

CHAPTER 5: BLACK RIVER TRAIL (BRT) EXTENSION

5.1. Background and Project Description

5.1.1. BRT Phase I and Phase II

The objective of this Chapter is to determine the feasible alternatives to extend the existing Black River Trail corridor from the Route 3 trailhead in the Village of Black River to Route 26. This includes an assessment of existing conditions, social economic and environmental impacts on the community resulting from the implementation of the proposed trail alternatives. The proposed trail consists of a 10 ft. wide asphalt paved surface for off-road trail segments, and on-road trail segments that will utilize a combination of existing infrastructure (i.e. sidewalks) and shared use pathways along the ROW. Due to the extents of the Black River Trail Extension corridor, the planning study was separated into two Phases.

Phase 1 of the Black River Extension study focuses connecting the designated corridor from the Route 3 trailhead to the unofficial Route 971V trailhead adjacent to Fort Drum. Multiple alternatives have been developed including on-road and off-road options to meet the needs of the study.

Phase 2 of the Black River Extension study utilizes the existing trail adjacent to Fort Drum connecting Route 971V to Route 26. Portions of this trail are currently maintained by the U.S. Department of Interior; the existing trail corridor follows the Black River shoreline offering opportunities for scenic overlooks and a natural setting.

5.1.2. Goals and Need for BRT Extensions

Currently, there is no designated or official trail connecting Route 3 to Route 26. The goal for extension is to provide a continuation of the existing Black River Trail connecting Fort Drum to the City of Watertown.

The Black River Trail Extension project encourages safe and accessible pedestrian, bicyclist, and other non-motorized travel between the City of Watertown and Fort Drum via the Village of Black River while also providing a natural setting along the Black River. As part of the extensive Black River Trail system, this extension would add approximately 6 miles of trail to the system; generating more access for recreational activities including fishing, snowshoeing, and cross-country skiing for the greater Watertown area. Fort Drum would also benefit from the proposed trail extension for training purposes. Fort Drum, home of the U.S. Army 10th

Mountain Division, is constructing a museum dedicated to the 10th Mountain division which would be accessible from the Route 26 terminus therefore encouraging more multi-modal travel to and from the museum.

Off-road and sidewalk segments will be designed to have stable, slip resistant surfaces to ensure accessibility for the general public without limitations to disabilities. Sidewalks are to be constructed meeting current American with Disabilities Act (ADA) standards in regards to widths, grades and ADA compliant curb ramps where applicable. Off-road segments will also meet ADA and AASHTO standards for multi-modal trails with respect to widths, grades and cross slopes. In areas where the proposed trail utilizes the Route 3 ROW; signage, restriping, and traffic signal improvements will be implemented to ensure safety.

5.2. Summary of Alternatives Evaluated

5.2.1. Null Alternative

A null alternative involves performing no action or work to the existing facilities and adjacent areas. Since there is no designated, or official trail connecting the Black River Trail trailhead on Route 3 and the unofficial trailhead on Route 26, this alternative does not meet the identified project goals and is not considered a feasible option.

5.2.2. Alternative #2– Hybrid On/Off Road Adjacent to Route 3 & Route 971V

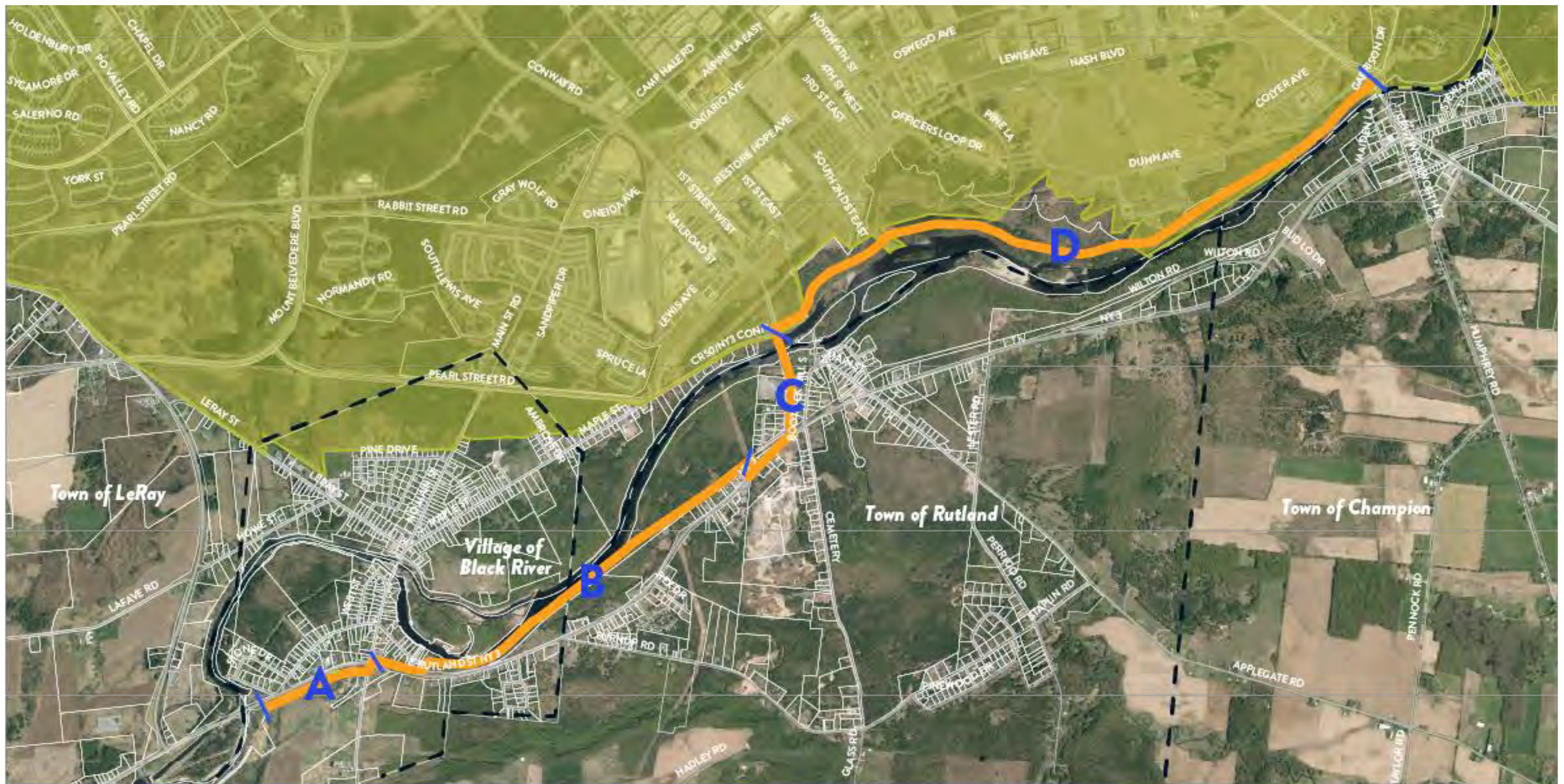
The alternative that meets the project goals while providing a more natural setting is the hybrid on/off road option which follows Route 3 to Route 971V. The off-road segment will retain the existing Black River Trail typical section of a 10ft wide multi-use path with 2ft shoulders. On-road segments will be designed as a separated shared use path along the ROW in certain locations, and utilize existing and proposed concrete sidewalks in others. Existing sidewalks that are in disrepair within the project corridor will be reconstructed. Specifically, Alternative #2

can be separated into 4 proposed segments, described below and shown on Map 5.1 on the following page:



Shoulder area within Segment A

- » **Segment A: Route 3 to Stewarts Shops On-Road:** Pedestrians will use a newly constructed separated shared use pathway from the Black River trailhead to Stewarts Shops. Striping and signage will be implemented to alert motorists of non-motorized traffic presence ensuring a safe corridor for trail users. Modifications to the traffic signal at the intersection of Route 3 and South Main Street will be required.



