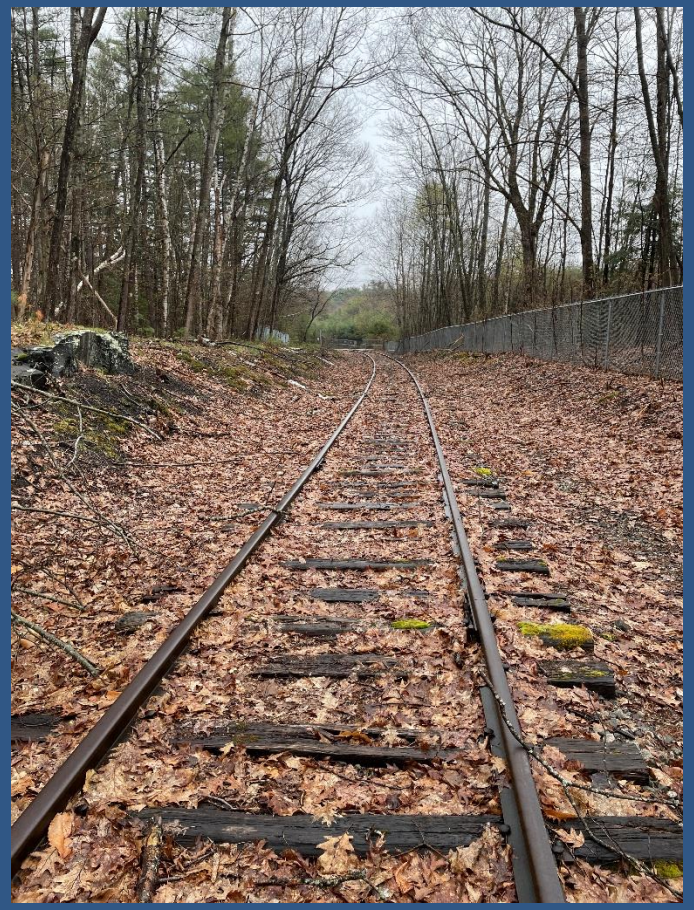


Mountain Division Rail Corridor Interim Trail – Standish to Fryeburg Planning Feasibility Study WIN 026858.00

Dakota Hewlett
MaineDOT Project Manager

Lori Driscoll, P.E.
HNTB Project Manager

MaineDOT

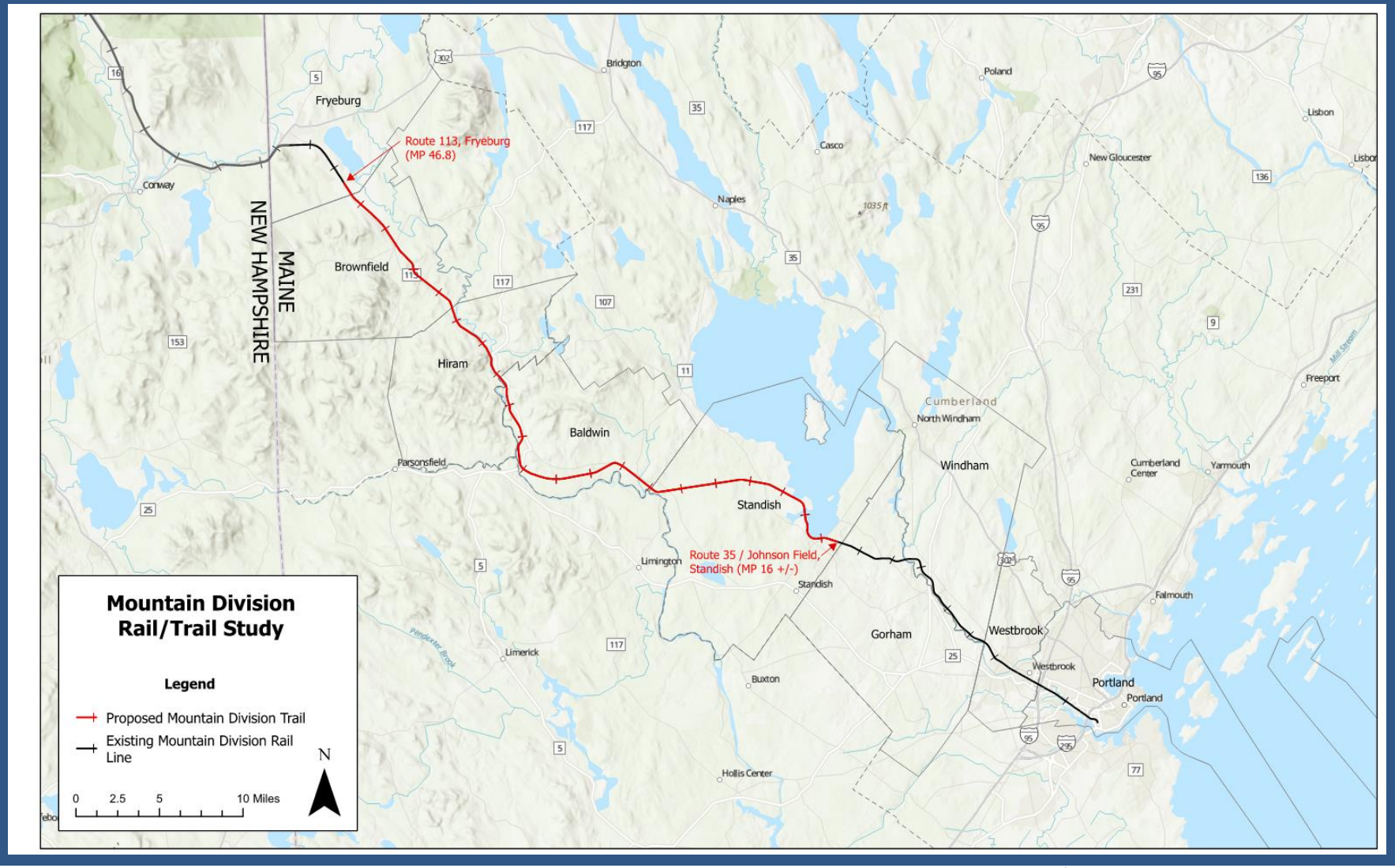
PROJECT DESCRIPTION

- Feasibility Study to investigate converting a 31-mile section of the inactive Mountain Division Rail Corridor to an interim use off road shared-use path/trail.

