

# Preliminary Design Report - Locally Administered Project

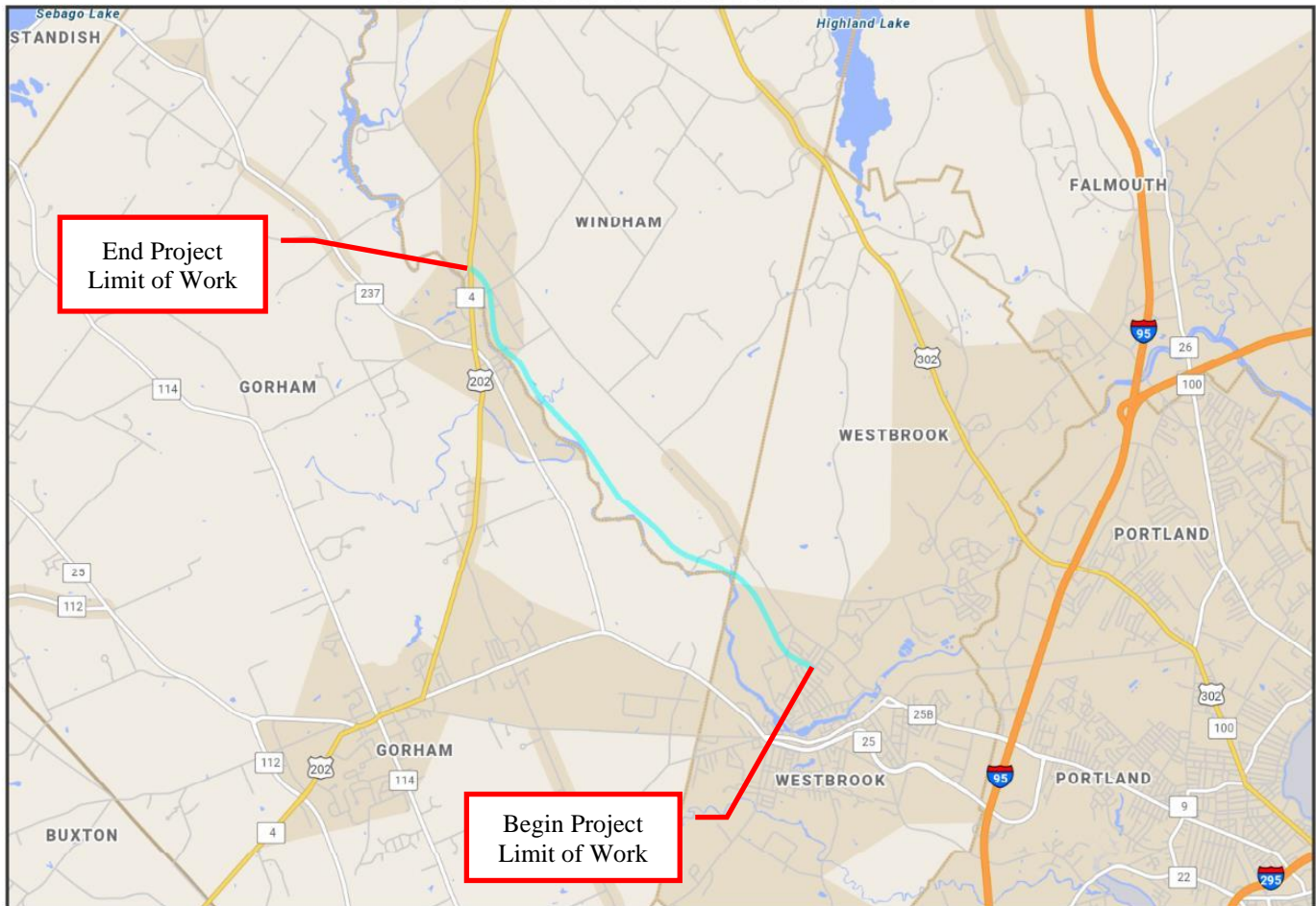
**Project Name:** Mountain Division Trail Project  
**WIN:** 26576.00

**Draft Distribution Date:** 05/12/2023  
**Final Distribution Date:**

<b>Town:</b> Westbrook & Windham	<b>Route:</b> N/A	<b>WIN:</b> 26576.00
<b>State Project No:</b> 26576.00		<b>Federal Project No:</b> N/A
<b>Project Type:</b> Trail with Rail Project (Mountain Division Railroad)		
<b>Project Location:</b> The project is located on the north side of the existing Mountain Division Railroad. The project begins at Bridge Street in Westbrook and extends north approximately 5.02 miles to Main Street (Route 202) in Windham.		
<b>Length:</b> 5.02 Miles	<b>BMP:</b> N/A	<b>Begin Latitude/Longitude:</b> 43.686058, -70.36334
	<b>EMP:</b> N/A	<b>End Latitude/Longitude:</b> 43.739074, -70.426091
<b>Program:</b> Multimodal Program - LAP		<b>Program Manager:</b> Jeff Tweedie
<b>Project Manager:</b> Jerry Dostie		<b>Designer:</b> Gorrill Palmer
<b>FHWA Oversight:</b> No		<b>Engineer of Record:</b> Jared S. Winchenbach