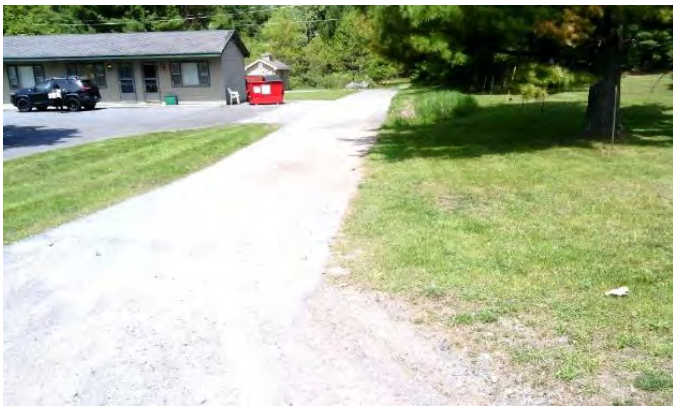
-  Alternative #2
-  Municipal Boundaries
-  Fort Drum Installation Area


0
0.5
1
Miles

Map 5.1: BRT Extension Alternative #2 Segments



Typical Conditions of Utility Access Road



Access Road adjacent to Woodland Barracks Motel



Bridge over Route 971V



Typical Conditions of Existing Trail along Segment D

- » **Segment B: Stewarts Shops to Woodland Barracks Off-Road:** The off-road segment begins at Stewarts shops and consists of 10ft asphalt paved shared use trail with 2ft shoulders. The majority of the trail will be constructed within NYS Parks, Recreation, and Historic Preservation Right-of-Way; approximately 1,400ft of trail lies within National Grid Right-of-Way and utilizes the existing 250ft utility access road to Route 3 which is privately owned. The proposed asphalt trail stops at the utility access road adjacent to the Woodland Barracks Motel on Route 3.

- » **Segment C: Route 3 to Route 971V trailhead On-Road:** Pedestrians will use a shared use pathway from the access road adjacent to Woodland Barracks Motel to the Route 971V intersection. Signage and striping will be installed to delineate the on-road trail extension. Modifications to the traffic signal at the intersection of Route 3 and Route 971V will be required. Existing sidewalks from the Route 971V bridge over Black River to the Route 3 intersection will be reconstructed to meet ADA compliance and new 5ft wide concrete sidewalks will be installed to have a continuous pedestrian walking path from the Route 3 intersection to the Route 971V trailhead.

- » **Segment D: Route 971V trailhead to Route 26 Trailhead Off-Road:** The off-road, 10ft wide asphalt paved shared use trail with 2ft shoulders continues from Route 971V trailhead to the Route 26 trailhead utilizing National Grid Right-of-Way. There is currently an existing trail maintained by the U.S. Department of Interior that the proposed trail will mostly follow. Sections of the trail will waiver from the existing trail abutting Fort Drum Right-of-Way to minimize encroachment.

5.2.3. Alternative #3B – On-Road Trail Extension via Maple Street

This option will include improvements to on-road facilities as detailed in Alternative #2 from the Black River Trailhead to South Main Street including traffic signal improvements, signage, and striping. Alternative #3B extends north onto South Main Street to the Maple Street intersection and then proceeds east via Maple Street to the Route 971V trailhead. Existing sidewalks that are in disrepair or do not meet ADA compliance will be reconstructed as part of this Alternative. New sidewalks will be installed beginning at Public Works Drive and extending east to the intersection of Maple Street and Pearl Street Road. East of this intersection, pedestrians and bicyclists will use the existing Maple Street shoulder; signage and additional striping will be installed to provide users with safe access. Alternative #3B then uses the same trail alignment as Alternative #2 to connect Route 971V to the Route 26 trailhead, as shown in the images below as well as on Map 5.2 on the following page.



Existing Sidewalk on South Main Street in the Village of Black River



Intersection of North Main Street, Maple Street, and Leray Street.




Existing Sidewalk on Maple Street looking east



Typical Route 971V shoulder width looking east



-  Alternative #3B
-  Municipal Boundaries
-  Fort Drum Installation Area



Map 5.2: BRT Extension Alternative #3B

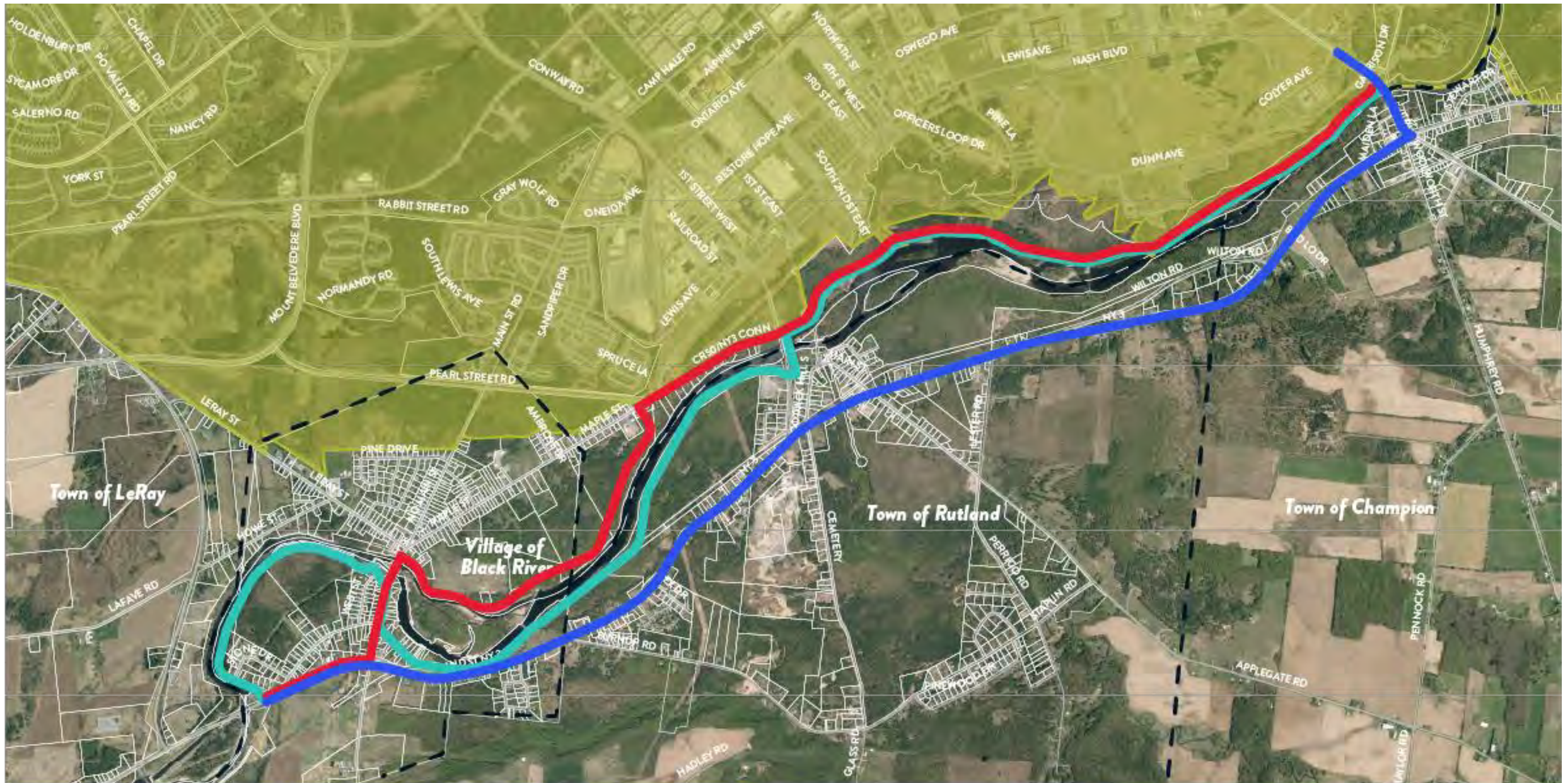
5.2.4. Eliminated Alternatives

This study evaluated a total of 5 alternatives and eliminated 3 from further analysis as they were deemed to not to conform with the Black River Trail Extension goals or faced opposition from property owners.


- » Alternative #1 crossed Route 3 and followed the Black River shoreline to South Main St, continued to East Remington Street before utilizing the same alignment as Alternative #2. This alternative faced heavy scrutiny from property owners and therefore eliminated as a viable option.
- » Alternative #3A followed the same Route as Alternative #3B up to the intersection of South Main Street & East Dexter Street; at this intersection, the trail headed east via East Dexter Street and continued as an off-road trail adjacent to the Black River. This trail also faced heavy scrutiny from property owners and therefore eliminated as a viable option.
- » Alternative #4 was a fully on-road option that utilized existing pavement shoulders extending from the Black River trailhead on Route 3 to the Route 26 trailhead. This alternative does not compliment the intent or spirit of the existing Black River trail in regards to a natural and scenic setting which diverts pedestrians, bicyclists, and non-motorized traffic away from heavily traffic roads. Additionally it is anticipated that the occurrence of motor vehicle crashes involving pedestrians and bicyclists would increase due to an influx of pedestrian traffic. Due to safety concerns and lack of a natural aesthetically appealing setting, this alternative was eliminated as a viable option.



