

**BAILEY BRIDGE CONNECTOR - EVALUATION OF ALTERNATIVES MATRIX**

Criterion	Alternative 1	Alternative 2	Alternative 3	Finding
Total Alignment Length	6,050 feet	5,600 feet	5,800 feet	Alternative 2 has less alignment length.
Total Parcels Intersected	31	18	20	Alternative 2 has less parcels impacted.
Relocations (Total Acquisitions)	2-3	2-3	2-3	Comparable impacts.
Partial Acquisitions	29	16	18	Alternative 2 has the fewest partial acquisitions
Access Management and Signal Spacing	The roundabout at existing Bailey Bridge Road and Holly View Parkway creates access management spacing concerns with the existing Holly View Place/Holly View Court. A median should be considered to restrict access in and out of Holly View Place and Holly View Court.	None	None	Alternative 2 and 3 are less restrictive.
Hydrologic Unit Code (HUC)	The entire project area is within one HUC12 of the Appomattox watershed: 020802070902 - Swift Creek - Third Branch.			No unique impacts.
Phosphorus Removal Required (lb)	16 lb/yr	15 lb/yr	15 lb/yr	Alternative 2 and 3 have less phosphorus removal required.
Number of SWM Facilities Required	6	5	5	Alternative 2 and 3 have less basins required.
Environmental Justice	No minority or low-income populations.			No impacts.
Sensitive Noise Receptor Estimate <sup>1</sup>	262	226	226	Comparable number of potential noise sensitive receptors.
Public Parks and Recreation Areas	No public parks or recreation areas are located within the project area.			No impacts.
Historic Resources	No direct impacts to known historic resources			No direct impacts.
Public Waterfowl/Wildlife Refuges	No public waterfowl or wildlife refuges are located within the project area.			No impacts.
Threatened & Endangered Species	Database searches revealed the potential presence of the following protected species: Atlantic Sturgeon (FE,SE), Northern Long-Eared Bat (FT,ST), Yellow Lance (FT), Little Brown Bat (SE), Tri-Colored Bat (SE), Barking Treefrog (ST), Green Floater (ST), Sensitive Joint-Vetch (ST), Peregrine Falcon (ST), Loggerhead Shrike (ST), Migrant Loggerhead Shrike (ST), and Spotted Turtle (CC).  There are no documented Northern Long-Eared Bat roosts or hibernacula within the project area. The closest Bald Eagle nest is located approximately two miles from the project area. No known trout, anadromous fish, or shellfish grounds are located within the project area.			Comparable impacts.
Tree Clearing (nearest hundredth of an acre)	8.79	10.36	10.26	Alternative 1 requires the fewest acres of tree clearing.
Prime Farmland Farmland of Statewide Importance (nearest acre)	The project area is a census designated urbanized area.			No impacts.
Floodplains (nearest tenth of an acre) <sup>2</sup>	Floodway - 0.6 100-year - 0.6 500-year - 0.2 <b>Total - 1.4</b>	Floodway - 0.6 100-year - 0.6 500-year - 0.2 <b>Total - 1.4</b>	Floodway - 0.6 100-year - 0.6 500-year - 0.2 <b>Total - 1.4</b>	Comparable impacts.
National Wetland Inventory Wetlands (nearest hundredth of an acre) - Mitigation Requirements <sup>3</sup> - \$ Mitigation Cost <sup>4</sup>	0.07 PFO 0.14 Credits \$7,000	0.07 PFO 0.14 Credits \$7,000	0.07 PFO 0.14 Credits \$7,000	Comparable impacts.
National Wetland Inventory Streams (nearest linear foot) - Mitigation Requirements <sup>5</sup> - \$ Mitigation Cost <sup>6</sup>	171 171 \$76,950	119 119 \$53,550	108 108 \$48,600	Alternative 3 has fewer impacts and mitigation cost will be less.
Wild and Scenic Rivers	No wild and scenic rivers are located within the project area.			No impacts.
Sole Source Aquifers	The project is not located within a sole source aquifer.			No impacts.
Coastal Zone Management	Area is in a coastal zone. Any Build Alternative would need to undergo Coastal Zone Management Act consistency review by the Virginia Department of Environmental Quality during project permitting			Comparable impacts.
Coastal Barrier Resources	None in project area			No impacts.
Contamination and Toxics	Database searches do not show any areas of concern along the corridor			If impacts are anticipated to the Lynwood Lewis property, it may require further investigations.
Air Quality	The entire project area is in attainment for ozone, particulate matter, sulfur dioxide, lead, carbon monoxide, and nitrogen dioxide.			No impacts.
Construction Roadway Costs (\$ Millions)	\$9,710,000	\$8,985,000	\$9,815,000	Alternative 2 has less roadway costs.
Construction Bridge Costs (\$ Millions)	\$6,000,000	\$6,000,000	\$6,000,000	Comparable costs.
Construction Roadway + Bridge Costs (\$ Millions) <sup>7</sup>	\$15,710,000	\$14,985,000	\$15,815,000	Alternative 2 has less construction costs.

<sup>1</sup>This number does not include the planned subdivisions. In order to be considered, the property must have an approved and active building permit.

<sup>2</sup>The floodplain impacts assumes we are impacting Swift Creek within the roadway right of way. A bridge will be designed to mitigate the impacts during the detailed design phase.

<sup>3</sup>Mitigation requirements for wetlands are as follow: 1:1 POW/PEM; 1.5:1 PSS; 2:1 PFO

<sup>4</sup>Based on approximate value of \$100,000 / credit

<sup>5</sup>Mitigation requirements for streams are assumed to be 1:1. Impacts are assumed for Swift Creek which can be mitigated during detailed design with a bridge.

<sup>6</sup>Based on approximate value of \$450 / linear foot of stream

<sup>7</sup>Construction cost listed does not account for all project costs (i.e. PE Phase, RW Phase, CEI costs, etc.)