- The report covers:
  - technical aspects of the trail design
  - condition of the existing bridge structures
  - trail alternatives through Portland Water District's (PWD) property
  - evaluation of possible trail segments and sequence of construction

PROJECT LOCATION AND LIMITS

Generally, following the Mountain Division Rail Corridor from Route 35 (near Johnson Field) in Standish, through Baldwin, Hiram, Brownfield and ending at Route 113 in Fryeburg.



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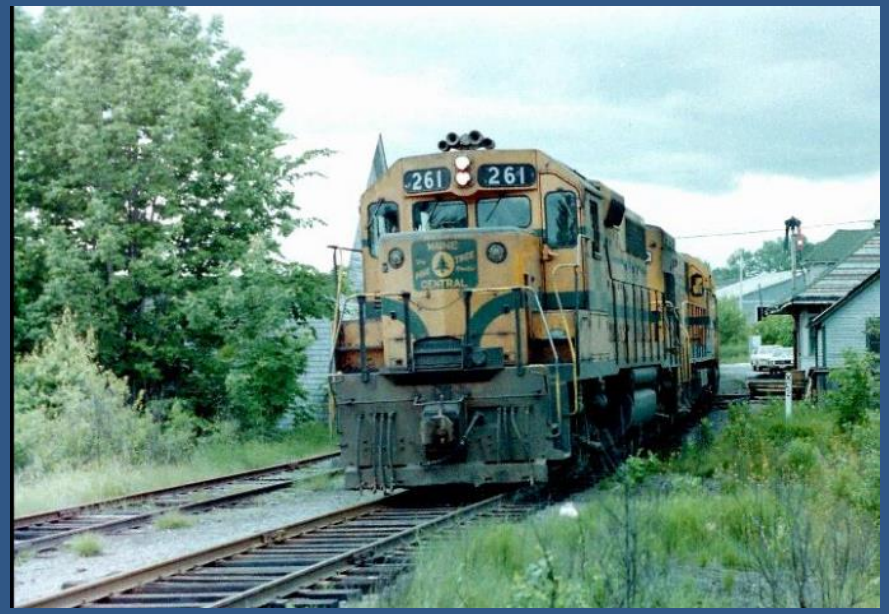
PROJECT HISTORY

- In 2007 HNTB Corporation authored a report for the MaineDOT Office of Freight Transportation.
- The purpose of the report was to investigate the viability of utilizing the Mountain Division Rail Corridor for the following potential uses:
  - local freight service
  - commuter service to Portland
  - tourist and excursion service
  - combination of some of the above

- The report concluded that passenger rail was not feasible, and freight rail was only feasible under ideal conditions.



PROJECT HISTORY

In March 2021, Legislative Documents LD 672 and LD 1133 created a Rail Use Advisory Council (RUAC) to evaluate the feasibility of three potential uses of 31-miles of the inactive Mountain Division Rail Corridor:

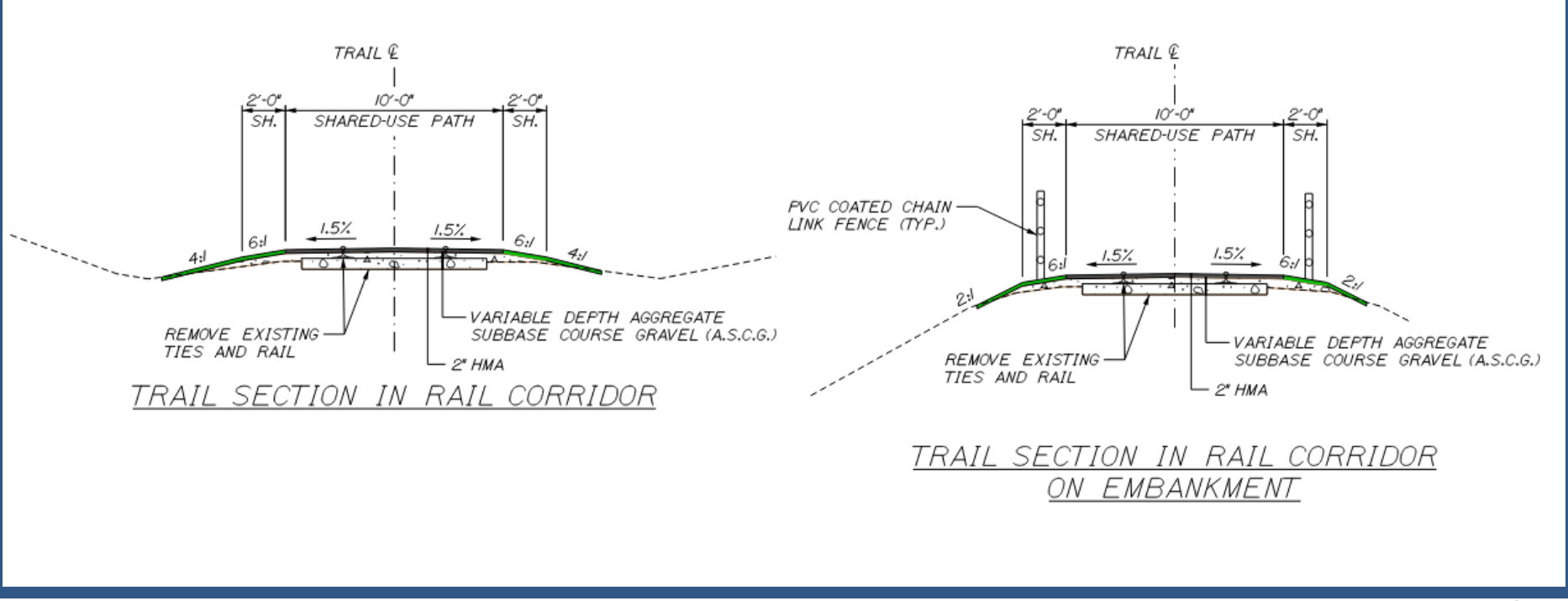
1. Rail
2. Trail only on the existing rail bed
3. Rail with an adjacent trail

2022 Feasibility Study conducted by HNTB Corporation, resulted in the RUAC voting for Option 2 Trail Only on the existing rail bed. Per LD 1133 any non-rail use of the Mountain Division corridor will be considered *interim in nature* and the corridor must be preserved for future rail use.

