

Massachusetts Department  
of Transportation

Bruce Freeman Rail  
Trail – 25% Design

Vernal Pools & Wildlife Habitat



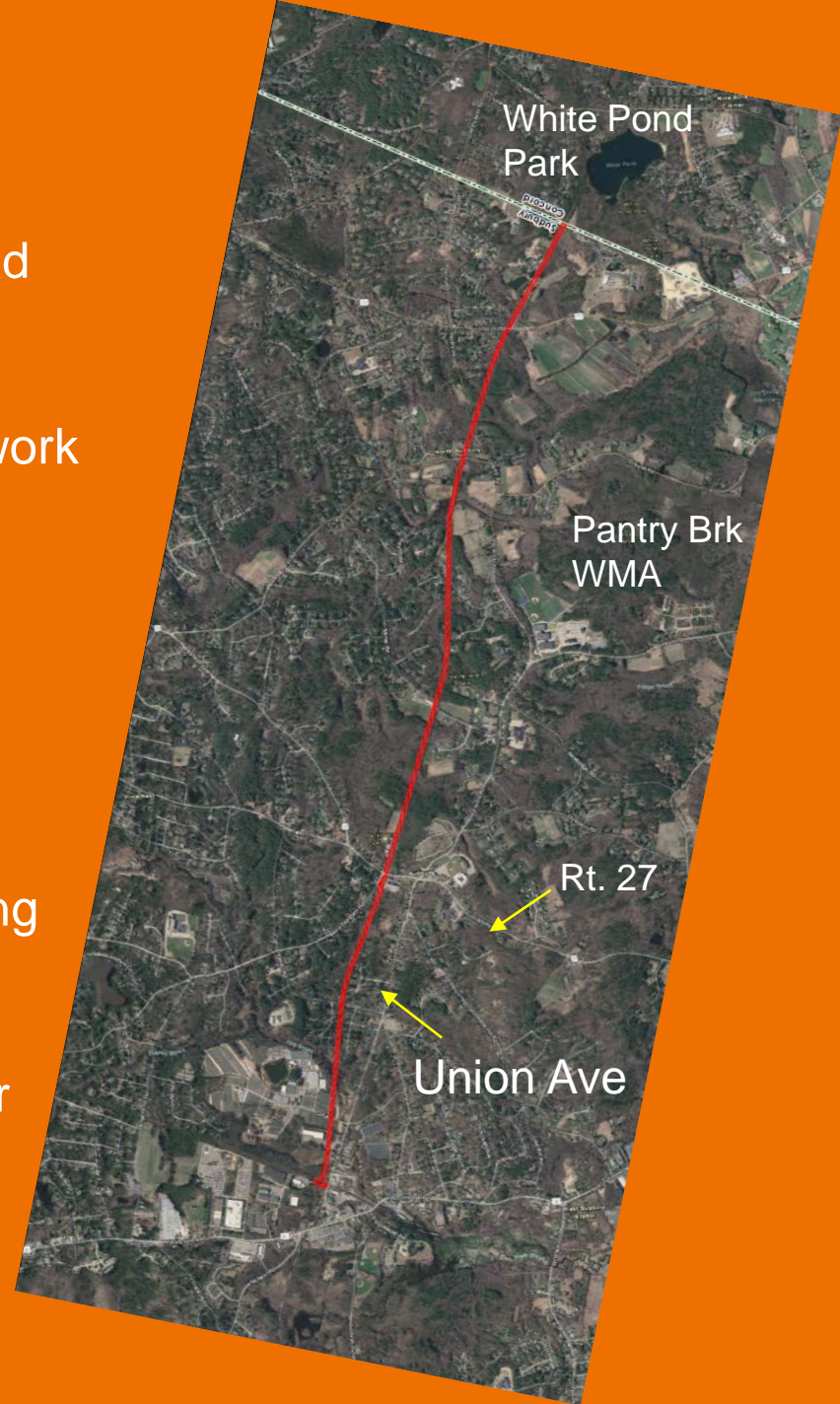


# Agenda

1. Project Overview
2. Vernal Pool Surveys
3. Wildlife Habitat Evaluation

# BFRT Project Overview

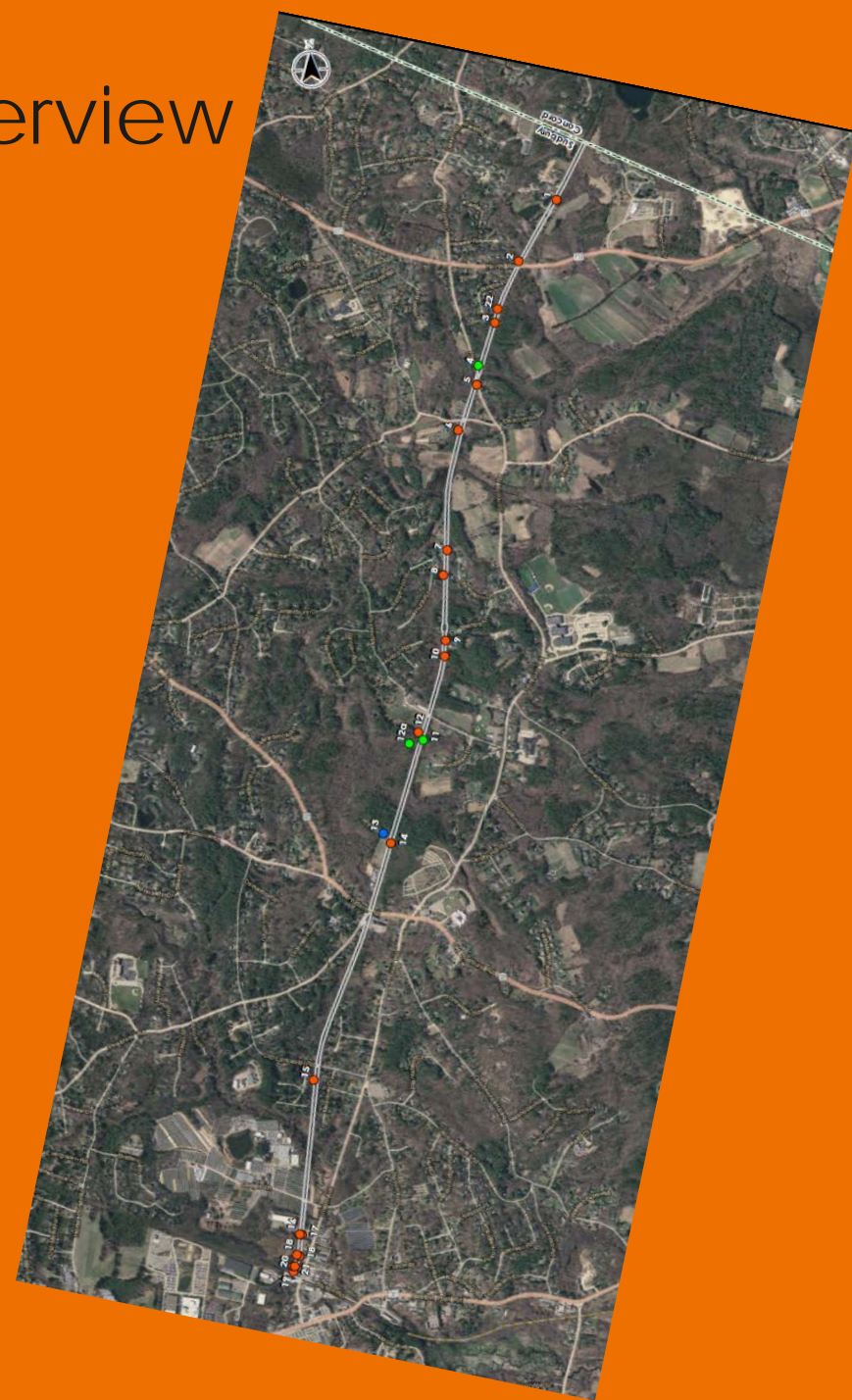
- Located along former Old Colony Rail Road ROW
- Suburban setting; interconnect to trail network
- Approximately 4.6-mile long rail trail
- ~65 ft wide ROW: overgrown, pedestrian footpath, and landowner encroachment
- Track, wooden ties, and ballast visible along much of former rail line
- 25% design phase; MassDOT ROW owner
- Anticipate filing Notice of Intent by spring 2021





