2023 11:52 AM
To: aweinhagen@hinesburg.org
Subject: Re: Intersection/Crosswalk Improvement Meeting

Alex, see some responses below in blue.

On Thu, Dec 29, 2022 at 10:40 AM Alex Weinhagen <aweinhagen@hinesburg.org> wrote:

> Kate,
> Good suggestion about reaching out HCS. I communicated with them in September about the study, but hadn't followed up about the January 9 meeting. Thanks to your suggestion, I just did!
>
> I'll forward your comments on to the project team. Some of the alternatives do include the installation of limited curbing or raised median.
>
> Buck Hill Road intersection:
> Utilizing mountable curbing for any raised medians in Route 116 (at the Buck Hill Road intersection) makes sense to me – both for amphibian/reptile passage and for traffic safety. It's quite likely that VTrans will object to any raised median in this location (i.e., almost any location), but in this case, I think we should be pushing for it as it is much more likely to affect driver behavior and speeds than mere road striping and signage.

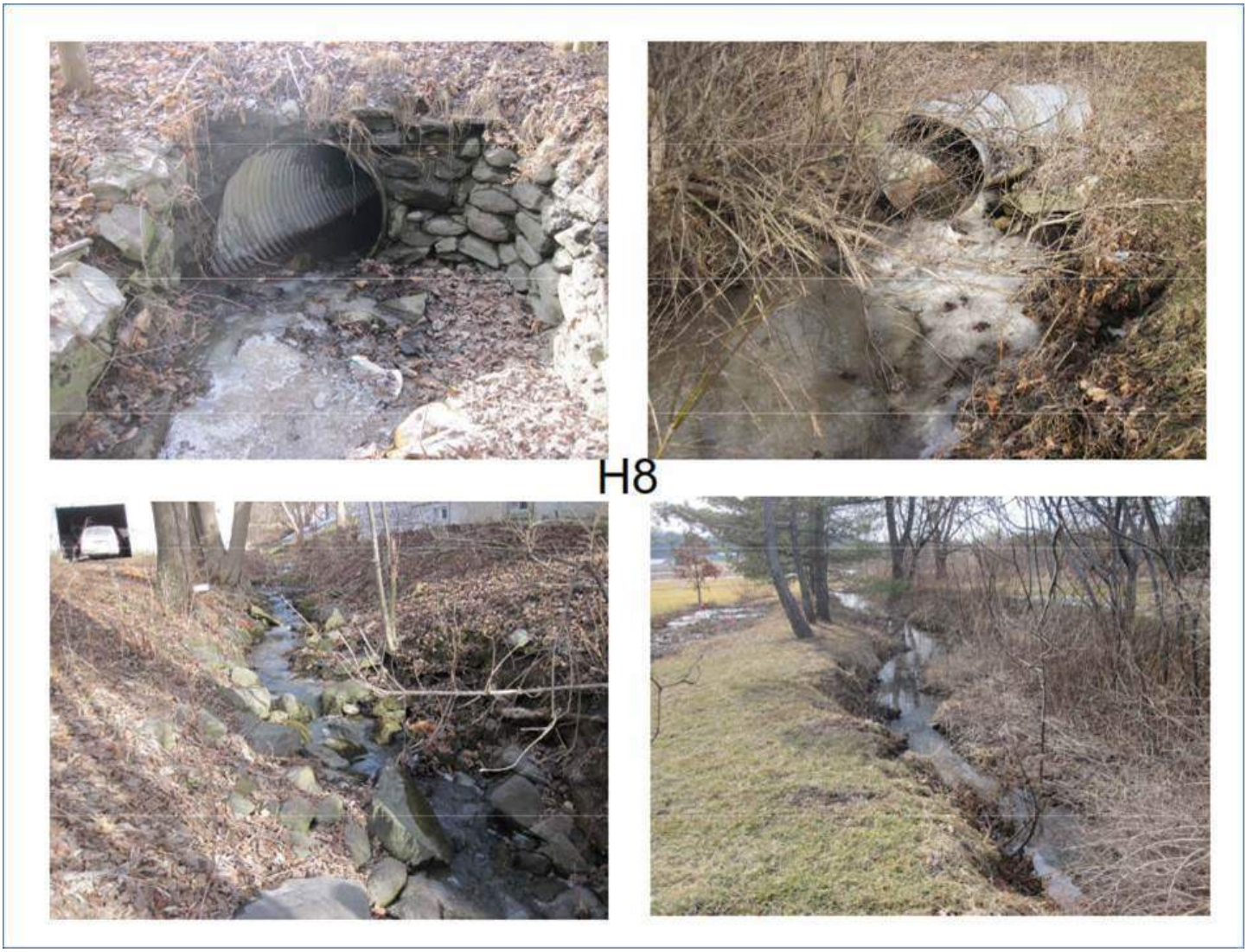
Great, and agreed.