TECHNICAL ASPECTS – Typical Section

- The Shared Use Path (SUP) will be 10’ wide with 2’ grass shoulders.

- In areas of steep sideslopes, there will be a fence or some sort of barrier within the 2’ grass shoulder.



TECHNICAL ASPECTS – Typical Section

- The railroad ties are in poor condition and would need to be replaced if train operation resumes, therefore the ties and rails will be removed (except on bridge structures) before path construction.
- The ballast will remain in place and will provide a solid base for the path. The path will be constructed approximately six inches above the existing ballast elevation. Aggregate subbase gravel will be placed over the ballast to achieve the increased height.
- The path surface will be paved or stone dust for a surface treatment.
- On bridge structures, the ties in poor condition will be replaced to accommodate timber bridge decking.

TECHNICAL ASPECTS – Alignment

- The path is proposed to be constructed on the existing rail bed (except for the path segment through PWD's property in Standish).
- The proposed profile will generally follow the profile of the existing rail corridor which is generally flat.
- The steepest grade on the corridor is 1.6%, flatter than the maximum grade suggested for bicycle facilities.

TECHNICAL ASPECTS – At Grade Road Crossings

- The path will cross 25 roadways at grade along the 31-mile corridor.
- Each crossing will be evaluated individually during design for sight distance.

TECHNICAL ASPECTS – Structures

- 13 numbered railroad bridge structures with spans of nine (9) feet and longer.
- Inspected every five (5) years since the railroad corridor is inactive.
- A desktop review of bridge inspection reports and a site visit were conducted to evaluate repair needs and costs.

TECHNICAL ASPECTS – Structures

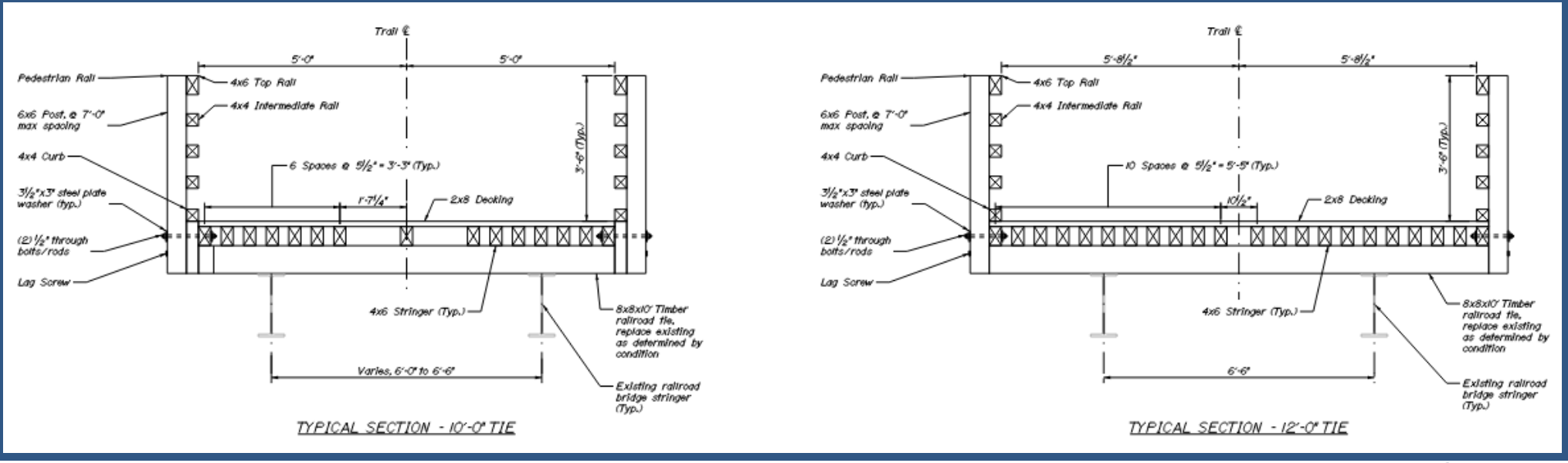
Repairs will include:

- Replacement of structurally deficient railroad ties
- Conversion of the open tie deck to closed decks with timber rail
- Repair of substructures that are exhibiting stability loss or undermining

TECHNICAL ASPECTS – Structures

Proposed Bridges:

- Design loads for a pedestrian bridge are much less than for a railroad bridge
- Selective replacement of timber ties (based on condition) before adding decking