# Vernal Pool Surveys - Overview

- Refer to Stantec 2018 Vernal Pool memo
- VHB conducted surveys (2015 & 2017)
  - 19 vernal pools
- Stantec conducted survey (2018)
  - 22 vernal pools
- 2009 NHESP VP Certification Guidelines



# Vernal Pools Summary

Refer to PDF page 4 of Stantec 2018 Vernal Pool memo

- Vernal pools surveyed 2015, 2017, & 2018
- PVPs 4, 11, 12a, & 16; and CVP 13 meet NHESP criteria in  $\geq 1$  years (green symbol)
- SVP 9; PVPs 17 & 20 may meet town bylaw criteria

2015 VHB			2017 VHB			2018 Stantec		
	Water Depth (in)	Findings		Volume (>200 cubic ft.)	Findings		Water Depth (in)	Findings
PVP 1	<1	No VP species found.	PVP 1	Yes	No VP species found.	PVP 1	2	No VP species found.
PVP 2	24-48	No VP species found.	PVP 2	Yes	No VP species found.	PVP 2	25	No VP species found.
PVP 3	2-3	No VP species found.	PVP 3	Yes	No VP species found.	PVP 3	8	No VP species found.
<b>PVP 4</b>	6-15	1 wood frog egg mass and 2 spotted salamander egg masses	<b>PVP 4</b>	Yes	12 wood frog egg masses, 100+ wood frog tadpoles, and 1 dead adult wood frog	<b>PVP 4</b>	12	Appx. 20 wood frog egg masses.
PVP 5	2-12	No VP species found. 1 predacious diving beetle observed.	PVP 5	No	No VP species found.	PVP 5	20	No VP species found.
PVP 6	2-6	No VP species found. Direct outlet to adjacent stream	PVP 6	Yes	No VP species found.	PVP 6	12	No VP species found. Pooled area in stream floodplain and fish observed.
PVP 7	6-8	No VP species found. Limited opportunity for egg mass attachment.	PVP 7	No	No VP species found.	PVP 7	11	No VP species found.
PVP 8	2-3	No VP species found. Water was flowing through area instead of ponding due to topography.	PVP 8	Yes	No VP species found. 1 adult green frog found.	PVP 8	0	No VP species found. Stream floodplain with no discernable pool boundary or pooled area.
SVP 9 <sup>1</sup>	2-5	No VP species found.	SVP 9 <sup>1</sup>	Yes	No VP species found.	SVP 9 <sup>1</sup>	24	2 dead salamanders; lead phase of eastern red-backed salamander (NHESP confirmed species identification).
PVP 10	0	No VP species found. Area was dry at time of inspection.	PVP 10	No	No VP species found.	PVP 10	0	No VP species found; area dry at time of inspection.
<b>PVP 11</b>	10-12	8 spotted salamander egg masses. Appx. 5 small (4in) fish swimming near some of the egg masses.	<b>PVP 11</b>	Yes	1 dead adult wood frog.	<b>PVP 11</b>	11	20 mole salamander spermatophores.
PVP 12	12-24	No VP species found. Limited opportunity for egg mass attachment.	PVP 12	Yes	No VP species found. Limited opportunity for egg mass attachment (2015 results).	PVP 12	>12	Farm pond beyond fence noted in 2015 and 2017. Expected to be permanent wetland.
CVP 13 <sup>3</sup>	5-24	15+ spotted salamander egg masses, 15+ blue spotted salamander egg masses, 10+ wood frog egg masses found.	CVP 13 <sup>3</sup>	Yes	15+ spotted salamander egg masses, 15+ blue spotted salamander egg masses, 15+ fairy shrimp.	<b>PVP 12a<sup>2,4</sup></b>	10	9 wood frog egg masses.
PVP 14	4-6	No VP species found.	PVP 14	Yes	1 dead adult blue spotted salamander found. No other VP species found.	CVP 13 <sup>3</sup>	>36	52 spotted salamander egg masses, 73 blue-spotted salamander egg masses, 72 wood frog egg masses, and fairy shrimp.
PVP 15	4-18	1 wood frog egg mass found. No other signs of VP species.	PVP 15	No	No VP species found. No water present at time of inspection.	PVP 14		No VP species found.
<b>PVP 16</b>	2-10	No VP species found (10 wood frog egg masses found on 4/22/15).	PVP 16	Yes	No VP species found.	PVP 15	18	No VP species found.
PVP 17	0-6	No VP species found. Oil sheen present throughout isolated wetland.	PVP 17	No	No VP species found.	PVP 16		No VP species found.
PVP 18	0-12	No VP species found.	PVP 18	Yes	No VP species found.	PVP 17	24	1 wood frog egg mass.
PVP 19	0	No VP species found. Area was dry at time of inspection.	PVP 19	Yes	No VP species found.	PVP 18	32	Intermittent spring peeper calls.
						PVP 19	16	No VP species found.
						PVP 20 <sup>4</sup>	6	1 adult gray treefrog.
						PVP 21 <sup>4</sup>	16	No VP species found.
						PVP 22 <sup>4</sup>	8	No VP species found.