## LOCATION MAP

### MOUNTAIN DIVISION TRAIL



The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

2 Miles  
1 inch = 1.59 miles

Date: 3/14/2023  
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## PLANNING

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**Project History:** The project originally came about after the Town of Windham applied to the Maine DOT's Quality Community Program, seeking monies for the design and construction of the approximately 5-mile multi-use trail (see project information below). In 2012, a preliminary design and draft PDR report for the Mountain Division Trail (with Rail) Project (original WIN 019423.00) was developed and submitted to the Maine DOT, the City of Westbrook, and Town of Windham for review. The project was put on hold due to insufficient funding and has been dormant ever since. In 2022, the Town of Windham, combined with the City of Westbrook, and the Maine DOT to re-open the project as a Windham led Locally Administered Project (LAP), under a new WIN (26576.00). The project will look to update the design (to meet current standards) and progress the project to the next milestone (Plan Impacts Complete).

**Purpose & Need:** The purpose of the project is to extend the Mountain Division Trail from its current terminus at Main Street (Route 202), in Windham, approximately 5.02 miles south to Bridge Street in Westbrook. This extension will create a continuous (approximately 10-mile in total) off-road bicycle and pedestrian transportation link from Standish to Westbrook (5 miles existing trail and 5 miles proposed under this project). The project will fulfill the needs of an ever-growing population of trail users that have recognized the value of the existing trail and will benefit greatly from its extension into the City of Westbrook.

**Brief Summary of Proposed Scope of Work:** This Project entails the preliminary design of approximately 5.02 miles of a multi-use trail (with rail) facility. The project includes the design of a 10' wide (8' minimum) paved multi-use trail adjacent to the existing Mountain Division Railroad Line. This project will connect to the existing Mountain Division Trail head located at Main Street \*Route 202) in Windham, ME. Work on this project will include new pavement, gravel, curbing, drainage, signing and striping, retaining walls, fencing, and rectangular rapid flashing beacons located at the trail crossings on Bridge Street (Westbrook), Depot Street (Windham), and Main Street (Route 202) (Windham).

**Scope changes:** The project was originally scoped to go from Draft PDR to Final PSE, however, the scope has been revised to include the following:

- Added Northeast Civil Solutions (Subconsultant) to update survey and right of way files.
- Added Flycatcher LLC (Subconsultant) to complete the environmental summary and wetland flagging.
- Included additional Geotechnical design tasks for R.W. Gillespie & Associates (Subconsultant).
- Redesign the Draft PDR plans as discussed on the original project site visit (held on 10/26/2022).
- Reduced the design efforts to go up to the Plan Impacts Complete submittal instead of Final PSE.
- The project is proposing a prefabricated steel pedestrian bridge over Mallison Falls Road, a structural subconsultant will need to be brought on to complete the design of the bridge.
- Maine DOT has decided to initiate two (2) separate WINs to hire a bridge firm to evaluate the Inkhorn and Colley Wright bridges, impacts to this project will be further evaluated as these projects progress.

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## TRAFFIC

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**Intersections:** There are eight (8) proposed mid-block trail crossings within the project limits, there are no significant changes to any of the roadway footprints or intersections because of this project.

**Design Vehicle (without encroachment):** This is a trail with rail project along the Mountain Division Railroad and does not alter the geometry (or turning movements) of any intersections within the project limits.

**Design Vehicle (with encroachment):** This is a trail with rail project along the Mountain Division Railroad and does not alter the geometry (or turning movements) of any intersections within the project limits.

**Auxiliary Lanes:** No auxiliary lanes are required for this project.

### **Crash Data**

**Analysis Period:** 2020-2022: Westbrook and Windham were reviewed using the Maine DOT Crash Query Tool (for both intersections and roadway segments). Special attention was paid to areas where the existing railroad (future location of the trail) is crossing a roadway. Based on our review, there are no high crash locations within or adjacent to the project.

**High Crash Locations (including Critical Rate Factor and number of crashes):** There are no high crash locations associated with this project.

## DESIGN CRITERIA – Multi-Use Trail

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### **1. General Design Criteria:**

- a. AASHTO “Guide for the Development of Bicycle Facilities”, 2012, 4<sup>th</sup> Edition.
- b. Maine DOT “Minimum Standards for Development of Trail with Rail”, September 2014.
- c. MaineDOT “Standard Details”, March 2020, with updates.
- d. Maine DOT “Standard Specifications”, March 2020, with updates.
- e. Maine DOT “Drainage Design Practice and Procedures”.
- f. Federal Highway Administration (FHWA) and Federal Railroad Administration (FRA) “Rails with Trails, Best Practices and Lessons Learned”, March 2020.

### **Trail Design Criteria**

### **2. Geometric Layout:**

Trail geometry shall be established based on the guidelines set forth in the documents noted in section 1 (above) and as outlined below. Exceptions to these criteria may be required and will be reviewed on

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a case-by-case basis. Any deviation from the proposed guidelines that result in a non-compliant feature will be flagged to the City of Westbrook, the Town of Windham, and the Maine DOT for review.