Access to the River is one of the highest priorities of the MPO for future trail extensions.



 Alternative #1	 Municipal Boundaries
 Alternative #3A	 Fort Drum Installation Area
 Alternative #4	

Map 5.3: BRT Extension: Eliminated Alternatives

5.3. Trail Design Criteria

The Black River Trail Extension project will be designed to meet or exceed current standards and guidelines based on the following guidance:

- » American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities 2012
- » American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities 2004
- » FHWA’s Separated Bike Lane Planning and Design Guide 2015
- » Manual of Uniform Traffic Control Devices (MUTCD)
- » New York State Highway Design Manual

Critical Design Elements for the Black River Trail Extension			
Element		Standard	Proposed Condition
1	Minimum Design Speed	20 mph	20 mph
2	Shared-Use Trail Minimum Width	10'	10'
3	Shared-Use Trail Shoulder Width	2'	2'
4	Maximum Grade	5%	5%
5	Minimum Horizontal Radius	74'	74'
6	Design Superelevation		
	(minimum)	1%	1%
	(maximum)	2%	2%
7	Stopping Site Distance	195'	195'
8	Minimum Lateral Clearance	2'	2'
9	Minimum Vertical Clearance	10'	10'
10	Minimum Rail Height	42"	42"
11	Pedestrian Accommodations	In compliance with ADA guidelines and HDM Chapter 18	In compliance with ADA guidelines and HDM Chapter 18

5.4. Recommended Trail Alternative

Black River Trail Extension Alternative #2 is the recommended alternative as it maintains the intent and spirit of an off-road based trail and meets the initial goals of this study. As previously stated in Section 5.2.2, Alternative #2 is a combination of on-road and off-road trail segments that provides users with a natural setting with multiple scenic overlook areas while connecting the existing Black River Trail trailhead on Route 3 to the unofficial trailhead on Route 26 in Great Bend.

5.4.1. Trail Alignment Overview

The components of each phase of Alternative 2 is described in further detail below, and depicted on the alignment plans presented in Map 5.4 through Map 5.15.

Phase I Current BRT Eastern Terminus to Informal Route 971V Trailhead

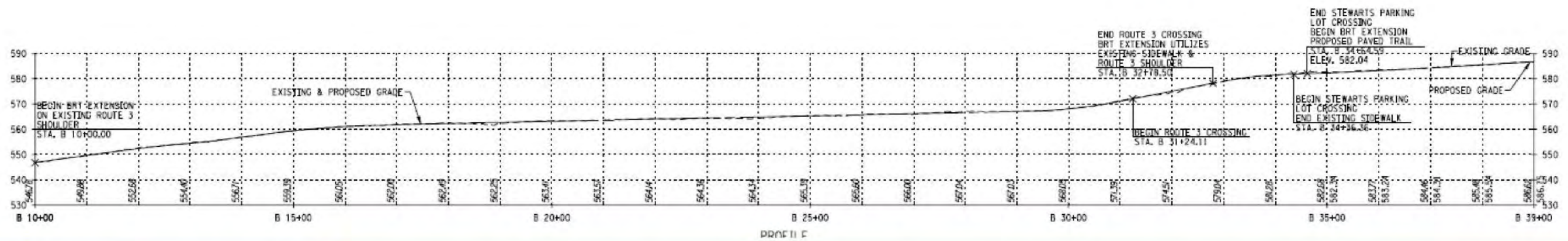
As described in Section 5.2.2, Alternative 2 begins from the easting eastern Black River Trail trailhead, and follows Route 3 on the south side of the roadway, utilizing the existing ROW to create a shared use pathway. This on-road segment will consist of shared use pathway markings and signage to create a designated space for trail users. As shown in Map 5.4, this treatment continues from Station B 10+00 to B 30 +00 – about 0.5 miles. The trail would then cross Route 3 at the South Main Street intersection in the Village of Black River. It is recommended that ADA compliant curb ramps and pedestrian signals are installed at this intersection (Map 5.5). Once the trail crosses Route 3, it quickly veers off-road; utilizing OPRHP property & National Grid ROW from Station B 45+00 to B 115+00 (Map 5.6 through Map 5.8). Within this off-road segment, retaining walls will be necessary to install between Station B 50+50 and B 51+50, as well as between B 59+00 and B 60+50. The trail then utilizes a driveway providing access to a sewer/water facility owned by the Town of Rutland. Then, the trail follows the Route 3 ROW to the Route 971V intersection, which is recommended to have the same improvements as the South Main Street intersection. (Map 5.9). From this intersection, the Trail follows along the east side of Route 971V, where existing sidewalks are located, and crosses the Black River and turns east into the informal trailhead area (Map 5.10).

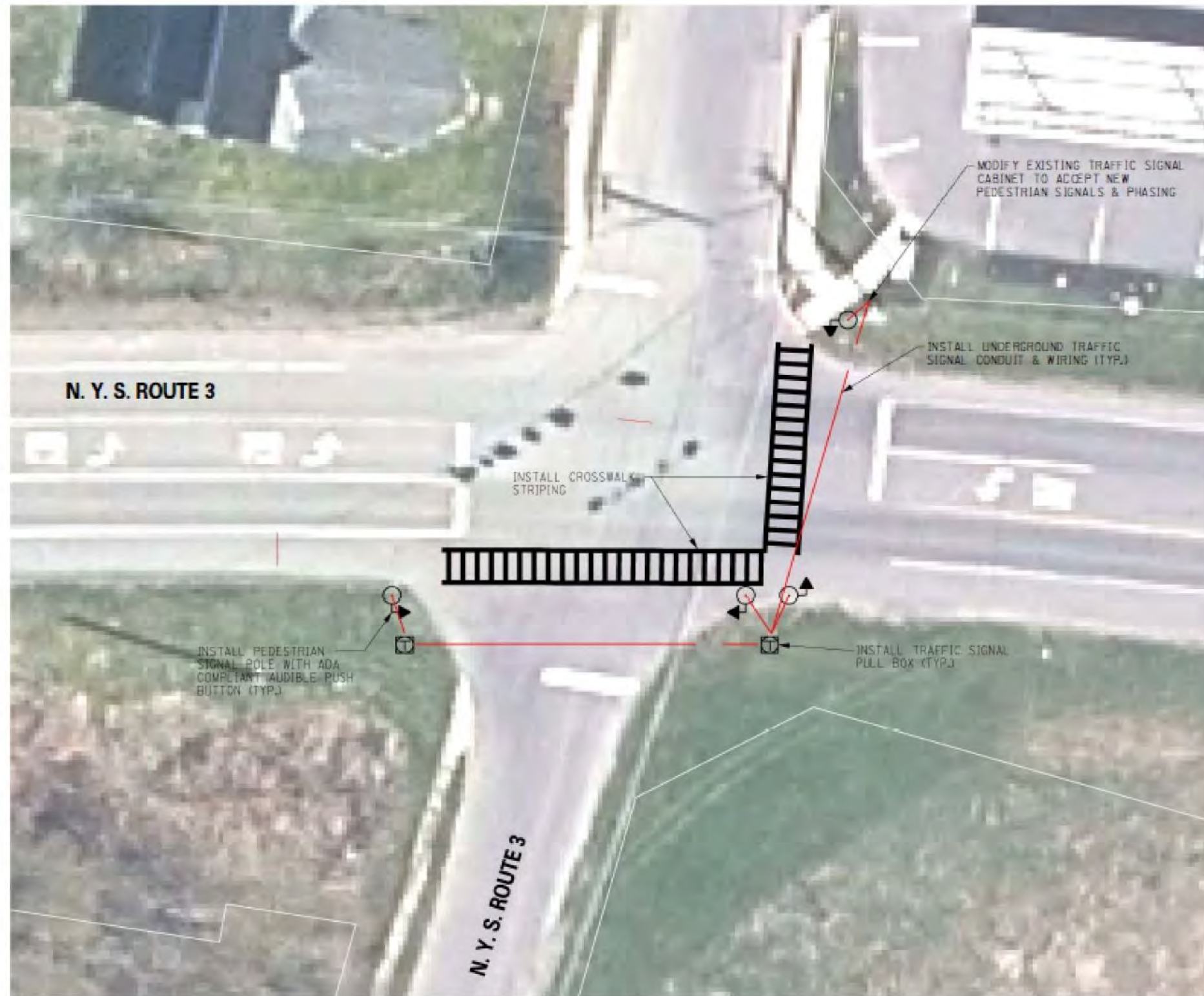
Phase II: Route 971V Trailhead to Route 26 Trailhead