Bold text were identified as eligible for NHESP certification.

- Notes:
- <sup>1</sup> Previously identified as Subbury Vernal Pool.
  - <sup>2</sup> Potential Vernal Pool surveyed in 2018 and located south of the PVP 12 surveyed in 2015 and 2017.
  - <sup>3</sup> Previously Certified by NHESP.
  - <sup>4</sup> New Potential Vernal Pool identified in 2018.



# Wildlife Habitat Evaluation - Overview

- Performed April – October 2018 by CWBs preapproved by SCC
- 2006 MassDEP Wildlife Habitat Protection Guidance
- 25% Design Phase
- Desktop and field-based





# Wildlife Habitat Evaluation - Methods

Appendix A of MassDEP guidance triggered when:

- <5,000 sf BVW
- 10% on single lot or >50 lf of Bank
- 10% on single lot or <5,000 sf BLSF
- Previously Developed Riverfront exempt; however, assessed due to importance to wildlife





# Wildlife Habitat Evaluation - Impacts

Refer to PDF page 4 of Stantec's habitat report

Proposed resource area impacts:

- Bordering Vegetated Wetlands (~4,681 sf)
- Bank (~1,752 lf)
- Bordering Land Subject to Flooding (~76 cy cut & fill)
- Riverfront (previously developed); Hop Brook and unnamed tributary, & Pantry Brook





# Wildlife Habitat Evaluation - Results

Refer to PDF page 9 Stantec's wildlife report

- Suburban setting
- Adjacent land uses: residential, open space, commercial, & agricultural
- Track, wooden ties, & ballast visible along much of ROW
- Invasive plant species
- Areas of potential encroachment
- Regional/statewide common natural communities & wildlife





# Wildlife Habitat Evaluation - Results

- Coldwater Fisheries Resources: Hop Brook & unnamed tributary
- CVP 1428/CVP #13 (>100 ft from ROW)
- CAPS important habitat: near town line





# Wildlife Habitat Evaluation - Results

Refer to PDF page 12 of Stantec's wildlife report

- No important wildlife habitat features or other thresholds identified within or proximal to impacts
- No high value habitat; or listed or sensitive wildlife species observed
- Existing habitat is not limited on landscape
- Trail not a barrier to habitat usage at local or landscape scale
- No adverse affect to wildlife habitat





# Wildlife Habitat Evaluation – Recommendations

Refer to PDF page 13 of Stantec's wildlife report

- Locate disturbance to ROW / strategic siting of project elements
- BMPs to protect resource areas
- Use native species at disturbed areas
- MA stream crossing standards
- Wildlife crossing structures (e.g. reuse cattle crossings & permeable barriers)
- Girdle trees / create brush piles
- Full cutoff lens direct lighting
- Educational signage / pet leash & waste