## 1. Horizontal Geometry

- a. Trail Speed: AASHTO recommends bicycle trail design speeds between 12 to 30 mph, with a speed of 18-mph being generally accepted in relatively flat areas (<2%). Based on this information a design speed of 18-mph was used.
- b. Horizontal Alignment: The horizontal alignment will be generally constrained by the adjacent near rail of the railroad track. The Maine DOT "Minimum Standards for Development of Trail with Rail" states that the near edge of trail shall be set back a minimum of fifteen feet (15') from the near rail. Exceptions to this minimum standard may be granted to allow the near edge of trail to fall between 10.5' and 15' with approval from the Maine DOT. Lateral shifts will be proposed where applicable to minimize drainage and property impacts, as well as to improve the constructability of the trail and its features (walls, fences, etc.).
- c. Minimum Radius: The minimum radius of horizontal curvature for bicyclists is based upon a lean angle of 20°. Minimum radii based upon this lean angle is presented in AASHTO's "Guide for the Development of Bicycle Facilities" Table 5-2, for design speeds ranging from 12 to 30 mph. The minimum radius for an 18-mph design speed is 60 ft.

## 2. Vertical Geometry

- a. Vertical Alignment: The vertical alignment of the trail will be generally constrained between the existing rolling and gully-filled topography adjacent to the existing (and future) rail line. Vertical curves will be introduced where applicable to minimize drainage and property impacts, as well as to improve the constructability of the trail and its features (walls, fences, etc.). The vertical alignment will be constrained by the minimum/maximum vertical grade as well as by the minimum stopping sight distance as noted below.
- b. Minimum Grade: The minimum desirable grade is 0.5% to maintain adequate surface drainage.
- c. Maximum Grade: The maximum grade of the trail profile shall not exceed 5% to comply with current ADA standards for running slope.
- d. Stopping Sight Distance (SSD) for Crest Curves: The minimum SSD for crest curves varies and is completely dependent upon the approach grade (%). In AASHTO's "Guide for the Development of Bicycle Facilities" Table 5-4, Minimum Stopping Sight Distance, provides a formula to calculate the minimum stopping sight distance based on the speed (18 mph), the coefficient of friction (0.16 for a typical bike), and the grade of the trail.
  - o The eye height of a typical adult bicyclist is assumed to be 4.5 ft, and the object height is assumed to be 0 in. to recognize that impediments to bicycle travel exist at pavement level.

## 3. Typical Section

- a. Trail Width: The preferred trail width is 10'. The trail may be reduced to an 8' minimum for short distances where a physical barrier or right of way does not allow for the full width of the path.

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- b. Trail Cross Slope (Minimum/Maximum): The preferred trail cross slope for drainage purposes and as noted in the Maine DOT "Minimum Standards for Development of Trail with Rail" is 2.0%.
  - o The minimum trail cross slope to comply with the current ADA standards is 0.5%.
  - o The maximum trail cross slope to comply with the current ADA standards is 2.0%.
- c. Shoulder Width: The preferred shoulder width is 3' to 5'. The minimum shoulder width is 2'. Graded shoulders less than 2' in width will require a design exception from the Maine DOT.
  - o The proposed design maintains 1' shoulders and has obtained a design exception from the Maine DOT (see applicable sections):
- d. Shoulder Cross Slope: Cross slopes for trail shoulders shall be graded at 6:1 or flatter.
  - o The proposed shoulder cross slope matches the trail cross slope (2%) since the shoulders are not adequately wide to construct a separate grade.
- e. Side Slope: The preferred side slope is 4:1 or flatter, however, grades as steep as 2:1 are acceptable if fencing criteria (see applicable sections) are met. Slopes steeper than 2:1 shall be rippapped and will require approval from a licensed geotechnical engineer.

## 4. Clear Area

- a. Horizontal Clearance: 2' minimum clearance from the edge of trail will be provided with a maximum 6:1 slope to lateral obstructions such as bushes, large rocks, trees, and poles.
  - o This clearance may be reduced to 1' when a fence is installed adjacent to the path.
- b. Horizontal Clearance: 5' is desirable from the edge of path to the slope break when adjacent to canals, ditches, or other substantial obstacles.
  - o This clearance may be reduced to 1' when a fence is installed adjacent to the path.
- c. Vertical Clearance: Tree clearing, and limb removal shall be completed as necessary to provide a "clear zone" measuring 10' high by the width of the trail plus the shoulders.
  - o Clearing shall be completed up to a minimum height of 8' if 10' cannot be achieved.

## 5. Drainage Design

- a. Minimum Ditch Grades: Ditches shall be graded to have a minimum running slope of 0.3% (1.0% preferred) adjacent to the trail.
- b. Trail Grading: The subgrade and surface of the trail shall be graded to drain away from the rail line unless adequate drainage is provided by the trail developer to prevent trail runoff through the ballast structure, and providing that no impediments to normal rail line maintenance results.

## 6. Fencing Requirements

- a. A 6' fence shall be provided 1' off the proposed edge of pavement (between the proposed trail and the existing railroad) when the proposed separation between the near rail and the closest edge of pavement is between 10.5' and 15'.