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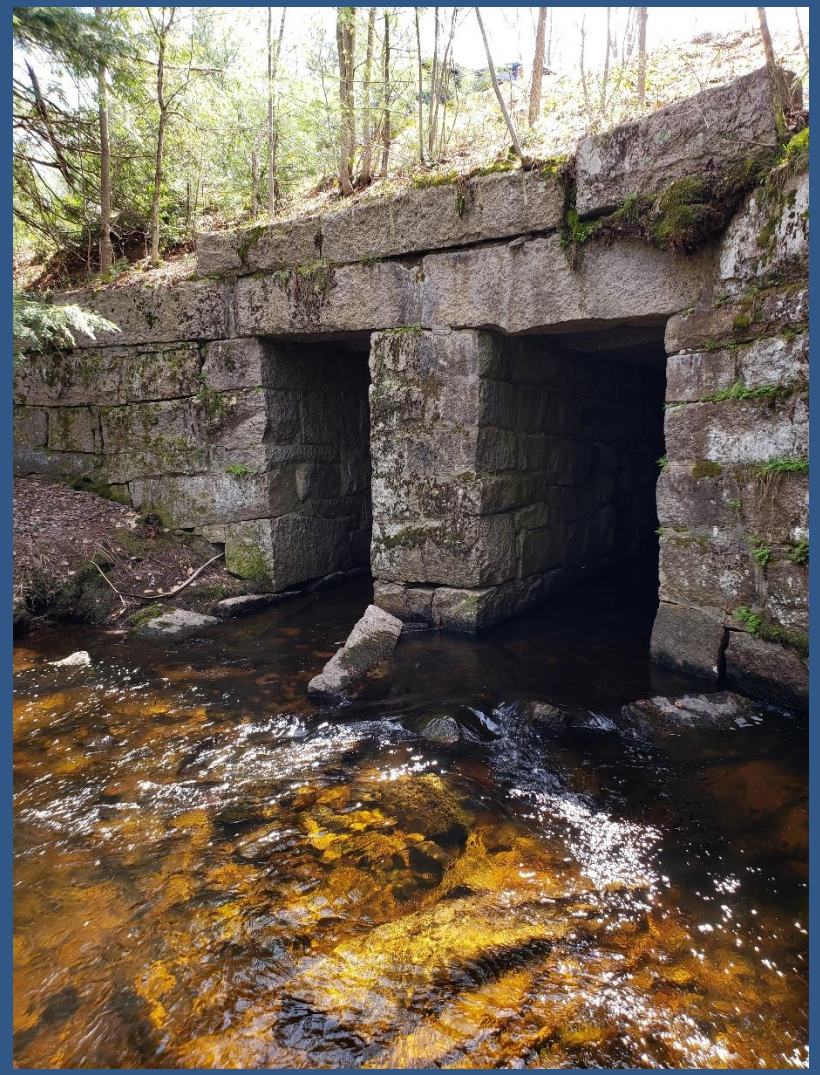
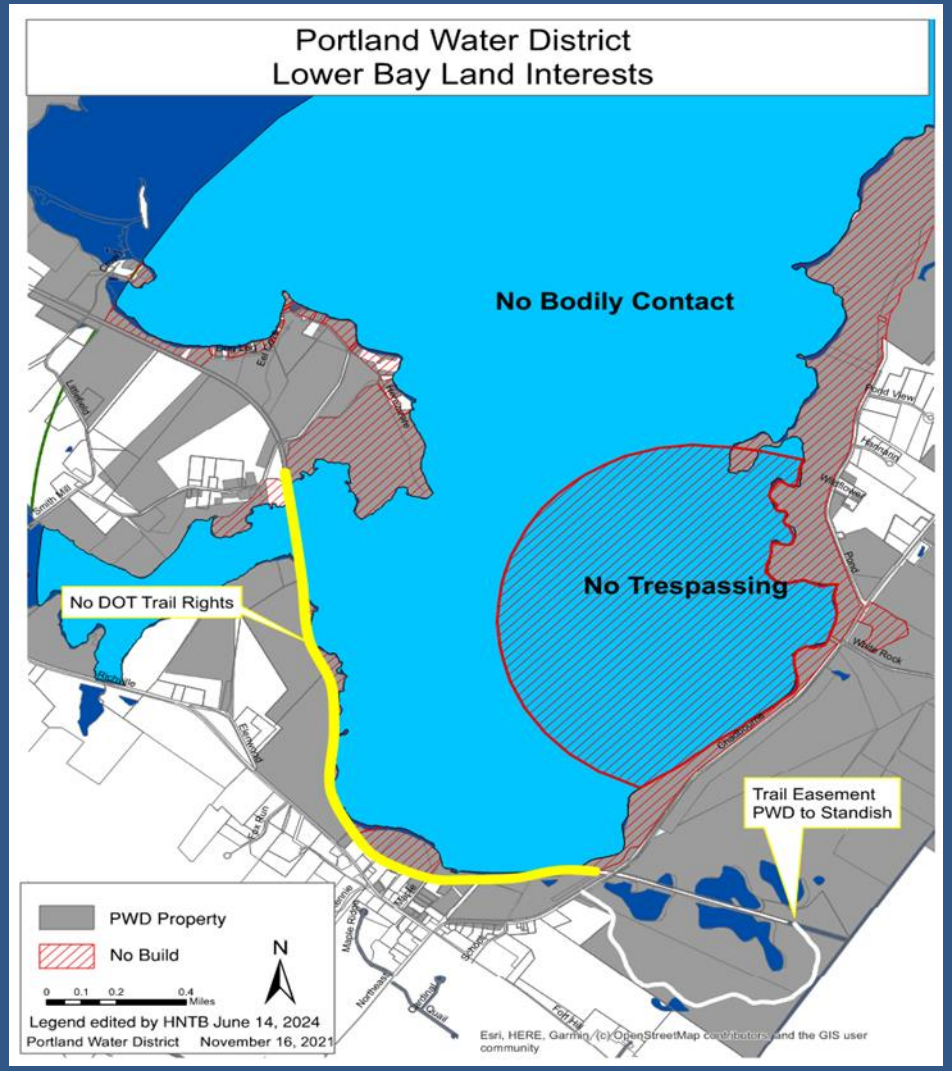
TECHNICAL ASPECTS – Structures

- 15 granite box culvert structures with individual spans of six (6) feet and shorter. Some are multi-cell with a total width exceeding six (6) feet
- Repairs are recommended only when necessitated by condition



PORTLAND WATER DISTRICT (PWD) STUDY AREA

- Mountain Division Rail Corridor passes through Portland Water District property along south end of the project in Standish
- Due to public water supply, PWD restricts recreational activity near Sebago Lake
- Due to the rail corridor's proximity to the lake, it cannot be used as a shared-use path in this area
- MaineDOT does not have property rights for a trail in this section.