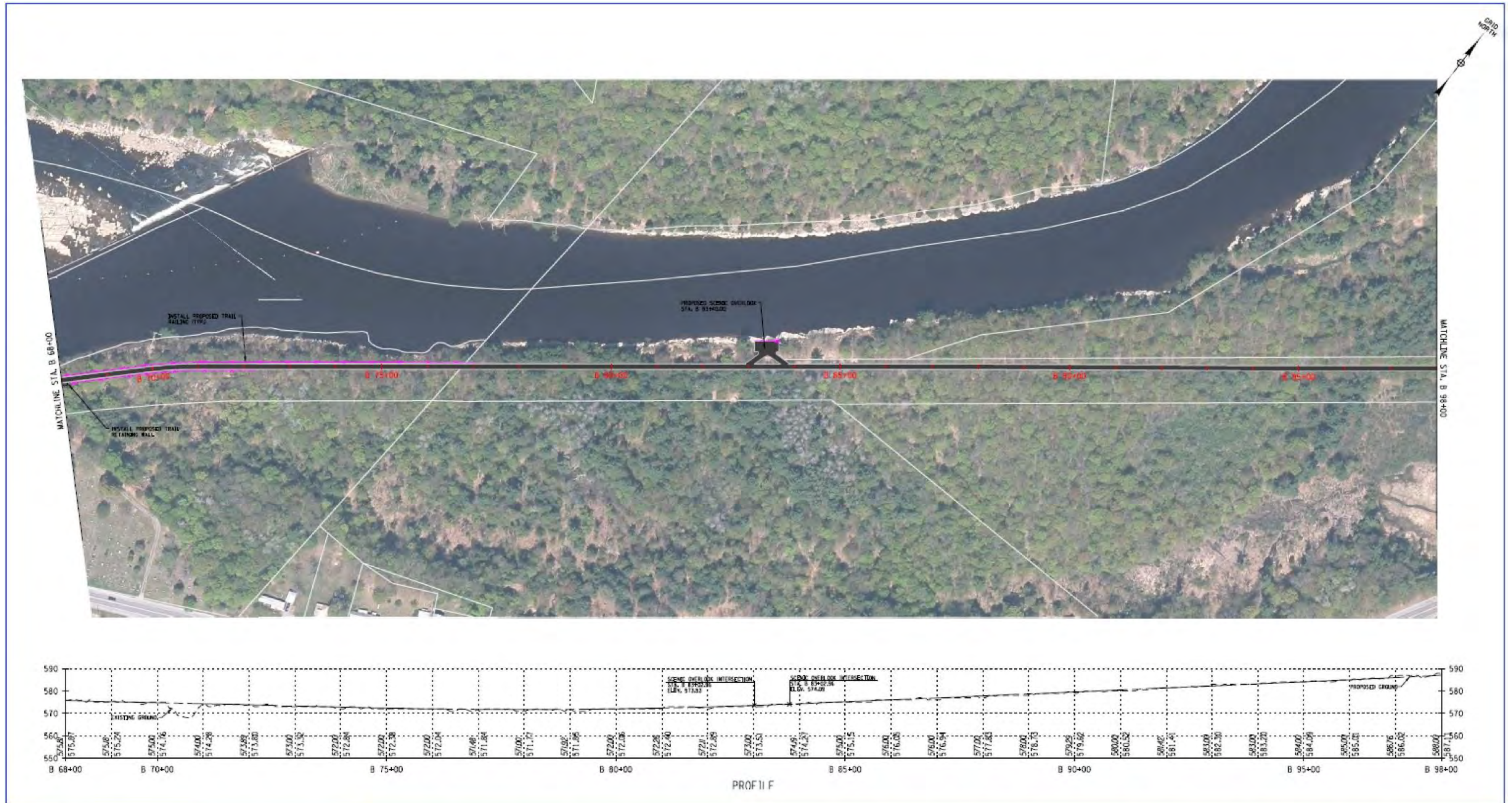
From the Route 971V trailhead, the entirety of Phase 2 utilizes the existing trail maintained by the Department of Defense. As shown on Maps 5.11-5.15, several retaining walls and railings are proposed within this phase for stability. A scenic overlook with visual access to the river is proposed near E50+64. Two drainage culverts are also recommended near stations E 50+00 and E 75+00. Additionally, a pedestrian bridge will be required between E 98+00 and E 104+00 due to issues with terrain. Another scenic overlook is proposed between E 119+00 and 120+00, with two access pathways leading from each direction of the trail. This phase of Alternative 2 requires no roadway crossings, and is entirely off-road. The alignment ends at the existing trailhead on the west side of Route 26.

5.4.2. Special Geometric Features

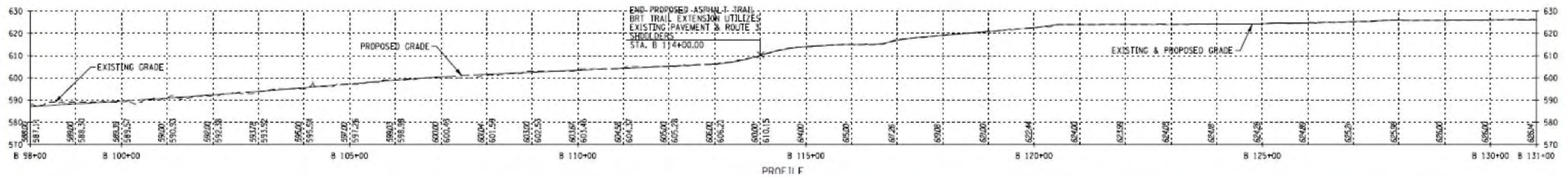
Alternative #2 includes three scenic overlook areas that provide users with a refuge area to for photography, rest, and fishing opportunities. These areas are approximately 20ft in width and vary in length.