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- b. A 4' fence shall be provided 1' off the proposed edge of pavement if any of the following conditions apply:
  - o The proposed side slopes are 3:1 or greater and the total height of the embankment is greater than 6' vertically.
  - o The proposed side slopes are 3:1 or greater and are adjacent to a parallel body of water (or other substantial obstacle).
  - o The proposed side slopes are 2:1 or greater and the total height of embankment is greater than 4' vertically.
  - o Proposed side slopes where riprap is present in fill and/or along the fore slopes of ditches.
  - o There is a proposed retaining wall (where the top of wall is at grade with the trail) that is running parallel with the trail.

## 7. **Trail Materials**

- a. **Trail Surface:** The trail shall be paved with a minimum of 2" of hot mix asphalt.
  - o 3" of hot mix asphalt should be considered if it is anticipated that or maintenance vehicles will be utilizing or maintaining the trail.
- b. **Shoulder Surface:** The shoulders shall be graded with loam and seed at a minimum.
  - o This project proposes using 2" of untreated aggregate surface course in the shoulders.

## 8. **Miscellaneous:**

- a. **Bollards:** Collapsible bollards will be placed at trail intersections.
- b. **Equestrian Use:** Equestrian use will be allowed on this trail.
- c. **Snowmobile Passage:** Snowmobile passage may be accommodated by removing the middle bollard during winter months.
- d. **Future Railroad Considerations:** The existing railroad ends at approximately Sta. 691+28. The trail beyond that point was designed to maintain a minimum 10.5' offset to the approximate future location of the rail as located via as-built and right of way plans.

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## DESIGN CRITERIA - Roadways

### Basic Design Controls

	Main Street (Windham)	Bridge Street (Westbrook)	Minor Roads* (25 MPH)	Minor Roads** (30 MPH)
Corridor Priority	2	4	5	5
Functional Class	Minor Arterial	Local	Local	Local
NHS/Non-NHS	Non-NHS	Non-NHS	Non-NHS	Non-NHS
Posted Speed	25 MPH	25 MPH	25 MPH	30 MPH
2023 AADT (Current)	7420	5643	2376	990
2043 AADT (Design)	N/A	N/A	N/A	N/A
DHV	N/A	N/A	N/A	N/A
Scope (choices below)	Spot Improvements	Spot Improvements	Spot Improvements	Spot Improvements
(New Construction, Reconstruction, Rehabilitation, Restoration/Resurfacing, Spot Improvement)				

\* Minor Roads (25 mph) include Pierce Street (Westbrook), Stillwater Drive (Westbrook), Rousseau Road (Windham), and Mallison Falls Road (Windham).

\*\*Minor Roads (30 mph) include Depot Street (Windham).

### Controlling Criteria

Element	Required Standard	Required Standard	Required Standard	Required Standard
	Main Street (Windham)	Bridge Street (Westbrook)	Minor Roads* (25 MPH)	Minor Roads** (30 MPH)
Design Speed	25 MPH	25 MPH	25 MPH	30 MPH
Lane Width	11' - 12'	11'-12'	11'-12'	11'-12'
Shoulder Width	3' - 5'	3' - 4'	1' - 3'	1' - 3'
Horizontal Curve Radius	154'	154'	250'	250'
Superelevation Rate	4%	4%	4%	4%
Stopping Sight Distance	155'	155'	200'	200'
Maximum Grade	8%	10%	10%	10%
Cross Slope (Travelway)	1.5% - 2.5%	1.5% - 2.5%	1.5% - 2.5%	1.5% - 2.5%
Vertical Clearance	Bridge: 15' Other: 17'	Bridge: 15' Other: 17'	Bridge: 15' Other: 17'	Bridge: 15' Other: 17'
Clear Zone	10'	10'	10'	10'

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## Typical Section

Element	Proposed Value	Proposed Value	Proposed Value	Proposed Value
	Main Street (Windham)	Bridge Street (Westbrook)	Minor Roads* (25 MPH)	Minor Roads** (30 MPH)
Lane Width	Match Existing	Match Existing	Match Existing	Match Existing
Shoulder Width	Match Existing	Match Existing	Match Existing	Match Existing
Cross Slope (Travelway)	Match Existing	Match Existing	Match Existing	Match Existing
Side Slopes*	3:1 or Flatter	3:1 or Flatter	3:1 or Flatter	3:1 or Flatter

*\*If side slope standards cannot be met, no Design Exception will be required. If not meeting side slope standards results in clear zone standards not being met, a clear zone design exception will be required.*

## DESIGN EXCEPTION SUMMARY

☐ No design exceptions are required.