> HCS Crosswalk:
> Alternative two includes a small amount of curbing on the north side of Route 116. Do you think mountable curbing in this location will have any impact on wildlife passage? I'm not sure it matters in this location – especially since it is just a short section of 50 feet in front of the Martin house. In this location, I think pedestrian safety is paramount, and regular curbing is advisable.

Probably not a big wildlife passage area, so agreed that this is not as critical as pedestrian safety.

> United Church Crosswalk:
> Alternative two includes some curbing to address the runoff issues on to the sidewalk in the vicinity of the crosswalk. This is really a larger issue for the entire stretch of sidewalk on the east side of Route 116 from Kelley's Field Road to the Waitsfield Champlain Valley Telecom driveway. This whole section needs to be curbed so that the sidewalk isn't under water or covered in ice during and after rain/snow events. Given how developed this section of Route 116 is, and given the stream crossing, shouldn't we be planning for wildlife crossing via the culvert under Route 116? It seems like most of the wildlife would be in the stream channel in this location anyway. However, I believe the culvert doesn't allow for aquatic organism passage – e.g., perched discharge – see photo below. A M&M culvert study in 2012 assessed Route 116 culverts, including this one (#8 in the study) – see attached excerpt. It said there wasn't much connecting habitat, so AOP measures were not as important as geomorphic considerations. Perhaps that AOP importance will change when the United Church wetland restoration happens.

Are mountable curbs not good at keeping water off the sidewalks? It seems like they would still do the trick to keep water off the sidewalks and still allow wildlife passage. AOP may not be possible here currently due to the perched culvert. If the culvert were replaced and expanded to include some land benches on the side of the stream/ditch, it might be a better wildlife passage area, but I'm not sure that without wing walls/other ways to direct wildlife to the culvert, that it would be heavily used (nor do I think that this a critical location to put in an expensive wildlife crossing structure). I do think there is potential for snakes to be attempting to cross from the wetlands to the uplands (overwintering) behind Kelley's Field etc. 116 is a barrier to crossing (due to mortality), and may not have much connectivity currently, but I feel like we should be trying to minimize mortality/maximize connectivity by having mountable curbs wherever we can, especially if improvements are being made anyways.



a

Alex Weinhagen
Director of Planning & Zoning, Town of Hinesburg
aweinhagen@hinesburg.org
www.hinesburg.org - Planning/Zoning page
802-482-4209
10632 Route 116, Hinesburg, VT 05461

From: Kate Kelly <
Sent: Wednesday, December 28, 2022 10:53 PM
To: aweinhagen@hinesburg.org
Subject: Re: Intersection/Crosswalk Improvement Meeting

Alex, thanks for forwarding. There has been some concern about crosswalks by parents at HCS, and I think it would be beneficial to ask Libby Koch or the principals if it would be ok to post this information in the school newsletter. As far as my input, my only concerns surround the curbing on road edges and medians, which can impede or inhibit wildlife movement

across roads, leading to greater mortality. If at all possible, I would recommend minimizing curbing and/or installing mountable/Cape Cod rolled curbs. In addition, I'd recommend considering stormwater treatment and/or pollinator habitat in what are currently "grass" strips if this is feasible (would require additional engineering for stormwater treatment, and may not be feasible in the road ROW or given the small size of the strips/large drainage area/other site constraints).