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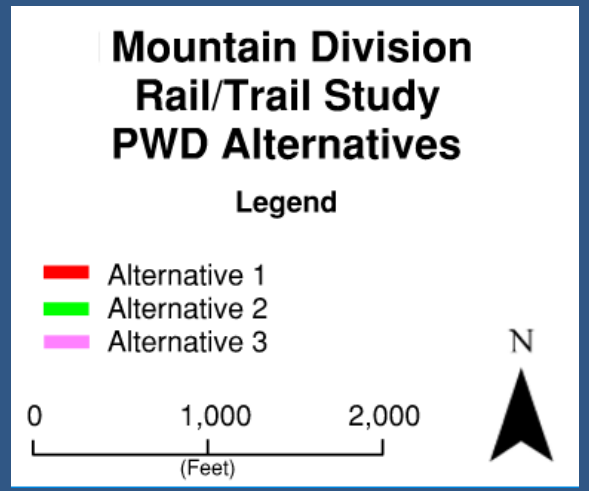
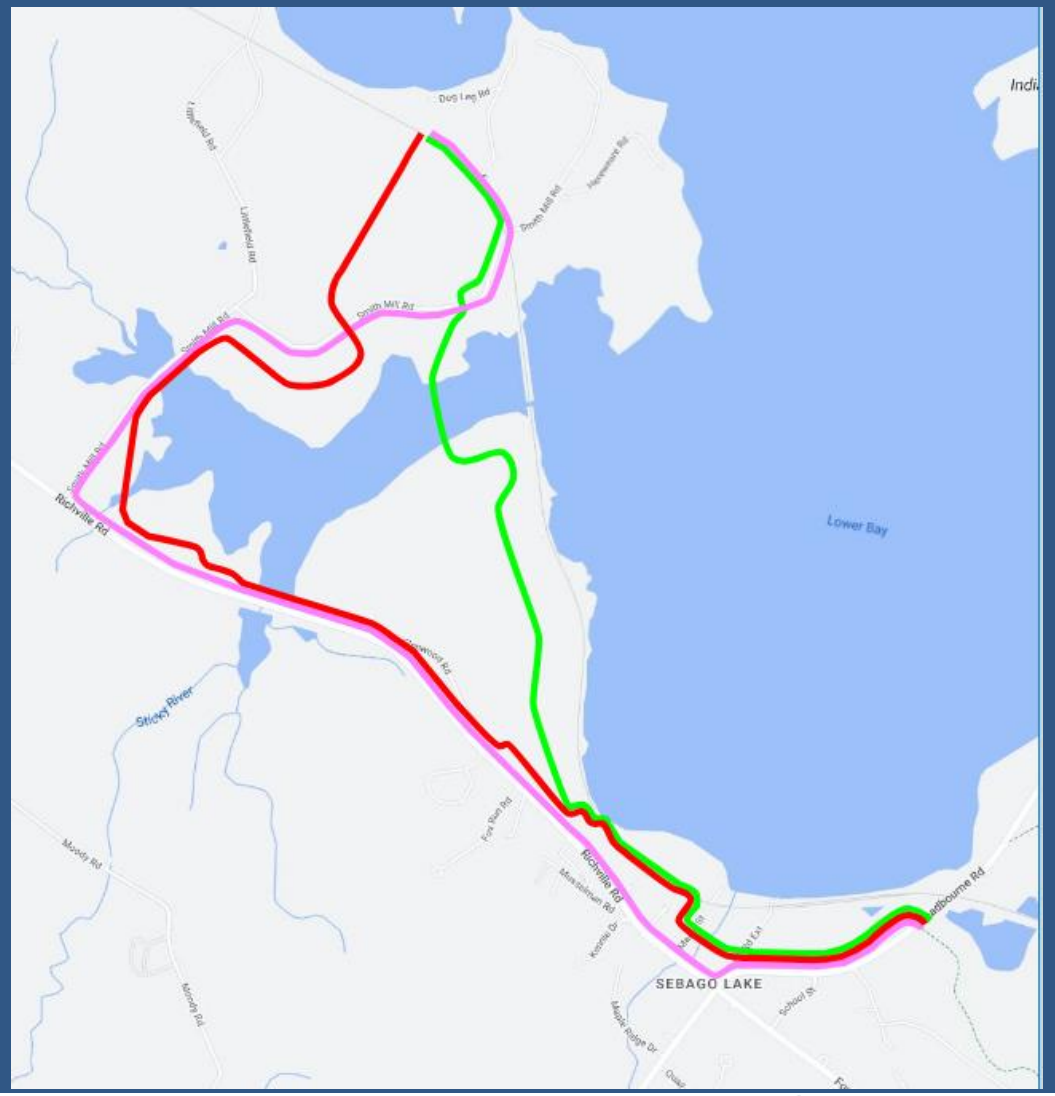
PWD STUDY AREA – Alignment Alternatives

- Three possible path alternatives were investigated as shown on the graphic.





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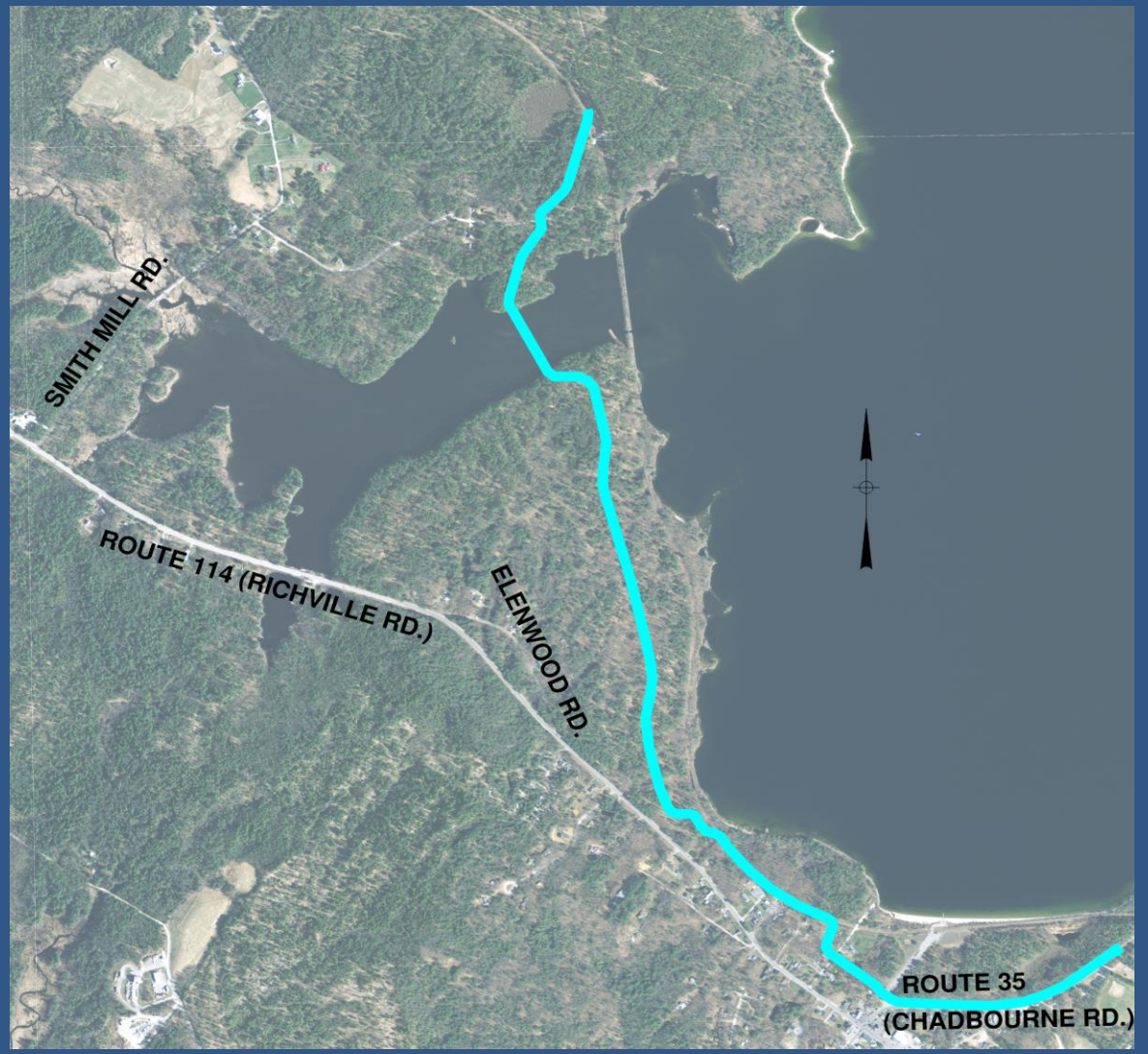
PWD STUDY AREA – Alternative 1

