

EXISTING CONDITIONS
Monomoscoy Road, Mashpee

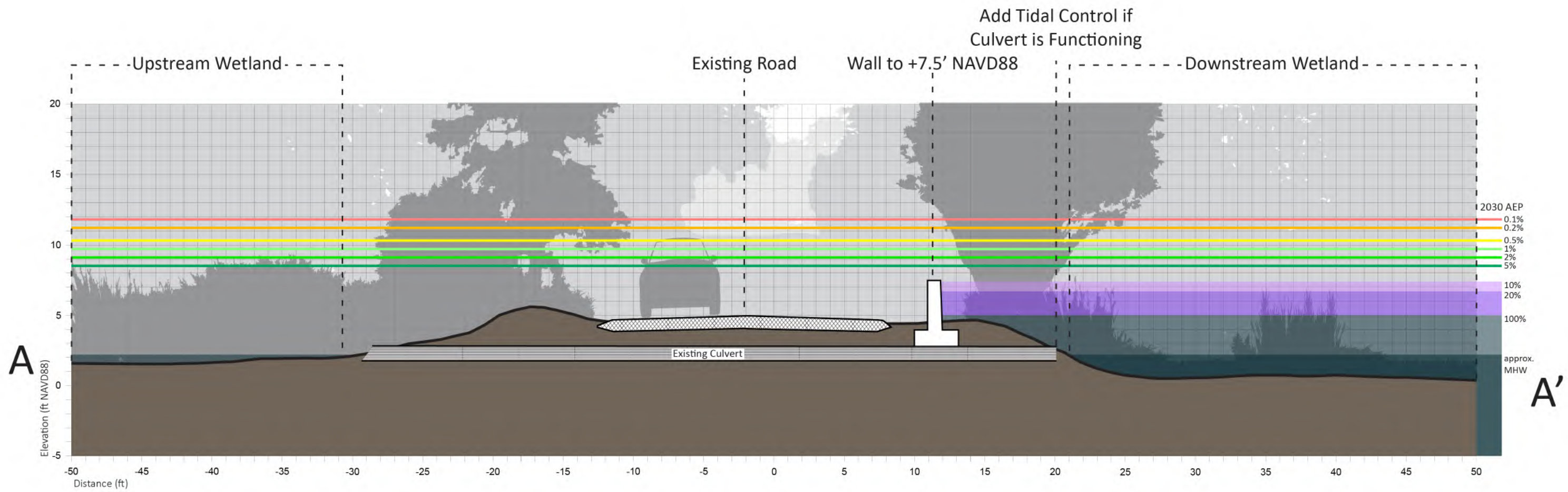


Note: Project overlap with wetland areas, rights of way and property lines is approximate and needs confirmation with a site survey



ALTERNATIVE 1: GRAY

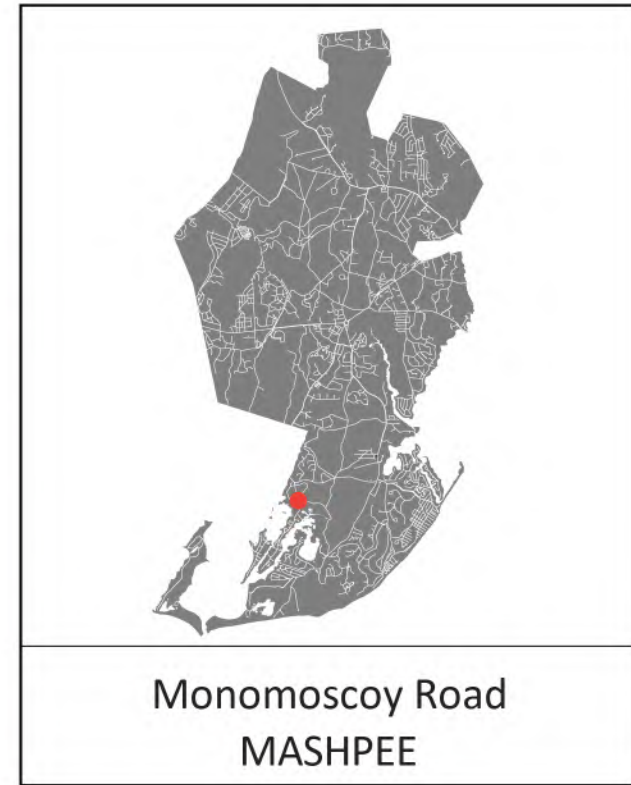
A concrete wall to 7.5 feet NAVD88 is built on the seaward side of the road, reaching a maximum height of approximately 2.7 feet above grade. The road is re-graded or converted to permeable pavement to prevent stormwater buildup behind the wall. If the culvert is still functioning, tidal control is added to prevent flanking.