Thanks,
Kate

——
Kate Kelly
[redacted]

On Dec 28, 2022, at 17:09, Alex Weinhagen <aweinhagen@hinesburg.org> wrote:

Hinesburg Municipal Team,
Happy holidays to everyone! Fingers crossed for calmer weather this coming weekend – for New Year's celebrations.

We are studying possible changes to the Route 116, Buck Hill Road intersection to slow down traffic and address safety concerns. Our transportation consultants have proposed several alternatives. We are also planning for the installation of flashing beacons (RRFB - Rectangular Rapid Flashing Beacons) at two existing Route 116 crosswalks - one near the United Church and one near the Hinesburg Community School. Alternatives and more information available on the Town website – https://www.hinesburg.org/planning-zoning/pages/village-crosswalk-improvements

We are holding a public meeting to gather community comments, concerns, and ideas.

January 9, 7pm, Town Office

Participate in person or from home via Zoom. Zoom connection info:

1. https://us02web.zoom.us/j/86575414524
2. Meeting ID: 865 7541 4524
3. Passcode: 123456
4. Dial in: 646-558-8656

Made a resolution to attend fewer meetings in 2023? No problem! Contact me with questions or comments, and I will forward them to the project team.

Alex Weinhagen
Director of Planning & Zoning, Town of Hinesburg
aweinhagen@hinesburg.org
www.hinesburg.org - Planning/Zoning page
802-482-4209
10632 Route 116, Hinesburg, VT 05461

<image001.jpg>

--
Kate Kelly
[redacted]

From: Don LaGro <[redacted]
Sent: Monday, January 9, 2023 12:27 PM
To: Alex Weinhagen
Subject: Village Crosswalk Improvements: HCS

I probably will not be able to attend today's meeting regarding crosswalk changes. I have some suggestions. Mainly for the 2 crosswalks by HCS:

The speed limit near HCS should be reduced to 25MPH. On both Route 116 and Silver Street. This should be a full-time reduction. Not just when HCS is in session.

The 25MPH speed limit signage should be more obvious.

For instance, the current 30MPH sign on Silver Street, when traveling north, is somewhat obscured.

I would make the speed limit 25 MPH at least starting from Lantman's on 116

To help with the Church crosswalk, the 25MPH reduction should be extended even further north. I would suggest to at least Commerce Street

Crosswalk signage should be added on 116 for people traveling south on 116. Once drivers turn the curve on 116 near Silver Street, they might not have enough notice currently to be aware of the crosswalk.

In general, Hinesburg should have stricter enforcement of its speed limits. Along with traffic laws in general. Too many people traveling through Hinesburg treat our roads like a race track. I've seen too many reckless drivers not only ignore speed limits, but also pass other drivers. Including near HCS. I've also seen people blatantly ignore stop signs and groups of children waiting to cross at crosswalks.

Thank you,

From: Jake Twarog [redacted]
Sent: Wednesday, January 4, 2023 2:37 PM
To: aweinhagen@hinesburg.org
Subject: Buck Hill Rd Intersection Thoughts

Dear Alex Weinhagen,

As a Buck Hill Road resident, I am excited about the potential traffic calming measures at the intersection between Buck Hill and Route 116. That intersection has long been far too unsafe for pedestrians, bikers, and motorists alike, and physical infrastructure is far more effective than posted speed limits in preventing unsafe driving. I hope that one of the eight foot wide median proposals is implemented, and would strongly suggest it be a raised curb with vegetation. Not only would it be the most effective thanks to dramatic physical narrowing of the lanes, it would also visually look the best in my opinion as well.

I am also in favor of the proposed infrastructure upgrades to each crosswalk. I'd love to see a more walkable Hinesburg that considers everyone using our roads and sidewalks, and not just cars.