### Controlling Criteria

Element	Required Standard	Proposed Value	Date Approved
Trail Shoulder Width (SW)	2.0'	1.0'	03/02/2023

**Drives and Entrances** – No driveway/entrance design exceptions have been identified at this time.

Station	Maximum Grade	Grade Change	Date Approved

## PAVEMENT STRUCTURE

### Pavement Structure Design - Roadways

Design Method	Design Guidance		DARWin 3.1	
Layer	Thickness	Type	Thickness	Type
Hot Mix Asphalt Pavement	4" or 6"	12.5mm	TBD	TBD
Recycled Layer	N/A	N/A	TBD	TBD
Base Course Gravel	N/A	N/A	TBD	TBD
Subbase Course Gravel	24"	ASBG – Type D	TBD	TBD
Shoulder Pavement	4" or 6"	12.5mm	TBD	TBD

Pavement Design Coachpoint Date: N/A

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## Final Pavement Structure Design - Roadways

Design Method	Design Guidance		DARWin 3.1	
Layer	Thickness	Type	Thickness	Type
Hot Mix Asphalt Pavement	4" or 6"	12.5mm	TBD	TBD
Recycled Layer	N/A	N/A	TBD	TBD
Base Course Gravel	N/A	N/A	TBD	TBD
Subbase Course Gravel	24"	ASBG – Type D	TBD	TBD
Shoulder Pavement	4" or 6"	12.5mm	TBD	TBD

### Comments:

Pierce Street (Westbrook), Stillwater Drive (Westbrook), Rousseau Road (Windham), and Mallison Falls Road (Windham), and Depot Street (Windham):

The current design assumes 4" hot mix asphalt (12.5mm) on 24" aggregate subbase course gravel – type "D". The only paving on the project (aside from the multi-use path, the cross trench (Stillwater Drive), the sidewalks, and the driveways) is within the existing roadway shoulders, in sawcut areas where curbing (various types) is being installed.

Main Street (Route 202) (Windham), and Bridge Street (Westbrook):

The current design assumes 6" hot mix asphalt(12.5mm) on 24" aggregate subbase course gravel – type "D".

10' Multi-use Trail:

The current design assumes 2" hot mix asphalt (9.5mm) on 12" aggregate subbase course gravel – type "D". The design assumes that maintenance vehicles will be used only in cases of emergencies and that the path will not be plowed during the winter months.

## COMPLETE STREETS COMPLIANCE

*A Complete Street provides safe and efficient access to the transportation system to all users. Each element of a Complete Street shall be considered according to the guidelines in the [MaineDOT Complete Streets Policy](#).*

**Select the Complete Streets elements incorporated into the project:**

☒ **Sidewalks**

Sidewalks along Main Street (Route 202), Bridge Street, Depot Street, Pierce Street, and Stillwater Drive will need to be reconstructed to provide ADA compliant tip downs for the multi-use trail's mid-block crossing of the referenced roadways.

☒ **Crosswalks**

Crosswalks are proposed at all non-driveway crossings as well as the proposed mid-block crossing.

☐ **Lighting (street or pedestrian scale)**

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☒ **Pedestrian Signals**

A pair of rectangular rapid flashing beacons will be placed at the mid-block crossing location of the trail at for the following roadways: Main Street (Route 202) (Windham), Depot Street (Windham), and Bridge Street (Westbrook).

☐ **Streetscaping (benches, landscaping, etc.)**

☐ **Shoulder Improvements**

☒ **Bike Lanes/Shared Use Paths**

A 10' wide multi-use trail is proposed along the north side of the existing Mountain Division Railroad Line. The trail will have fencing as noted in the Maine DOT Trails with Rails Guidance as well as the ASSHTO Guide for the Development of Bicycle Facilities.

☐ **Public Transit (bus stops, etc.)**

☐ **Other (explain)**

**Summarize:**

The proposed 10' wide multi-use trail provides a roadway (and vehicle) free trail experience similar to the Eastern Trail and/or the existing section of the Mountain Division Trail with Rail that begins at Main Street (Route 202) in Windham and continues up into Standish. The trail will connect eight (8) sideroads and multiple neighborhoods within Westbrook and Windham and provide opportunities for non-vehicular modes of transportation.

**Select the most applicable reason(s) these elements may not be incorporated into the project:**

- ☐ Use by pedestrians, bicyclists, and others is prohibited by law.
- ☐ The cost is disproportionate to the need or probable use.
- ☒ Components are outside the scope, due to the nature of the project.

**Summarize:**

Lighting, streetscaping, shoulder improvements, and public transit have not been considered at this time as they were not included in the original scope of the project.

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## ADA COMPLIANCE

*Pedestrian facilities shall be upgraded to comply with the [MaineDOT ADA Compliance Policy for Construction and Maintenance](#) and the [Minimum ADA Requirements for Pedestrian Facilities Design Guidance](#).*

**Select all that apply:**

- ☐ No pedestrian facilities exist on the project, and none will be installed.
- ☐ Existing pedestrian facilities will not be upgraded to ADA compliance based on project scope.
- ☒ New pedestrian ADA compliant facilities will be installed where none previously existed.
- ☒ Existing pedestrian facilities will be upgraded to ADA compliance unless technically infeasible.
- ☒ Pedestrian signals will be installed or upgraded if required.

**Summarize:** Based on the current Maine DOT ADA policy, the minimum improvements for this scope of work include, pedestrian facilities shall be constructed or upgraded to meet current ADA requirements within the project limits.

An ADA compliant, 10' wide multi-use trail will be constructed on the northside of the existing Mountain Division Railroad Line starting at Bridge Street in Westbrook and extending approximately 5.02 miles to Main Street (Route 202) in Windham, where it will connect to the existing portion of the Mountain Division Trail.

Sidewalks along Main Street (Route 202), Bridge Street, Depot Street, Pierce Street, and Stillwater Drive will be reconstructed to provide ADA compliant tip downs for the multi-use trail's mid-block crossing of the referenced roadways.