ALTERNATIVE 1: GRAY
 Monomoscoy Road, Mashpee

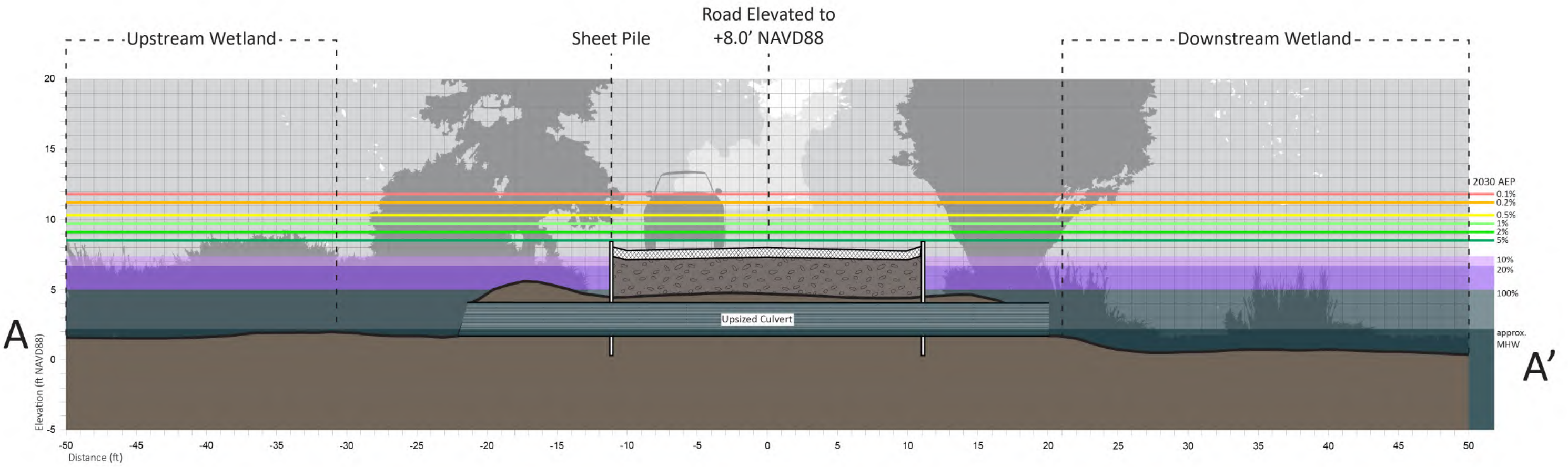


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ALTERNATIVE 2: HYBRID

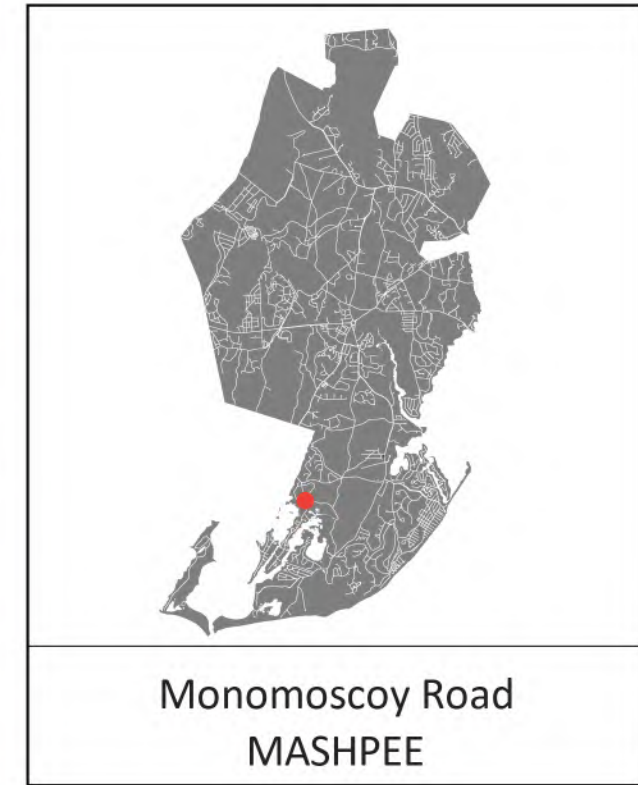
590 linear feet of town-owned road are raised from a lowest point of 4.8 feet to a lowest point of 8.0 feet NAVD88. Native planted side slopes tie into the surrounding grade, and sheet pile is used to avoid wetland impacts at the stream crossing. The culvert is replaced and increased in size to allow for future marsh migration.