Best,
Jake Twarog

From: Tom Whitney <[redacted]>
Sent: Monday, January 9, 2023 6:45 PM
To: aweinhagen@hinesburg.org
Subject: Rte 116 and Buck Hill Rd comments

Alan, thank you for the very welcome invite for tonight's meeting. I assume the ideas from the consultant will come forth at the meeting ?

At this point, as a resident at Buck Hill Rd West for over 25 years, I've seen the traffic burden on our road grow with the High Rock and Evanson Rd developments. I've been impacted by several close calls, tail-gating on 116 south and a few serious events.

My comments are:

1. Extend the 30 mph speed zone south beyond Buck Hill West. The Passing Danger sign is excellent.
2. Widen the apron of Buck Hill West onto 116. There are time when a school bus cannot make the turn without crossing into the westbound side of BH Rd. Also, it's a pretty sharp turn to get onto 116 North. And we have a recurring hole at the same turn onto 116 north which can damage cars and certainly disrupt the vehicle motion.
3. Add a streetlight to BH Rd at the stop line.
4. If not already one, this stretch of road should be planned for a sidewalk or other walk path to this intersection. Buck Hill Rd is a fairly popular route for walkers and joggers going to the trails and up the road.
5. There is no stop sign on the new road at the development.

Also, I was pleased to see traffic enforcement by the PD at the South Farm entrance. I hope this continues and is effective.

Thanks Again.

Tom Whitney

19:23:04 From Sam Lash To Everyone:
Can everyone else mute please?!
19:28:24 From Catherine Goldsmith - Starksboro, VT To Alex Weinhagen(Privately):
no sidewalk between Giroux's and John Lyman's house. I've asked town staff many times to put this gap on the work list.
19:39:41 From Carl Bohlen To Everyone:
We support having these improvements at United Church. Sooner the better. Thanks
19:42:07 From Phil Pouech To Everyone:
The Selectboard does have ARPA funds available so if folks would like some $$ focused on improving and making walkability along Rt116 more safe, let your board know.
20:27:03 From Catherine Goldsmith - Village Steering Committee To Alex Weinhagen(Privately):
Merrily has hand up
20:28:04 From Catherine Goldsmith - Village Steering Committee To Everyone:
Hinesburg needs to talk over part of 116. The studies have been done. Time to take action - use some ARPA funds to kick-start the changes.
20:29:11 From Merrily Lovell To Everyone:
It is very frustrating that VTrans will not put a crosswalk at Buck Hill/Meadow Mist without higher pedestrian traffic. Are people aware that a car went off the road in front of Meadow Mist going south just a few days ago? If we encourage pedestrians to cross there, are we encouraging accidents. This does seem like a very car friendly/human unfriendly stance by VtTrans.
20:29:13 From Beth Whitlock (she/her) To Everyone:
I'm also a Meadow Mist resident and a car did actually come off 116 and land on the grass that slopes down to the houses just last week. People speed there all the time, so some kind of measures to slow traffic down there would be great
20:29:51 From Catherine Goldsmith - Village Steering Committee To Everyone:
Need to look at a roundabout.
20:30:14 From Sam Lash To Everyone:
^the tree stump stopped them likely from hitting the condos!
20:32:27 From Vicky To Everyone:
If a crosswalk is built for Buck Hill, I'd want it on the Bristol side of the intersection so that I did it have to watch for both traffic and pedestrians when turning toward the village.
20:36:51 From Sam Lash To Everyone:
The gateway treatment is really compelling- this is the limit of the designated village center right?
20:47:08 From Sam Lash To Everyone:
They do!
20:52:52 From Sam Lash To Everyone:
Thanks for this! Looking forward to what's to come (and especially the planned sidewalk projects!)! I'm not sure if a bike/walk parade to school exists but partnering with localmotion could be a great complementary action especially re the school crosswalk. Have a great night all.
20:55:15 From Catherine Goldsmith - Village Steering Committee To Everyone:
TWO corridor studies in the last 25 years. Extra costs are minimal.
20:55:32 From Catherine Goldsmith - Village Steering Committee To Everyone:
We need street trees that are CLOSE to the road.