Rectangular rapid flashing beacons will be installed at the mid-block crossing located on the following streets: Main Street (Route 202) (Windham), Depot Street (Windham), and Bridge Street (Westbrook).

*If a new or upgraded curb ramp cannot fully comply with the [MaineDOT ADA Compliance Policy for Construction and Maintenance](#) and the [Minimum ADA Requirements for Pedestrian Facilities Design Guidance](#), an [ADA Technical Infeasibility Form](#) must be submitted for approval for each location identified.*

- ☒ No technical infeasibility forms are required to be completed at this time.
- ☐ Technical infeasibility forms have been submitted as indicated in the table below.

Curb Ramp ID/Location	Reason Full Compliance Infeasible	Date Approved

**Summarize:** Based on our review, no technical infeasibility forms are required at this time. We are currently waiting on a survey request along most of the project, we will review ADA technical infeasibility again once we receive the additional survey and submit any necessary documentation prior to the PIC submittal.

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## ENVIRONMENTAL COORDINATION

(To be completed by the Environmental Office)

**Team Member:** Danielle Tetreau (Maine DOT) and Jared Winchenbach (Gorrill Palmer)

<b>Project Scope/Description</b>	Trail with Rail Project along the Mountain Division Railroad Line.
<b>NEPA Determination</b>	TBD (Municipality led) (1).
<b>STIP Date</b>	No federal funding on this project.
<b>Section 106</b>	TBD (Municipality led) (2).
<b>Section 4(f)</b>	No federal funding on this project – does not apply.
<b>Section 6(f)</b>	TBD (Municipality led).
<b>Federal Endangered Species</b>	Northern long-eared bat: may affect, clearing amount = 14.5 AC Atlantic Salmon: no effect, no in water work. (3)
<b>State Endangered Species</b>	Unknown at this time (3).
<b>Essential Fish Habitat</b>	Atlantic salmon: no effect, no in water work (3).
<b>Fish Passage Design Review</b>	Not applicable.
<b>In-Stream Work Window/Other Construction Restrictions</b>	No construction restrictions anticipated.
<b>Hazardous Material</b>	TBD (4).
<b>Dredge Material</b>	Dredging may be required at the culvert extensions.
<b>Stormwater/MS4</b>	Municipality responsible for required approvals.
<b>DEP/LUPC</b>	Municipality responsible for required approvals.
<b>ACOE</b>	Municipality responsible for required approvals.
<b>Mitigation</b>	Not expected to be required.
<b>Other</b>	Not applicable

- 1) The NEPA process will be completed during final design.
- 2) Section 106 letters for MHPC and Native American Tribes will be sent out.
- 3) Endangered species and habitat letters will be coordinated.
- 4) MaineDOT will help determine if there are any hazardous materials in the project area.

## RIGHT-OF-WAY COORDINATION

**Team Member:** Andy Johnson (Maine DOT) and Jared Winchenbach (Gorrill Palmer)

	<b>Westbrook</b> (Sta. 500+00 to Sta. 546+73)	<b>Westbrook</b> (Sta. 546+73 to Sta. 563+70)	<b>Windham</b> (Sta. 563+70 to Sta. 588+22)	<b>Windham</b> (Sta. 588+22 to Sta. 771+74)
<b>Total Existing Width:</b>	66'	99'	82.5'	66'
<b>Total Proposed Width:</b>	Matches Existing	Matches Existing	Matches Existing	Matches Existing
<b># of Abutters:</b> There are approximately <sup>(1)</sup> 77 abutters on this project (37 in Westbrook, and 40 in Windham)				
<b># of Acquisitions:</b> We expect that the majority (60 or more) of the parcels will require temporary construction easements due to slope grading and clearing beyond the existing right of way. In addition, we expect approximately 30 or more drainage easements may be required. Some locations of permanent slope easements may also be required. We do not anticipate any permanent right of way takes will be required.				

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**# of Relocations:** None

**Building Availability:** N/A

**Reserved Limits:** None known

Additional comments:

- (1) At this time, we do not have parcel information for each property, only the railroad right of way. Additional survey and right of way information for the project is being collected at this time and will be incorporated into the plans prior to the PIC submittal.

## UTILITY COORDINATION

**Utility Coordinator:** Derrick Carlton (Maine DOT) and Jared Winchenbach (Gorrill Palmer)

**Above Ground Utilities:** At&T (Portland Office), Central Maine Power Company, Charter Communications Inc., Consolidated Communications of Northern New England Company LLC, Lighttower Fiber Networks, Maine Fiber Company, MaineCom Services, OTT Communications (South), Oxford Networks, Portland Cellular Partnership d/b/a Verizon Wireless, Revolution Networks (aka NECAP), and Revolution Networks (aka NECAP) dba Firstlight.

**Below Ground Utilities:** Brookfield Renewable Energy Partners, L.P., Buckeye Partners, Central Maine Power Company, City of Westbrook, Consolidated Communications of Northern New England Company LLC, Granite State Gas Transmission, Inc., Maine Natural Gas, Maritimes Northeast Pipeline, Portland Natural Gas Transmission System, Portland Pipe Line Corporation, Portland Water District, the Town of Windham, and Unitol Corporation.