- Trail length: ~3.5 Miles
- 32% of the trail is located along existing roadways adjacent to, but separated from, traffic
- Remaining 68% is through wooded areas within PWD property
- Large culverts at Sticky River and Smith Mill Rd. will need to be lengthened to accommodate the path
- ROW impacts are likely

PWD STUDY AREA – Alternative 2

- Trail length: ~2.6 Miles
- 16% of the trail is located along existing roadways adjacent to, but separated from, traffic
- Remaining 84% is through wooded areas within PWD property
- Path remains within PWD property
- New water crossing west of existing railroad crossing



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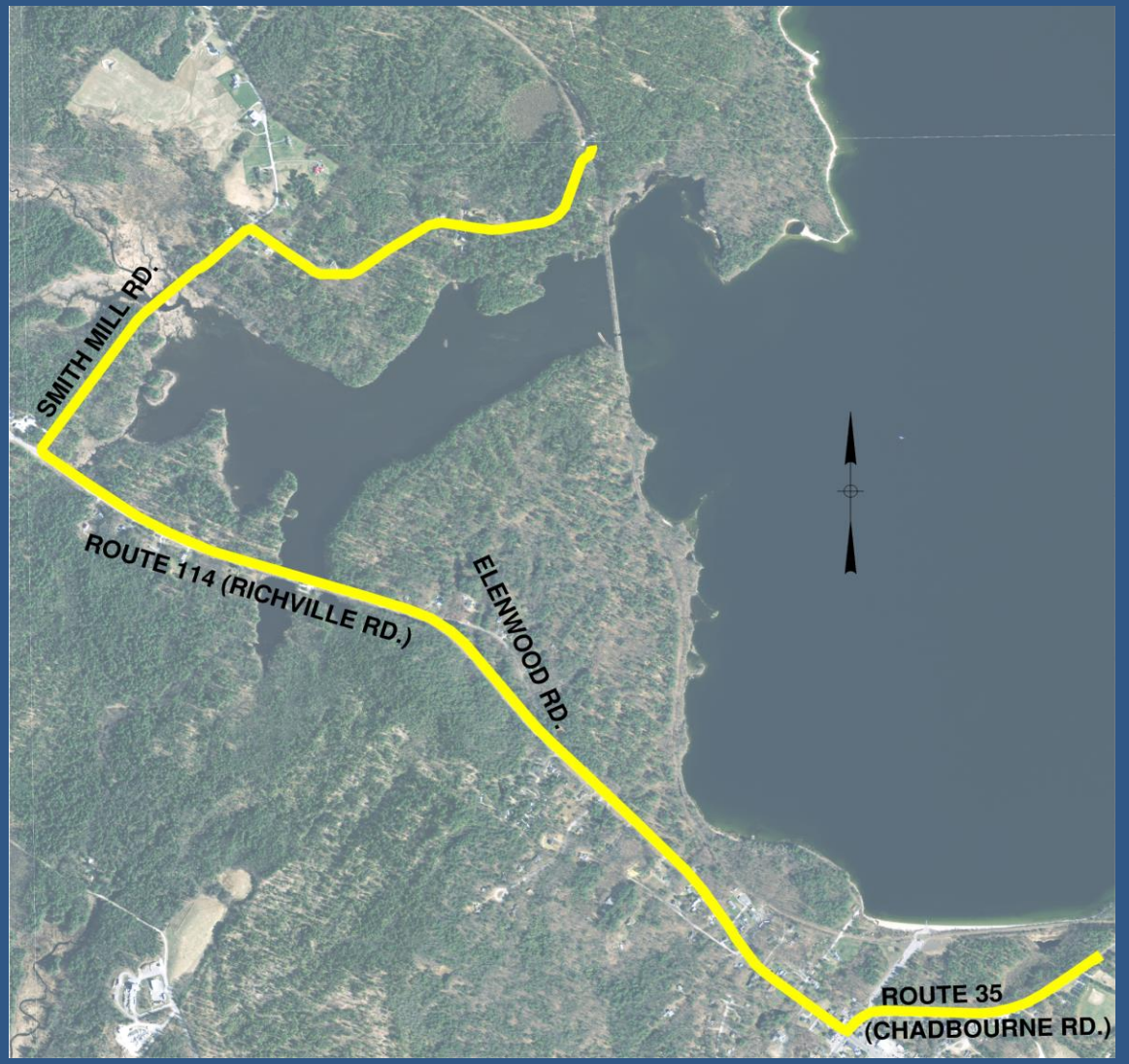
PWD STUDY AREA – Alternative 3