ALTERNATIVE 2: HYBRID
 Monomoscoy Road, Mashpee

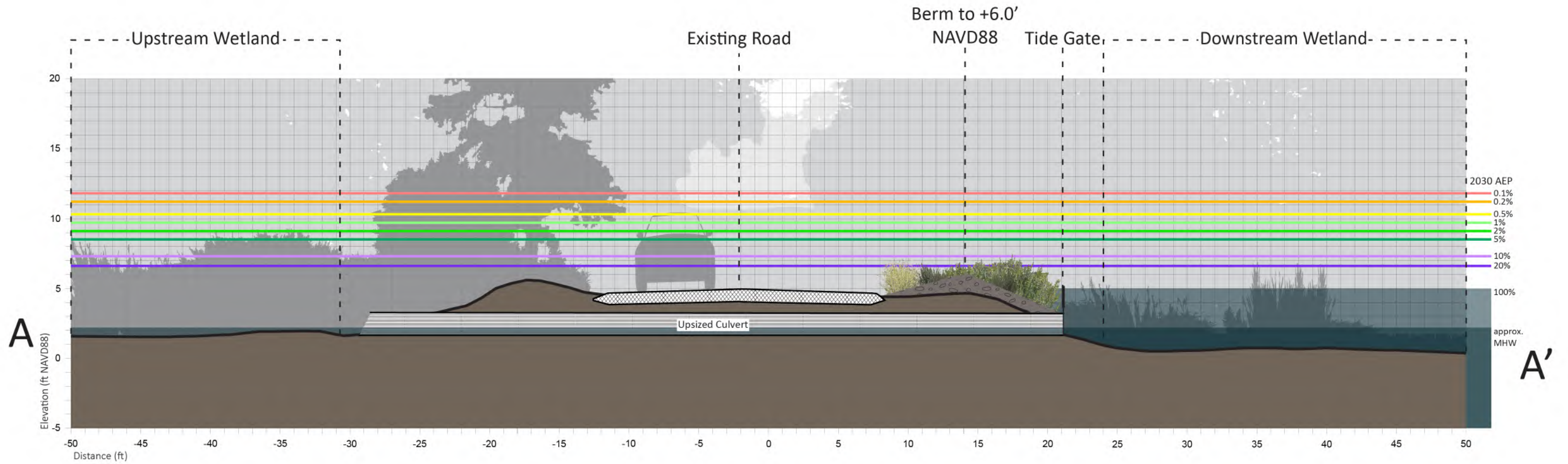


Note: Project overlap with wetland areas, rights of way and property lines is approximate and needs confirmation with a site survey



ALTERNATIVE 3: GREEN

A small berm with 3:1 native planted side slopes to 6.0 feet NAVD88 is added on the seaward side of the road. The road is regraded or converted to permeable pavement to manage stormwater. The culvert is replaced with a larger culvert and a tide gate is added to prevent flanking.



ALTERNATIVE 3: GREEN
 Monomoscoy Road, Mashpee

MONOMOSCOY ROAD, MASHPEE

Summary of alternatives

	Description	Critical Elevation (NAVD88)	Annual Exceedance Probability			Vulnerable to Tidal Flooding†	Permitability Concerns	Impacts to Private Property	Estimated Cost*
			2030	2050	2070				
EXISTING	A segment of 22 foot wide road with a culvert crossing Dutchman’s Creek.	4.8 feet	100%	100%	100%	2070	N/A	N/A	N/A
ALTERNATIVE 1: GRAY	A concrete wall to 7.5 feet NAVD88 is built on the seaward side of the road, reaching a maximum height of approximately 2.7 feet above grade. The road is re-graded or converted to permeable pavement to prevent stormwater buildup behind the wall. If the culvert is still functioning, tidal control is added to prevent flanking.	7.5 feet	5%	20%	100%	No	Located in an ACEC, no direct wetland impacts	Minimal	\$207,000
ALTERNATIVE 2: HYBRID	590 linear feet of town-owned road are raised from a lowest point of 4.8 feet to a lowest point of 8.0 feet NAVD88. Native planted side slopes tie into the surrounding grade, and sheet pile is used to avoid wetland impacts at the stream crossing. The culvert is replaced and increased in size.	8.0 feet	5%	20%	100%	No	Located in an ACEC, minimal wetland impacts	Minimal	\$663,000
ALTERNATIVE 3: GREEN	A small berm with 3:1 native planted side slopes to 6.0 feet NAVD88 is added on the seaward side of the road. The road is regraded or converted to permeable pavement to manage stormwater. The culvert is upsized and a tide gate is added to prevent flanking.	6.0 feet	20%	100%	100%	No	Located in an ACEC, no direct wetland impacts	None	\$129,000

*2023 installed material cost +40% escalation (through 2029) and 15% contingency. Excludes design, permitting, mobilization, stormwater and wastewater infrastructure, and site controls. Costs based on experienced contractor opinion and MassDOT costing data.

†Future tidal datums are approximate.