**Railroads:** Maine DOT Railroad, and Springfield Terminal Railway.

	<b>Necessary for this Project? (Yes or No)</b>	<b>Coordination Still Needed? (Yes or No)</b>
<b>Pole List:</b>	Yes	Yes
<b>Utility Agreements:</b>	TBD	Yes
<b>RR PRTS:</b>	TBD	Yes
<b>Railroad Agreement:</b>	TBD	Yes

**ROW issues related to utilities:** No right of way issues related to utilities have been identified at this time.

## GEOTECHNICAL COORDINATION

*(To be completed by the Geotechnical Section)*

**Team Member:** Kate Maguire (Maine DOT)

**Available Soils Information:** N/A

**Additional Borings Required?** Yes, R.W. Gillespie & Associates, Inc. is completing borings at wall locations as well as areas of steep fills.

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**Additional Geotechnical Analysis Required?** Yes, R.W. Gillespie & Associates, Inc. is evaluating conditions at wall locations as well as areas of steep fills.

**Comments by Geotechnical Engineer:** TBD

**Are foundations for Overhead Sign Structures, Traffic Signals or Lighting Required?** No, the only foundations that are set to be installed on the project are the 20-inch diameter foundations for the rectangular rapid flashing beacons.

## PUBLIC PROCESS

**Proposed Public Contact Method and Date(s):** Public Meeting is set for 7:00pm on May 31, 2023. The meeting will be in person at the South Windham Fire Station (33 Main Street, Windham) as well as online Via Zoom.

**Concerns Identified at Preliminary Public Meeting:** TBD

## M&O ISSUES /CONCERNS

None anticipated at this time.

## CONSTRUCTION SCHEDULE

PS&E Date	01/29/2025
Advertise Date	02/26/2025
Construction Begin Date	TBD
Construction Complete	TBD

## TAME RESULTS *(Transfer results from returned Tame Request Form)*

Morning Restrictions	TBD
Evening Restrictions	TBD
Maximum Closure Length	TBD
Minimum Lane Width	TBD

**Additional Comments:** This information will be acquired prior to the Final PDR Submittal.

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## BUDGET

	Programmed	Available	PDR Estimate
Date	07/25/2022	07/25/2023	05/12/2023
Preliminary Engineering	\$450,000.00	\$450,000.00	\$750,000.00
Right of Way	\$0.00	\$0.00	\$350,000.00
Construction	\$0.00	\$0.00	\$9,020,000.00
Construction Engineering	\$0.00	\$0.00	\$750,000.00
Other	-	-	
TOTAL	\$450,000.00	\$450,000.00	\$10,870,000.00
Total Cost per Mile:	-	-	-
Funding Strategy (Sources):	This project is not funded for construction, PE only.		

## SUMMARY OF PRELIMINARY ENGINEERING

### Alternatives Analysis

*(This may only be applicable to some projects, such as Large Culverts, Rehabilitations, and Roundabouts.)*  
This section is not applicable to this project.

### Design Variances

*(Discuss design elements that do not meet standard but do not require a formal design exception)*  
There are no design variances that have been identified at this time.

### Proposed Design Elements

*(Discuss existing vs. proposed condition)*

### **Horizontal Alignment:**

The horizontal alignment for the trail was derived as a balance between the existing (and future) railroad and the Maine DOT Right of Way, using the AASHTO "Guide for the Development of Bicycle Facilities", 2012, 4<sup>th</sup> Edition design standards. As much as possible the design is a standard offset from the construction baseline (nearest rail). The horizontal alignment works with the profile to minimize cuts and fills by working its way along the ridgelines and down into the ravines of the project. The meandering sections of trail will add interest and engage trail users in addition to its cost and resource savings.

The trail is proposed on the north side of the existing (and future railroad) up until Sta. 759+50, where it utilizes an existing Fire Department Access Road to cross the future railroad. This crossing is important as the existing Mountain Division Trail at Main Street (Route 202) is on the south side of the railroad. We believe that crossing back at the access road provides a safe transition and allows the perpendicular crossing of Main Street.

The actual location of the trail, river side versus non-river side was determined during the original design completed by HNTB in 2012.

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## **Vertical Alignment:**

The vertical alignment of the trail was guided by the AASHTO “Guide for the Development of Bicycle Facilities”, 2012, 4<sup>th</sup> Edition design standards. The profile was designed to increase the constructability of the project (therefore helping keep costs down) and create an engaging profile for trail users to maximize their experience. There are no variances from the vertical geometry design standards noted previously.

## **Typical Section:**

Pierce Street (Westbrook), Stillwater Drive (Westbrook), Rousseau Road (Windham), and Mallison Falls Road (Windham), and Depot Street (Windham):

The current design assumes 4” hot mix asphalt (12.5mm) on 24” aggregate subbase course gravel – type “D”. The only paving on the project (aside from the multi-use path, the cross trench (Stillwater Drive), the sidewalks, and the driveways) is within the existing roadway shoulders, in sawcut areas where curbing (various types) is being installed.