- Trail length: ~3.8 Miles
- 100% of the trail is located along existing roadways adjacent to, but separated from, traffic
- Large culverts at Sticky River and Smith Mill Rd. will need to be lengthened to accommodate the path
- ROW impacts are likely



PWD STUDY AREA - Recommended Alternative

Alternative 1 is recommended for the following reasons:

- Most cost-effective option
- Least number of environmental impacts (Alternative 2 would be difficult to permit due to new water crossing)
- Improved safety over Alternative 3 (Fewer roadway crossings, and the path is adjacent to traffic, only where necessary, at water crossings)

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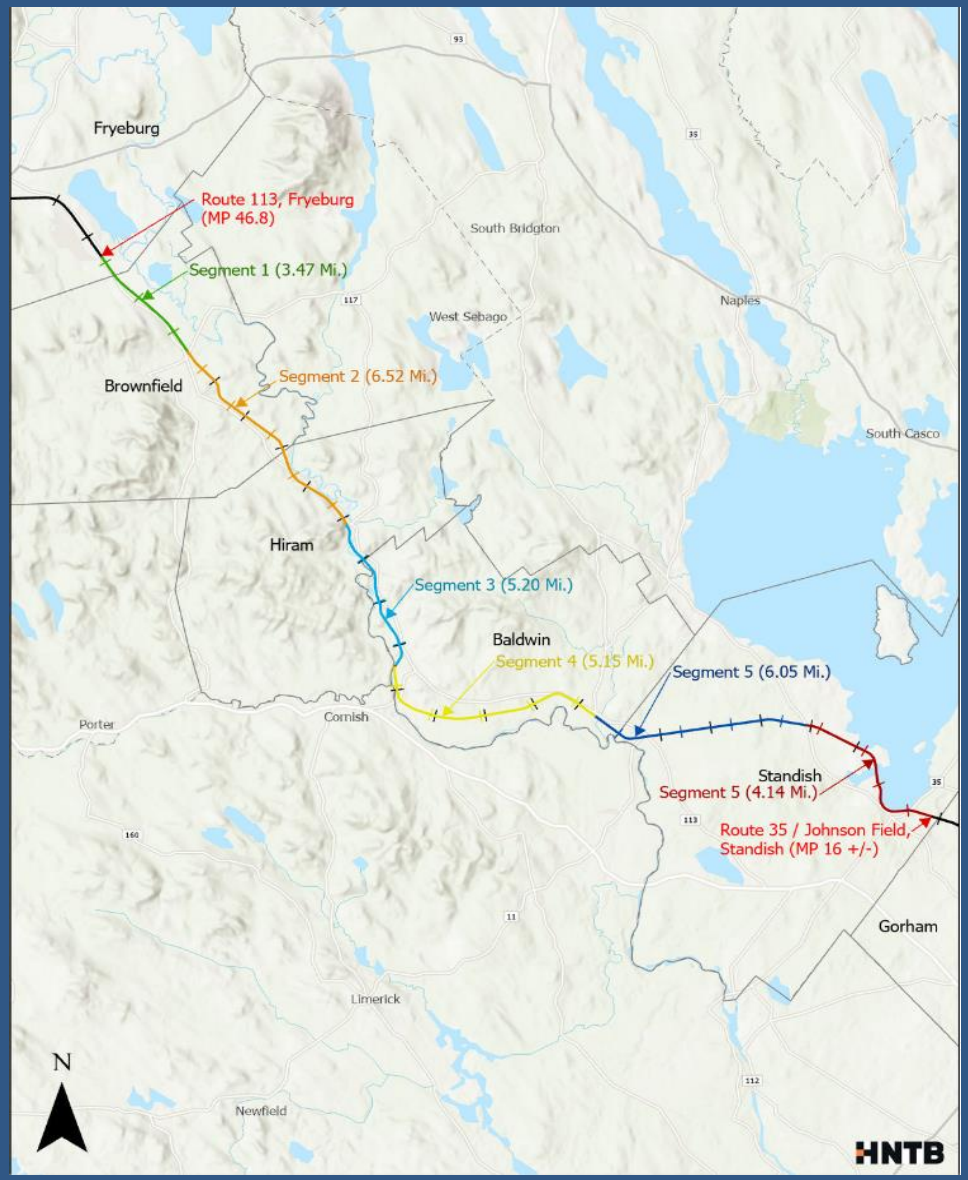
PROJECT SEGMENTS– Trailhead Locations

- Constructing 31 miles of path under a single construction project is likely not feasible, therefore dividing the project into smaller segments was investigated.
- Each segment needs a logical begin and end that is accessible by the public.
- Four potential trailhead locations have been identified and are listed from north to south:
  1. Hiram - adjacent to rail corridor off Mountain View Ave.
  2. West Baldwin – former Cornish Station
  3. Baldwin – near the Whistle Stop General Store
  4. Standish – old track siding off Route 114 near Cole Hill Road

PROJECT SEGMENTS

Six segments are proposed as shown in different colors on the graphic to the right. Segment 1 starts at the existing Mountain Division Trailhead in Fryeburg and Segment 6 ends at Johnson Field in Standish.