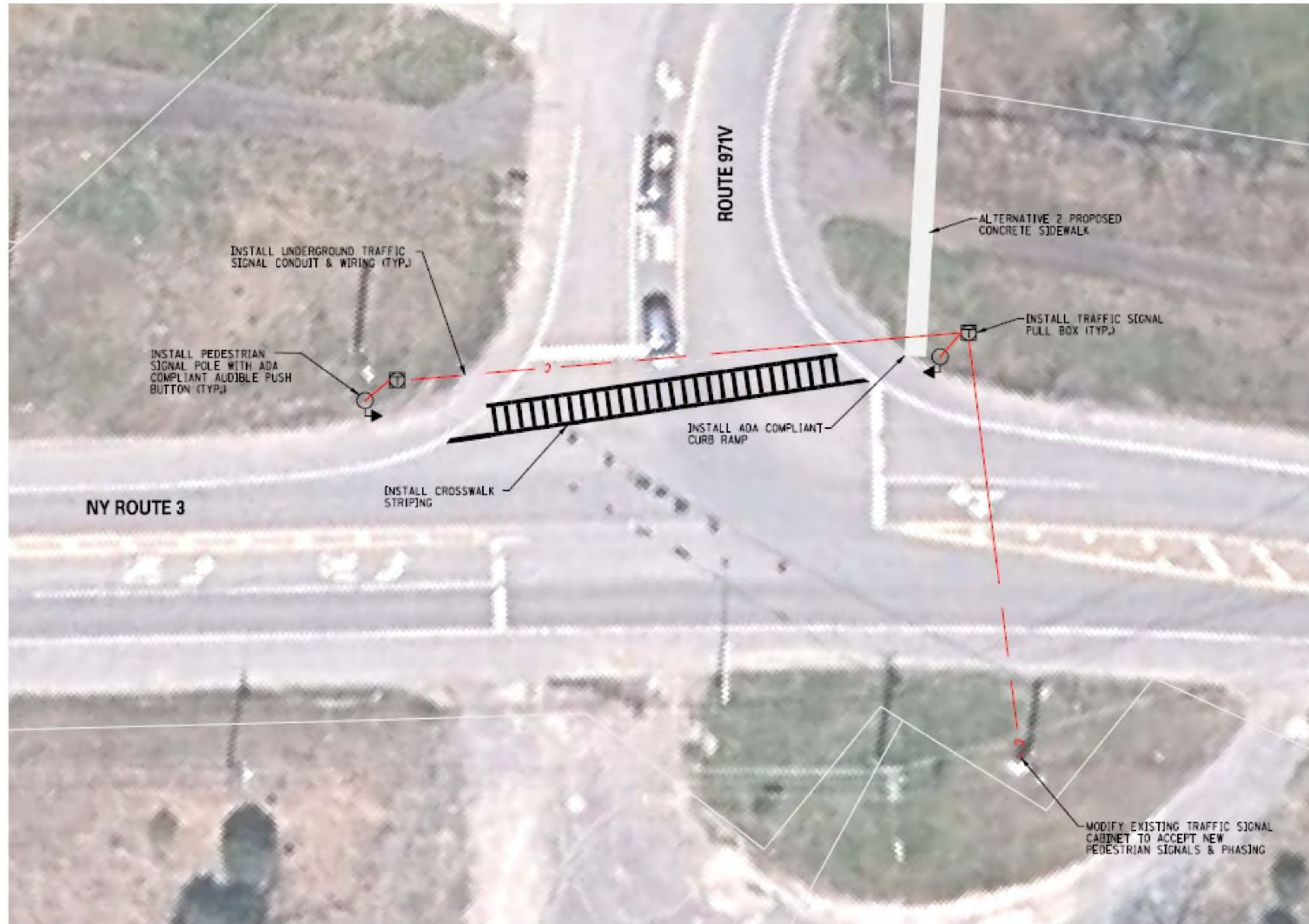




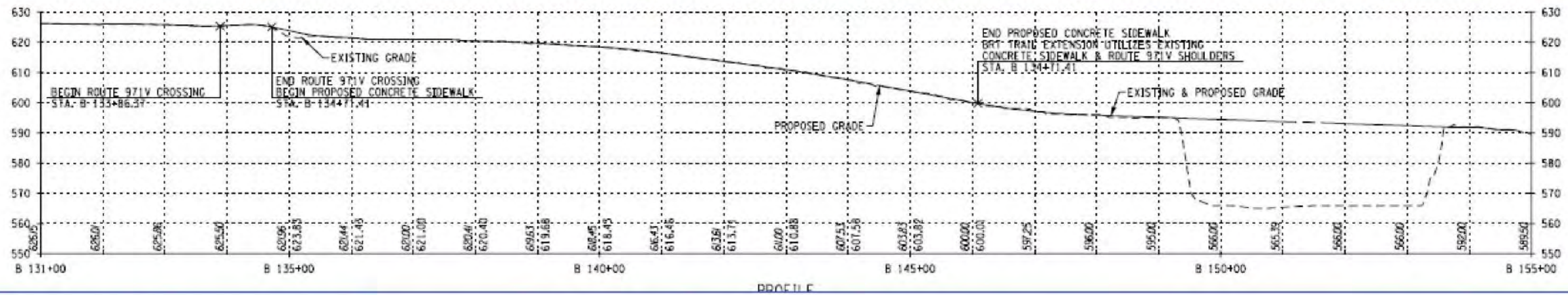


Map 5.7: Alternative 2: Plan 4 of 13 - Station B 68+00 to B 98+00

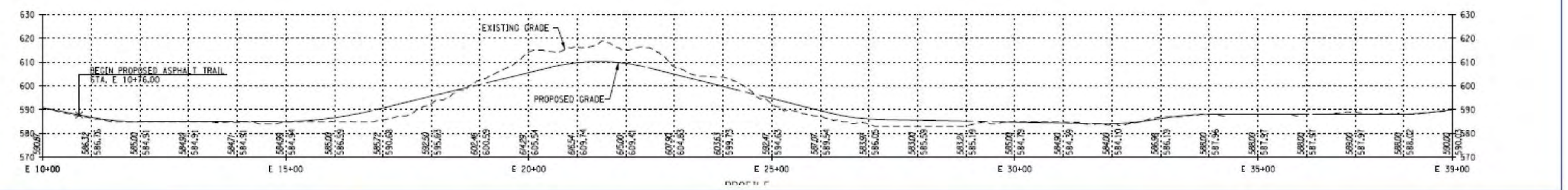




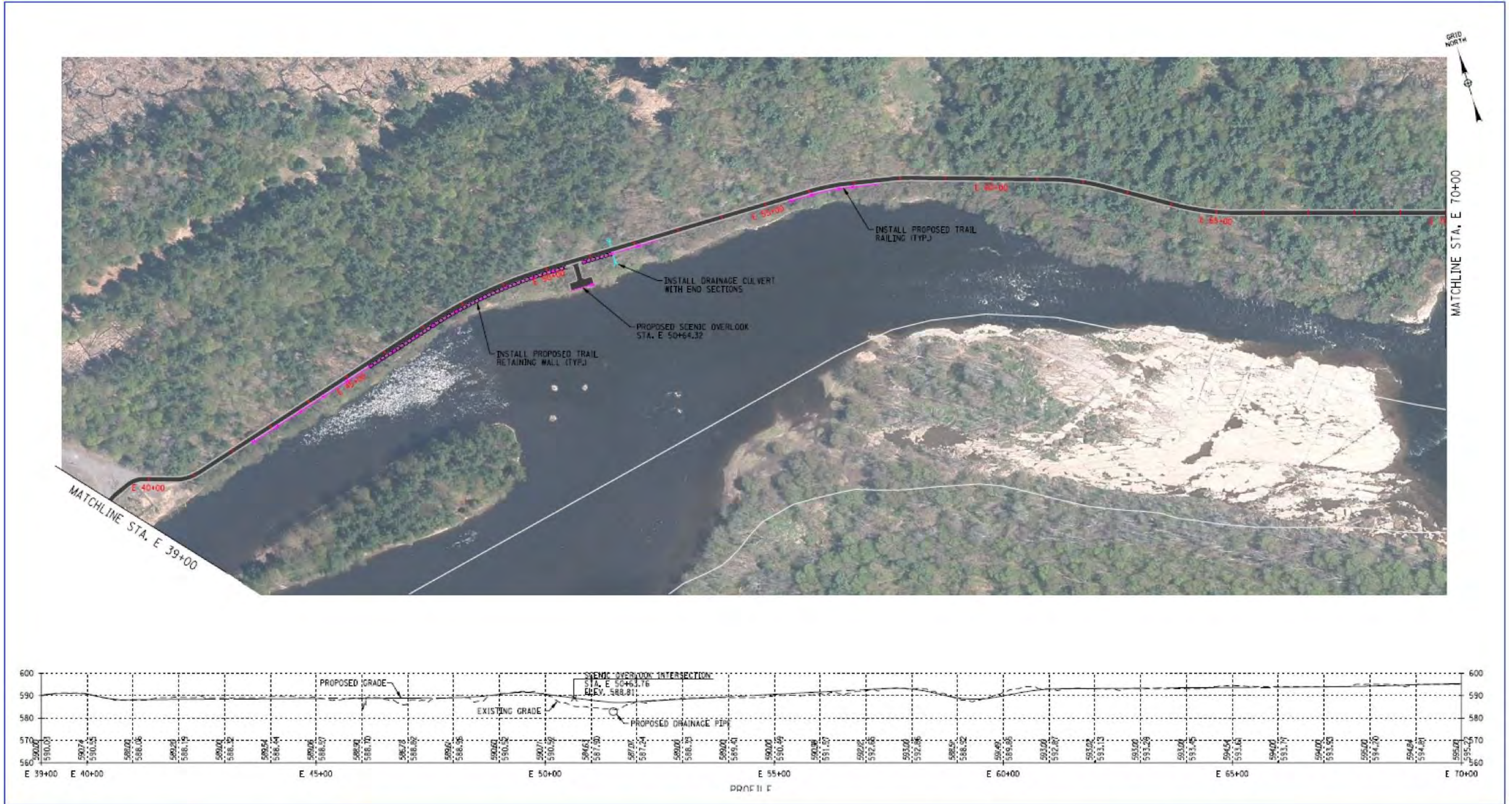
Map 5.9: Alternative 2: Plan 6 of 13 - Route 3 and Route 971V Int.