21:04:49 From Carl Bohlen To Everyone:
In the near term, consider a "no passing" sign, and/or flashing speed signs like above CVU
21:05:19 From Carl Bohlen To Everyone:
and dangerous intersection sign
21:05:43 From Vicky To Everyone:
Thanks for the thoughtful presentation

From: Scott Johansen <
Sent: Wednesday, January 11, 2023 10:30 AM
To: aweinhagen@hinesburg.org
Subject: Re: Buck Hill Intersection

Alex,

I was able to catch up on the recorded meeting on crosswalks on-line this morning.
I have just a couple comments and/or agreements of comments.
1. Keep fighting for a crosswalk on the NORTH side of the intersection to line up with the Meadow Mist sidewalk.
2. Extend the low speed limits South as Larry had mentioned.
3. A street light on the North East corner of the intersection, as mentioned by Tom, is a great idea that shouldn't bother VTRAN.
4. Planting (Maple) trees along 116 in front of George Munson,s house and in between Meadow Mist and Wernhauf's on the West side is a great idea. I'm not sure it will be super effective, but nice.

Medians:
1. Tom also referenced the difficulty in pulling out of Buck Hill to go North and the pothole. Crossing over into the southbound lane to turn North out of Buck Hill road is a different safety concern but could be addressed without VTRANS by widening the entrance to Buck Hill and eliminating the pothole.
2. Question for the consultants: What is the safety impact to cyclists when they are traveling through the narrowed sections of road where medians are added?
3. Maybe we do what we can without medians and use them as an incremental solution if the other ideas don't work.

Thanks for hosting a good meeting,

Scott

_____
From: Alex Weinhagen <aweinhagen@hinesburg.org>
Sent: Monday, January 9, 2023 4:52 PM
To: 'Scott Johansen'
Subject: RE: Buck Hill Intersection

Scott,
Comments received. I'll pass them along to the project team at tonight's meeting.

Thanks for the intel on the road orientation and the ever-present pot hole! Super helpful to get perspective from someone who uses the intersection a lot - especially, someone who negotiates it with trailers.

Alex Weinhagen
Director of Planning & Zoning, Town of Hinesburg aweinhagen@hinesburg.org www.hinesburg.org - Planning/Zoning page
802-482-4209
10632 Route 116, Hinesburg, VT 05461

-----Original Message-----
From: Scott Johansen <
Sent: Sunday, January 8, 2023 10:49 PM
To: aweinhagen@hinesburg.org
Subject: Buck Hill Intersection

Alex,
I'm not able to attend the meeting Monday night but I would like to pass along one consideration for the group.
Given the width of buck hill road, the angle at which it intersects Rt116 and the pot hole that has been at the north east corner of the intersection as long as I can remember, it is impossible to pull out of Buck Hill heading north with any kind of trailer in tow without waiting for traffic to clear in both directions and using the entire roadway. Setback for this should be considered if placing curbs, signs or islands in the center of the roadway.

Sincerely,

Scott

Sent from my iPad

APPENDIX H

Alternatives Evaluation Matrix

United Church of Hinesburg Crosswalk

Category		Alternative 1: *Upgrade Signage to RRFB*	Alternative 2: *Upgrade Signage to RRFB and Improve Drainage*
Cost	*Construction Cost*	$35,000	$93,750
Bike/Ped Facilities	*Signage*	Installation of RRFB	Installation of RRFB
	Sidewalk (east side)	Varies, less than 5'	5'
	Green Space	None	Varies, 4' at crossing
Impacts	*ROW*	Potential Permanent Temporary Likely	Permanent Likely Temporary Likely
	Overhead Utility	None	Possible use of utility pole for signage
	Resource	Temporary	Temporary
	Ag. Lands	None	None
	Archaelogical	None	None
	Historic	Possible	Possible
	Hazardous Materials	None Anticipated	None Anticipated
	Floodplains	None	
	Fish & Wildlife	None	
	Rare, Threatened & Endangered Species	None Anticipated	
	Public Lands - Sect. 4(f)	None	
	LWCP - Sect. 6(f)	None	
	Noise	None	
	Wetlands	None	
Permits	*Act 250*	None	
	401 Water Quality	None	
	404 USACE	None	
	Stream Alteration	None	
	State Individual Wetland Permit	None	
	Storm Water Discharge	None	Possible
	Lakes & Ponds	None	
	Threatened & Endangered Species	None Anticipated	
	Historic/Archaeological Resources	None Anticipated	
	Section 1111 Permit	Yes	Yes
Meets Purpose and Need		Partially	Yes
Other Considerations		Does not address ponding at crosswalk's eastern side	Requires closed drainage system.