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CONSTRUCTION SEQUENCE AND COSTS

SEGMENT 1
Fryeburg to
Brownfield

SEGMENT 2
Brownfield
to Hiram

Segment	Length (Mi.)	Trail Cost ($)		Mile Post	Bridge	Bridge Cost ($)	Stream Crossing	Stream Crossing Cost ($)	Pedestrian Crossing	Pedestrian Crossing Cost ($)
		Paved	Stone Dust							
1	3.47	$2,600,000	$1,800,000	46.83					HAWK Signal @ Rte. 113	$150,000
				46.71			4'X5' Granite Box	$260,000		
				46.27	Little Saco River	$60,000				
				46.16			3'X5' Granite Box	$250,000		
				45.35			2'X4' Granite Box	$230,000		
				43.76	Shepard's Brook	$190,000				
Segment 1 Total Cost: (Paved)= $3,740,000 (Stone Dust) = $2,940,000										
2	6.52	$4,900,000	$3,300,000	43.35					RRFB @ Rte. 160	$20,000
				42.95			Twin 6' X 10' Granite Boxes			
				42.43			5'X6' Granite Box			
				41.06	Ten Mile Brook	$130,000				
				39.90			Rattlesnake Pond			
				39.00					HAWK Signal @ Rte. 113	$150,000
				38.67	Pierce's Brook	$580,000				
				37.45	Red Mill Brook	$110,000				
				37.01	Cattle Pass	$60,000				
Proposed Trail Head @ Mountain View Ave.				36.84	$53,000				N/A	
Segment 2 Total Cost: (Paved)= $6,003,000 Stone Dust = $4,403,000										

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CONSTRUCTION SEQUENCE AND COSTS

SEGMENT 3
Hiram to West Baldwin

Segment	Length (Mi.)	Trail Cost ($) Paved	Trail Cost ($) Stone Dust	Mile Post	Bridge	Bridge Cost ($)	Stream Crossing	Stream Crossing Cost ($)	Pedestrian Crossing	Pedestrian Crossing Cost ($)
3	5.20	$3,800,000	$2,600,000	36.32	Saco River	$390,000				
				35.41			4'X5' Granite Box			
				33.97	Break Neck Brook					
				33.50			4'X6' Granite Box			
				33.04			Unidentified			
				32.90	Dug Hill Brook	$290,000				
				32.19+/-			Unidentified			
Proposed Trail Head @ Route 5/117				31.64	$98,000				RRFB @ Rte. 5/117	$20,000
Segment 3 Total Cost: (Paved)= $4,598,000 (Stone Dust) = $3,398,000										

SEGMENT 4
West Baldwin to Baldwin

4	5.15	$3,800,000	$2,600,000	30.39	No Name	$150,000				
				29.70	Red Brook	$150,000				
				29.30	Pigeon Brook	-				
				28.84		-	6'x5' Granite Box			
				27.86+/-			Unidentified			
				27.18		-	3'X3' Granite Box			
Proposed Trail Head @ Whistle Stop				26.49	$162,000				N/A	
Segment 4 Total Cost: (Paved)= $4,262,000 (Stone Dust) = $3,062,000										

CONSTRUCTION SEQUENCE AND COSTS

SEGMENT 5 Baldwin to Standish

SEGMENT 6 PWD Segment

Segment	Length (Mi.)	Trail Cost ($)		Mile Post	Bridge	Bridge Cost ($)	Stream Crossing	Stream Crossing Cost ($)	Pedestrian Crossing	Pedestrian Crossing Cost ($)
		Paved	Stone Dust							
5	6.05	$4,300,000	$2,900,000	26.04	Quaker Brook	$640,000				
				25.36			2.5'X4' Granite Box			
				24.89			Twin 6'X4' Granite Boxes			
				24.73					RRFB @ Route 11	$20,000
				24.58					RRFB @ Rte. 113	$20,000
				22.99+/-			Twin Pipe Culvert	$40,000		
				20.92+/-			Rich Millpond CMP	$20,000		
Proposed Trail Head @ Route 114				20.42	$69,000				HAWK Signal @ Rte. 114	$150,000
Segment 5 Total Cost: (Paved)= $5,259,000 (Stone Dust) = $3,859,000										
6	[1] 4.14	$6,300,000	$5,900,000	N/A					RRFB @ Rte. 35	$20,000
Segment 6 Total Cost: (Paved)= $6,320,000 (Stone Dust) = $5,920,000										

[1] Length of Segment includes Alternative 1 through PWD land

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PROGRAMMATIC COSTS & RECOMMENDATIONS

Mountain Division Trail Programmatic Costs by Segment - Paved							
	Segment 1	**Segment 2**	**Segment 3**	**Segment 4**	**Segment 5**	**Segment 6**	**Total**
Construction Costs	$3,740,000.00	$6,003,000.00	$4,598,000.00	$4,262,000.00	$5,259,000.00	$6,320,000.00	$ 30,182,000.00
Design (10% of construction)	$ 374,000.00	$ 600,300.00	$ 459,800.00	$ 426,200.00	$ 525,900.00	$ 632,000.00	$ 3,018,200.00
Construction Engineering (10% of construction)	$ 374,000.00	$ 60,030.00	$ 45,980.00	$ 42,620.00	$ 52,590.00	$ 63,200.00	$ 301,820.00
Right of Way	$ -	$ -	$ -	$ 5,000.00	$ -	$ 20,000.00	$ -
Environmental							
					Total Programmatic Costs		**$33,502,020.00**

Mountain Division Trail Programmatic Costs by Segment - Stone Dust							
	Segment 1	**Segment 2**	**Segment 3**	**Segment 4**	**Segment 5**	**Segment 6**	**Total**
Construction Costs	$2,940,000.00	$4,403,000.00	$3,398,000.00	$3,062,000.00	$3,859,000.00	$5,920,000.00	$ 23,582,000.00
Design (10% of construction)	$ 294,000.00	$ 440,300.00	$ 339,800.00	$ 306,200.00	$ 385,900.00	$ 592,000.00	$ 2,358,200.00
Construction Engineering (10% of construction)	$ 294,000.00	$ 44,030.00	$ 33,980.00	$ 30,620.00	$ 38,590.00	$ 59,200.00	$ 235,820.00
Right of Way	$ -	$ -	$ -	$ 5,000.00	$ -	$ 20,000.00	$ -
Environmental							
					Total Programmatic Costs		**$26,176,020.00**

PROGRAMMATIC COSTS & RECOMMENDATIONS

Recommendations

- Construct Segment 1 (Fryeburg to Brownfield) first since it is an extension of an existing facility; is the least expensive segment; and provides connectivity to residential areas in Brownfield.
- Begin design of Segment 6 (PWD property) shortly after Segment 1 to allow coordination efforts to take place possibly allowing this segment to be constructed next, creating more connectivity to existing trails.
- Segments 2, 3, 4, & 5 to follow based on funding.

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