Map 5.10: Alternative 2: Plan 8 of 13 - Station B 131+00 to B 155+00

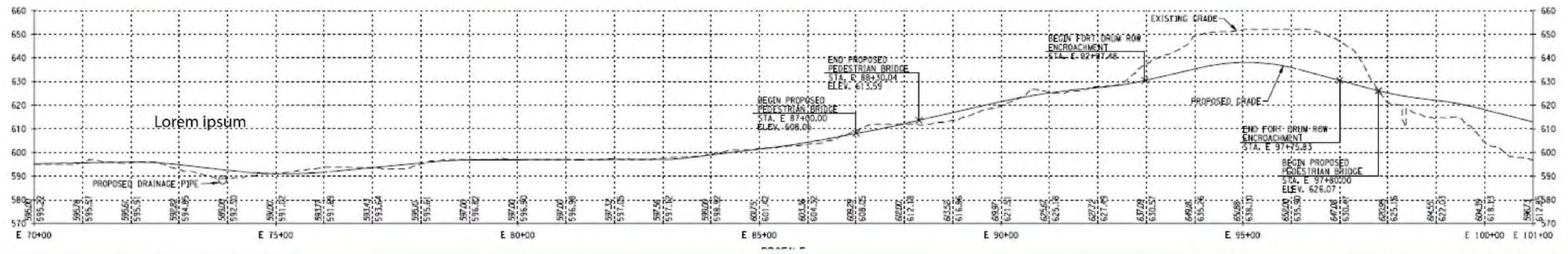


Map 5.11: Alternative 2: Plan 9 of 13 - Station E 10+00 to E 39+00

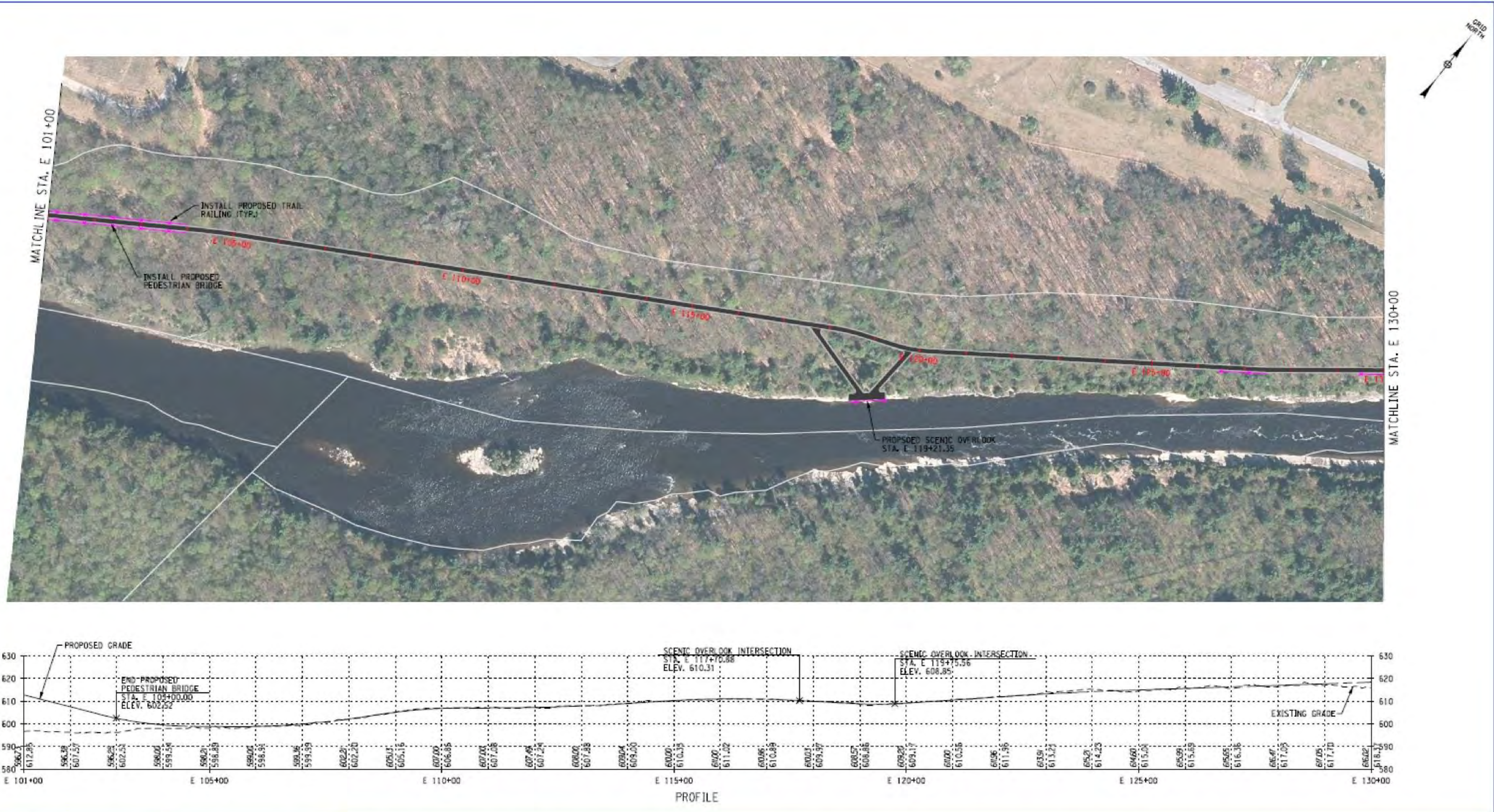


Map 5.12: Alternative 2: Plan 10 of 13 - Station E 39+00 to E 70+00

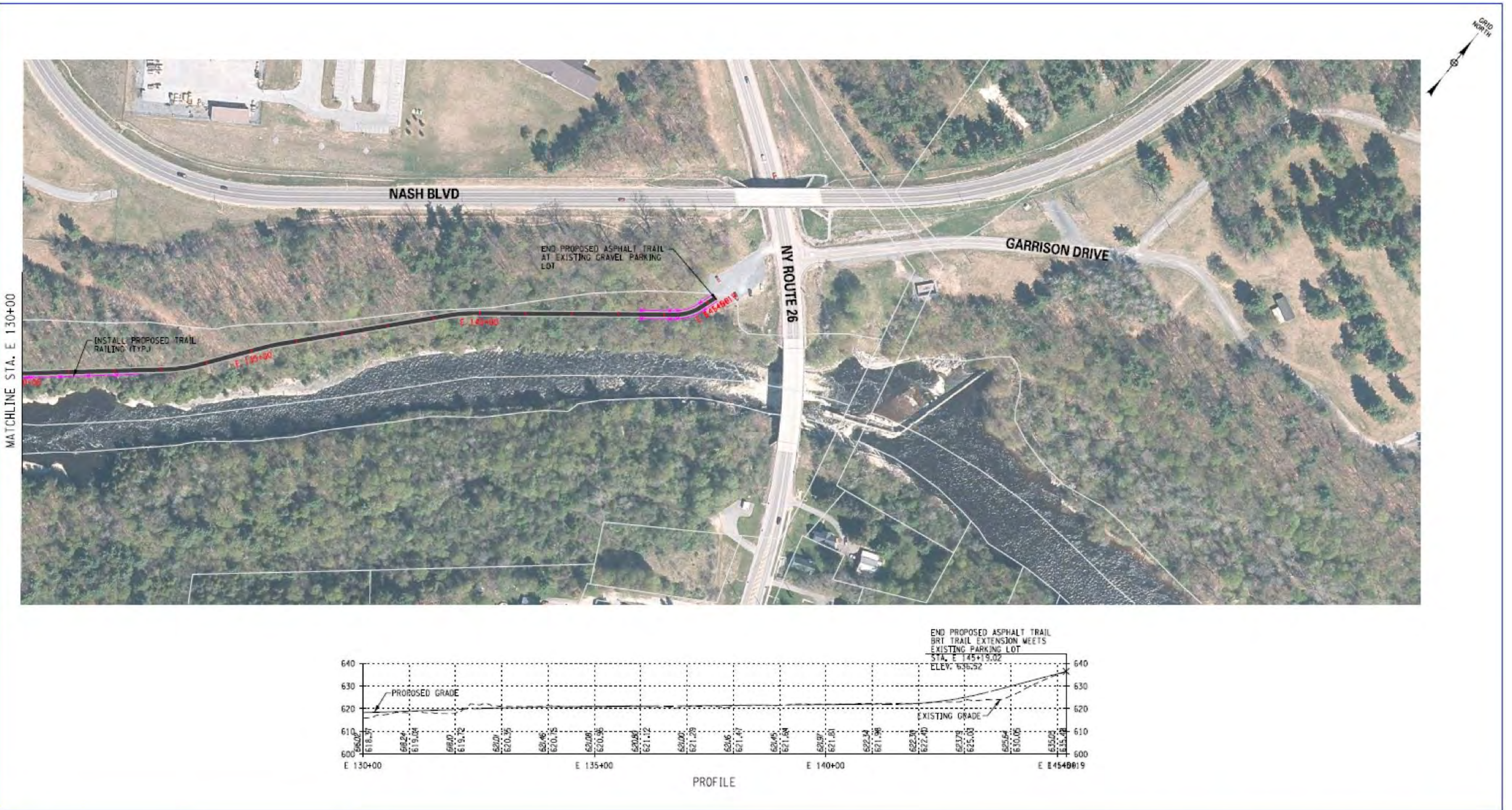




Map 5.13: Alternative 2: Plan 11 of 13 - Station E 70+00 to E 101+00



Map 5.14: Alternative 2: Plan 12 of 13 - Station E 101+00 to E 130+00



Map 5.15: Alternative 2: Plan 13 of 13 - Station E 130+00 to E 145+00



One of the scenic vistas offered on the off-road portion of the preferred alternative

5.4.3. Pedestrian and Bicycle Safety Considerations

Primary safety issues identified as part of this study include trail access control, safety devices at road crossings and intersections, and off-road trail segments.