Hinesburg Community School Crosswalk

Category		Alternative 1: *Upgrade Signage to RRFB, New Advanced RRFB*	Alternative 2: *Upgrade Signage to RRFB, New Advanced RRFB, New Curbing and Sidwalk Improvements*
Cost	*Construction Cost*	$52,500	$70,000
Bike/Ped Facilities	*Signage*	Installation of RRFB and Advanced RRFB	Installation of RRFB and Advanced RRFB
	Sidewalk (east side)	No changes	Larger landing pad on north side of crosswalk
	Green Space	No change	3' Green space north side
Impacts	*ROW*	Temporary possible	Temporary possible
	Overhead Utility	Possible use of utility pole for signage	Possible use of utility pole for signage
	Resource	Temporary	
	Ag. Lands	None	
	Archaelogical	None	
	Historic	Possible	
	Hazardous Materials	None Anticipated	
	Floodplains	None	
	Fish & Wildlife	None	
	Rare, Threatened & Endangered Species	None Anticipated	
	Public Lands - Sect. 4(f)	None	
	LWCP - Sect. 6(f)	None	
	Noise	None	
	Wetlands	None	
Permits	*Act 250*	None	
	401 Water Quality	None	
	404 USACE	None	
	Stream Alteration	None	
	State Individual Wetland Permit	None	
	Storm Water Discharge	None	None Anticipated
	Lakes & Ponds	None	
	Threatened & Endangered Species	None Anticipated	
	Historic/Archaeological Resources	None Anticipated	
	Section 1111 Permit	Yes	
Meets Purpose and Need		Yes	Yes
Other Considerations		None	New curb on north side would visually narrow roadway as a traffic calming feature

Buck Hill Road Gateway Median

Category		Alternative 1: *Single, Large Median South of Buck Hill Road*	Alternative 2: *Split, Large Medians at Buck Hill Road*	Alternative 3: *Single, Narrow Median South of Buck Hill Road*	Alternative 4: *Split, Narrow Medians at Buck Hill Road*
Cost	*Construction Cost* *	$70,000	$110,000	$55,000	$87,500
Bike/Ped Facilities	*Shoulders*	3' shoulders			
Impacts	*ROW*	Permanent Likely Temporary Likely		Permanent Possible Temporary Likely	
	Overhead Utility	None			
	Resource	Temporary			
	Ag. Lands	Possible		None	
	Archaelogical	None			
	Historic	Possible			
	Hazardous Materials	None Anticipated			
	Floodplains	None			
	Fish & Wildlife	None			
	Rare, Threatened & Endangered Species	None Anticipated			
	Public Lands - Sect.	None			
	LWCP - Sect. 6(f)	None			
	Noise	None			
	Wetlands	None			
Permits	*Act 250*	None			
	401 Water Quality	None			
	404 USACE	None			
	Stream Alteration	None			
	State Individual Wetland Permit	None			
Permits	*Storm Water Discharge*	None			
	Lakes & Ponds	None			
	Threatened & Endangered Species	None Anticipated			
	Historic/Archaeological Resources	None Anticipated			
	Section 1111 Permit	No			
Meets Purpose and Need		Partially	Partially	Partially	Partially
Other Considerations		Median part of gateway feature	Median part of gateway feature	None	None

*Construction cost may vary depending on median option chosen (raised curb, textured median, or painted median). Cost given is for raised median with curb.

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