Main Street (Route 202) (Windham), and Bridge Street (Westbrook):

The current design assumes 6” hot mix asphalt(12.5mm) on 24” aggregate subbase course gravel – type “D”.

## Sidewalks:

The proposed typical section will include a 2’ pavement sawcut and gravel box, new type 1 vertical granite curb or curb type 3, and a 5.5’ wide bituminous sidewalk on 12” aggregate subbase course gravel – type “D”.

## 10’ Multi-use Trail:

The current design assumes 2” hot mix asphalt (9.5mm) on 12” aggregate subbase course gravel – type “D”. The design assumes that maintenance vehicles will be used only in cases of emergencies and that the path will not be plowed during the winter months.

## **Pavement Structure:**

Pierce Street (Westbrook), Stillwater Drive (Westbrook), Rousseau Road (Windham), and Mallison Falls Road (Windham), and Depot Street (Windham):

The proposed pavement structure is 4” hot mix asphalt (12.5mm).

Main Street (Route 202) (Windham), and Bridge Street (Westbrook):

The proposed pavement structure is 6” hot mix asphalt (12.5mm).

## 5.5’ Sidewalks:

The proposed pavement structure is 2” hot mix asphalt (9.5mm).

## 10’ Multi-use Trail:

The proposed pavement structure is 2” hot mix asphalt (9.5mm). The design assumes that maintenance vehicles will be used only in cases of emergencies and that the path will not be plowed during the winter months.

## Residential Drives:

The proposed pavement structure is 2” hot mix asphalt (9.5 mm).

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## **Drainage/Hydrology:**

Multi-use Trail: The trail will utilize the existing railroad ditch, existing cross pipes (under the railroad), and existing catch basins and cross culverts along the roadways to address drainage on this project. Drainage improvements include new catch basins, revised ditch grading (to ensure positive flow), extensions to existing culverts as well as new culverts and pipes. The at-grade railroad crossing is proposed at an existing access road to ensure that no new crossings were created by the project.

Longitudinal drainage of the trail was a challenge given the rolling terrain of the exterior topography, matched with the relatively consistent grades of the rail bed. Ditches were used to keep the ballast freely draining between the trail and rail. New basins or open-ended culverts gather the ditch flow and transfer it to the exterior of the trail where it finds the existing drainage low points and is conveyed to the Presumpscot River.

## **Guardrail:**

There is no guardrail associated with this project.

## **Intersection Geometry:**

There are no proposed intersection modifications under this project. There will be six (6) new mid-block crossings (Depot Street and Main Street (Route 202) have existing mid-block crossings) associated with this project however, the existing curb line offset will remain unchanged.

There were sight distance concerns at the Mallison Falls Road at-grade crossing previously proposed in the 2012 Draft PDR plans. The proposed plan calls for a 40' prefabricated steel pedestrian bridge at this location to alleviate concerns with the at-grade crossing.

## **Right-of-Way:**

We are working on collecting additional survey and right of way information for this project to have a more accurate depiction of the proposed right of way impacts.

Numerous retaining walls have been removed from the original Draft PDR design (2012) to reduce project costs and increase the project's constructability. The results of this change can be seen in an increased number of construction easements that will need to be obtained. At this time, there are approximately 60 proposed construction easements (parcels requiring temporary grading rights) identified for this project. In addition, there are approximately 30 drainage easements that are required for the project. Some locations of permanent slope easements may also be required. We do not anticipate any permanent right of way takes will be required. This section will be updated once property lines are collected, and the right of way is updated. Further coordination may be required if utility pole relocations are needed during final design, which may result in additional Right of Way impacts. Pole locations and ROW Impacts will be determined prior to the Plan Impacts Complete (PIC) submittal.

## **Utilities:**

Distribution of utilities exists only in the areas of local road crossings. They consist of the Typical water, gas, sewer, storm drain and the associated aerial utilities. Whereas the trail crosses at grade at all these locations, utility conflicts have been minimized. Transmission types of utilities do exist in the midst of the project. CMP has two (2) transmission corridors crossing the trail but both of which the trail does not impact. The Portland

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Natural Gas Transmission System (PNGTS) crosses the trail; within the 500' right of way belonging to CMP. The Depth of the main is approximately 7' under the railroad. The trail crosses the gas main at grade; therefore, the trail does not impact this facility.

**Other Design Issues:** Based on the email sent from the Maine DOT on March 24, 2023, the Maine DOT will be hiring a structural firm to complete a review of the existing Inkhorn Brook and Colley Wright Brook Bridges. Additional coordination will be required based on the findings of the analysis.

## **DRAFT PDR DISTRIBUTION TEAM COMMENTS AND RESPONSE**

*(Minor edits and corrections can be made to the body of this document above without reference in this section. More significant comments that result in design or other changes should be noted in this section before the Final Distribution.)*

**Comments:**

<b>Comment Deadline</b>	<b>Date:</b>
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## **APPROVALS**

### **Local Agency Approval**

<b>Preliminary Design Report Complete</b>		<b>Date:</b>
<b>LPA certified official</b>		

### **MaineDOT Approval**

<b>Preliminary Design Report Complete</b>		<b>Date:</b>

***For Large Culvert Projects, Preliminary Design Report Complete also signifies Plan Impacts Complete.***