To evaluate existing safety conditions throughout the proposed alternative corridors, a crash analysis was performed which specifically focused on crashes involving bicyclists and pedestrians. This analysis assists in determining the feasibility of the Black River Trail Extension along each proposed alternative corridor. Additionally, the analysis serves to recommend key roadway infrastructure improvements that could be implemented during the construction of the Black River Trail Extension project to increase pedestrian and bicyclist safety including but not limited to signage, striping, and pedestrian signal installations. The following corridors have been identified for a crash analysis review:

- » NY Route 3 from S. Main Street to Route 971V
- » S. Main street from NY Route 3 to Maple Street
- » Route 971V from NY Route 3 to Nash Boulevard
- » NY Route 26 from NY Route 3 to Munns Corner Road

Crash data was provided by the New York State Department of Transportation (NYSDOT) for the most recent 3-year period (January 2018 to January 2021) to determine crash trends within the corridors. These trends help assess whether roadway characteristics or lack of infrastructure increases the probability of crash occurrences. Since the intent of this project

is to provide a shared use path for pedestrians and bicyclists, the analysis specifically focused on crashes involving non-motorist traffic. Crashes that do not involve non-motorist traffic were disregarded. The table below provides a summary of the calculated mainline crash rates in comparison to statewide average rates for similar facilities provided by the NYSDOT. Mainline highway crash rates are calculated as Crashes per Million Vehicle Miles (C/MVM).

Mainline Crash Rate Comparison			
Segment	Number of Crashes	Actual Crash Rate (C/MVM)	Statewide Avg. Crash Rate (C/MVM)
NY Route 3 from S. Main Street to Route 971V	2	0.21	3.5
S. Main Street from NY Route 3 to Maple Street	0	-	3.5
Route 971V from NY Route 3 to Nash Boulevard	0	-	3.5
NY Route 26 from NY Route 3 to Munns Corner Road	0	-	3.5

Based on the review of crash data and crash rate calculations of each corridor, there are no intersections or segments which present a safety issue that would impact the construction of the Black River Trail. However, with the anticipated increase of non-motorized volumes along on-road corridors for each alternative, and the occurrence of crashes involving pedestrians and bicyclists, safety improvements are recommended to be implemented as part of this project to prevent further occurrences. Installation of additional signage is recommended to alert motorists that there are pedestrians and bicyclists traveling along the ROW. Additionally, a buffer will separate the vehicular travel lanes and the shared use path. At all intersections with proposed pedestrian crossings, ADA approved detectable warning surfaces are required to delineate the pedestrian crossings. At signalized intersections, installing pedestrian signals with audible pushbuttons would also be a beneficial safety measure to allow pedestrians with designated crossing phases to prevent conflicts with vehicular traffic. Existing pedestrian accommodations such as sidewalks and curb ramps that are in disrepair or that do not meet ADA guidelines should be reconstructed as part of this project to provide a safe walking platform without tripping hazards that might influence pedestrians to enter the roadway to avoid such deteriorated areas. Where midblock crossings are proposed, advanced warning signage and pavement markings are recommend to provide a high visibility pedestrian crossing. Additional safety measures at midblock crossings may include the installation of rectangular rapid flashing beacons (RRFB) to aid in alerting motorists of pedestrian presence in the roadway.

5.4.4. Trail Section

The proposed Black River Trail is composed of a 10'-0" wide paved asphalt trail with 2'0" gravel shoulders, the trail will tie into existing grade at a maximum slope of 33%. In areas where tie in slopes exceed 33% retaining walls will be installed to minimize the amount of impact to surrounding areas.

5.4.5. Trail Structures

The proposed trail utilizes existing utility access and walking trails to minimize the amount of earthwork and disturbance caused during construction. However in order to meet current ADA, NYSDOT, and AASHTO guidelines, certain areas require retaining walls and pedestrian bridges to prevent the limits of work from entering adjacent properties, disturbing the Black River shoreline, and reducing the amount of disturbed area and costs associated with construction.

Retaining walls will be constructed in such a way that its primary function is to serve as a structure to maintain proposed elevations and reduce the disturbance area, but will be aesthetically pleasing and retain the natural look of the adjacent area. In areas where retaining walls are to be constructed on the downward side of an existing slope, pedestrian railing will be installed to ensure pedestrian and bicyclist safety.



Existing Stream Crossing on Trail

Two pedestrian bridges are proposed on the Black River Trail Extension segment from route 971V to Route 26. Currently there is a collapsed wooden foot bridge over an existing stream that will need to be replaced with a structure that is more adequate to handle pedestrian and bicyclist traffic while being ADA compliant. The second pedestrian bridge will need to be installed due to the existing grade exceeding the maximum allowable slope and excessive disturbance limits which would encroach on the Fort Drum Right-of-Way. The pedestrian bridge will be ADA compliant with pedestrian railing allowing a raised view of the surrounding areas.

5.4.6. Drainage

The proposed Alternative #2 alignment follows an existing utility trail from the Stewarts Shops parking lot to the Woodland Barracks on Route 3. Multiple areas between the Black River dam and where the trail converges with the Route 3 shoulder East of Stewarts Shops show signs of sewer drainage issues including ponding caused by runoff from Route 3, subsurface aquifers, and excessive trail use. To correct these measures, the utility trail will be graded to maintain positive drainage flows and trail shoulders will be modified to form swales and/or rotated to ensure proper drainage flows. To account for these grading measures, storm water drainage culverts and structures will be installed; culverts will be placed in areas where there is apparent subsurface aquifers whereas drainage structures are to be installed in areas with severe ponding to provide relief for runoff. The Black River Extension segment from Route 971V to Route 26 includes 2 additional culverts that will be installed to maintain existing runoff and/or streams flow uninterrupted after the construction of this project. At the completion of this project, the culverts are anticipated to have no negative impacts on the hydraulic performance of any existing streams or runoff flows.



5.4.7. Hydrology

A Hydrologic/Hydraulic analysis will be required to design and locate proposed culverts, drainage structures, and first pedestrian bridge between Route 971V and Route 26. The analysis will be in accordance with NYSDOT HDM Chapter 8 for 50-year design storm water runoff.

5.4.8. Maintenance and Protection of Traffic for Construction

Work Zone Traffic Control will be accomplished in accordance with NYSDOT HDM Chapter 16, National Manual on Uniform Traffic Control Devices (NMUTCD) and NYSDOT Standard Sheets 619 series. Two way traffic will be maintained along adjacent roadways within the project corridor at all times. During work which involves closure of lanes or intersection improvements, flaggers will be required to maintain traffic through the work zone. At no time will overnight lane closures be permitted throughout the duration of this project. Pedestrian detours will be required during reconstruction of existing infrastructure; pedestrian traffic will be prohibited on trail segments where construction activities are taking place until the completion and final acceptance of the project.

5.4.9. Utilities

Existing utilities within the project corridor include National Grid transmission lines adjacent to Route 3 within the proposed trail limits, National Grid gas lines between Route 971V and Route 26 adjacent to proposed trail limits, overhead electric and telephone lines along Route 3, and NYSDOT owned traffic signals at the intersection of Route 3 and South Main St and the intersection of Route 3 and Route 971V.

It is anticipated that this project will require a utility permit from National Grid to perform work within their Right-of-Way.

5.4.10. Right-of-Way

The proposed trail will utilize four types of property with different ownership characteristics:

- » Public Property/Right-of-Way
 - State owned and Village/Town Streets – bicycle and pedestrian permitted use along roadway shoulders and existing sidewalks.
 - NYS Parks, Recreation and Historic Preservation Property – OPRHP supports the construction of the Black River Trail extension.
- » National Grid Property
 - Utility easements between South Main Street and Route 971V and between Route 971V and Route 26.
 - Will require additional license and/or permanent easements to construct and maintain proposed trail

- Section of existing trail from Route 971V to Route 26 currently maintained by U.S. Department of Interior
- » Private Property Owners
 - Section of existing access road from Route 971V to National Grid parcel
 - Section of proposed sidewalk extending existing sidewalk adjacent to Route 971V
 - Section of existing trail from Route 971V to Route 26
- » Fort Drum Property
 - Will require additional license and/or permanent easements to construct and maintain proposed trail
 - Section of existing trail encroaches property and extends near Fort Drum fencing
 - Proposed trail limits amount of encroachment and provides greater separation from Fort Drum fencing.

As part of this Planning Study, Tax ID’s and property owners have been identified as parcels from which property acquisition may be necessary in order to construct the trail:

ROW Acquisition Table				
Tax ID	Owner	Municipality	Approx. Acreage	Status
14.00-4-16.1	NYSRHP	Village of Black River	1.71	License Agreement
75.15-1-1	NYSRHP	Town of Rutland	0.96	License Agreement
75.15-1-2	National Grid	Town of Rutland	0.68	License Agreement
75.15-1-9	LKM Holdings LLC	Town of Rutland	0.07	License Agreement
75.12-1-22	Private Landowner	Town of Rutland	0.01	Permanent Easement
66.00-3-3	National Grid	Town of Leray	6.68	License Agreement
66.00-3-4	Private Landowner	Town of Leray	0.07	Permanent Easement
66.00-3-1	Fort Drum	Town of Leray	0.54	License Agreement

5.4.11. Environmental & Historic Resources

The proposed Alternative primarily aligns with existing utility and walking trails therefore the amount of clearing and tree removal required is minimal. Selective trees and shrubs will be removed in order to maximize safety and provide adequate vertical and horizontal clearances for the trail. Site enhancement features such as benches, signage, bollards, gates and bicycle racks will be installed at proposed scenic overlook locations, trail heads and other points of interest determined during the design phase of this project.

Plantings and other landscape materials will be used concurrently with existing features to define boundaries and direct movement of pedestrians through public spaces and away from nearby homes, businesses, and Fort Drum properties.

The Town of Rutland Cemetery is located approximately 70' to the south of the proposed trail.

5.4.12. Provisions for Pedestrians and Bicyclists

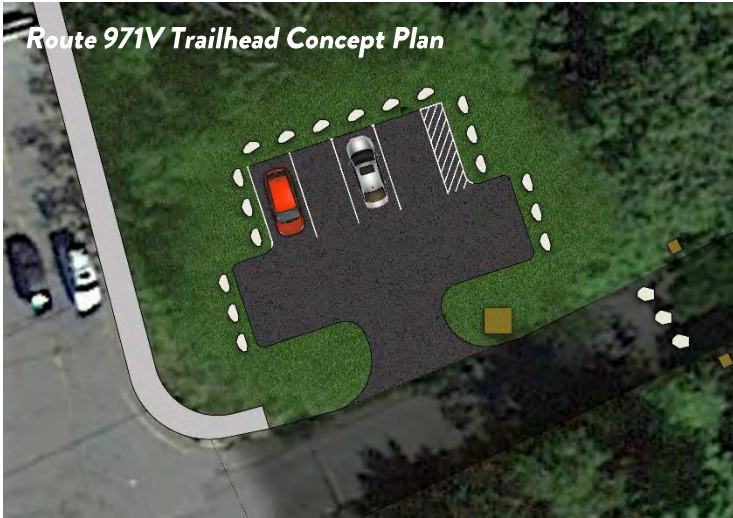
The existing facility is considered a rustic/utility trail, an unimproved recreational facility, and does not provide ADA accessible use. The proposed Black River Trail Extension will be constructed as a shared use path in accordance with the Design Standards outlined in Section 5.3 of this report and will provide ADA accessibility to pedestrians and bicyclists. All access points to the trail will be ADA accessible. All proposed roadway crossings for pedestrians and bicyclists will be located where adequate sight distance and gap in traffic is available to allow path users to safely cross the public roadway. Advanced warning signage of the proposed crossing will be provided. The project proposes to utilize a shared roadway crossing for both pedestrians and bicyclists.

5.4.13. Trailhead Signage

Formal trailheads will be established at both the informal trailheads at Route 971V and Route 26. As mentioned above, these trailheads will be ADA accessible, and contain several amenities, potentially including but not limited to:

- » Paved parking area with striped parking spots
- » Trail map
- » Signage containing safety precautions and other pertinent information
- » Gateway features

Renderings and concept plans of both the Route 971V and Route 26 trailheads are presented on the following page.



5.4.14. Project Costs

The table below details the estimated cost comparison between the two alternatives carried forward into the final evaluation as outlined previously – Alternative #2 and Alternative #3; Alternative #2/3 is applicable to both Alternatives and is Phase 2 of the trail extension project extending from Route 971V to Route 26. The components included within the cost estimates include the following:

- » **Clearing and Grubbing** – the cost to clear and/or grub vegetation within the limits of construction.
- » **Excavation & Embankment** – the cost includes all excavation and grading activities to achieve proposed design slopes and elevations, and shields and shoring.
- » **Asphalt Trail Construction** – The cost includes all items to construct the proposed asphalt trail including subbase, pavement courses, topsoil & turf establishment, tack coat, geotextile stabilization and temporary seed and mulch.
- » **Concrete Sidewalk Construction** – the cost includes all items to reconstruct existing sidewalks or install new sidewalks including concrete, subbase, and topsoil & turf establishment.
- » **Retaining walls** – the cost includes all items to install fill type retaining walls.
- » **Intersection Improvements** – the cost includes all modifications to existing signal cabinets at the intersection of Route 3 & South Main Street and the intersection of Route 3 & Route 971V. This line item also includes the cost of installing pedestrian signals, pull boxes, wiring and conduit.
- » **Drainage** – the cost to install drainage culverts and structures along off-road trail segments.
- » **Pedestrian Bridge** – the costs were determined based on previous trail projects which constructed pedestrian bridges. The cost includes the installation of structural steel, foundations, and all associated costs anticipated in the construction of pedestrian bridges.
- » **Pedestrian railing** – the cost to install pedestrian railing adjacent to areas with steep side slopes, bridges, or along waterfront areas at scenic overlook locations.
- » **Signage** – the cost to install shared use road and trail signage.

- » **Landscape Amenities** – the cost of benches, trash receptacles and other landscape infrastructure at trailheads and scenic overlook areas.
- » **Work Zone Traffic Control** – the cost to maintain traffic around and through the project site during construction. This cost also includes flagging operations and intersection control when modifying traffic signal cabinets.
- » **Survey** – the cost for the contractor to survey the proposed trail alignment to meet proposed grades.

Black River Trail Extension Planning Study Preliminary Cost Estimate			
	Alternative 2 Off-Road Hybrid	Alternative 3 On-Road via Maple Street	Alternative #2/3 Route 971V to Route 26
Asphalt Trail Length	7,950'	-	13,450'
Bridge Length	-	-	500'
Sidewalk Length	1,140'	7,070'	0'
Clearing/Grubbing	\$15,000.00	\$5,000.00	\$20,000.00
Excavation	\$129,000.00	\$40,500.00	\$324,000.00
Embankment	\$47,500.00	-	\$132,500.00
Asphalt Trail Construction	\$363,945.00	-	\$699,470.00
Concrete Sidewalk Construction	\$47,400.00	\$304,100	-
Retaining Walls	\$76,600.00	-	\$1,698,500
Intersection Improvements	\$84,390.00	\$51,050.00	-
Drainage	\$18,000.00	-	\$5,000.00
Pedestrian Bridge	-	-	\$1,000,000.00
Pedestrian Railing	\$390,000.00	-	\$480,000.00
Signage	\$5,250.00	\$3,300.00	\$3,300.00
Landscape Amenities	\$7,250.00	-	\$14,500.00
Work Zone Traffic Control	\$20,000.00	\$16,200.00	\$10,000.00
Survey	\$24,500.00	\$8,100.00	\$87,300.00
Construction Subtotal	\$1,228,835.00	\$428,250.00	\$4,474,570.00
Incidentals (10%)	\$122,884.00	\$42,825.00	\$447,457.00
Subtotal 2	\$1,351,719.00	\$471,075.00	\$4,922,027.00
Field Change Payment (5%)	\$67,586.00	\$23,554.00	\$246,102.00
Subtotal 3	\$1,419,305.00	\$494,629.00	\$5,168,129.00
Mobilization (4%)	\$56,773.00	\$19,786.00	\$206,726.00
Subtotal 4	\$1,476,078.00	\$514,415.00	\$5,374,855.00
Contingency (20%)	\$295,216.00	\$102,883.00	\$1,074,977.00
Total Project Costs	\$1,771,294.00	\$617,298.00	\$6,449,862.00