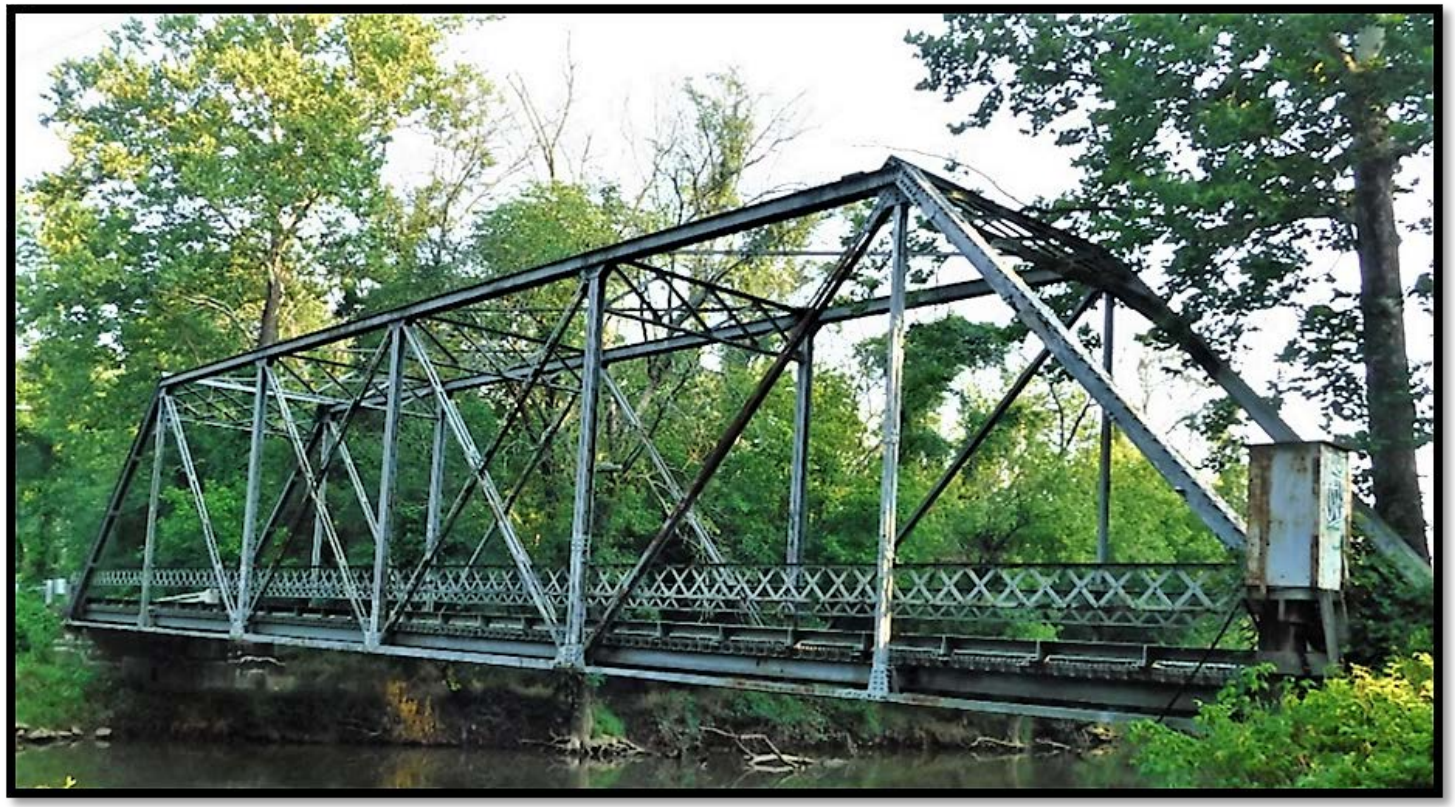


Rushern L. Baker, III
County Executive

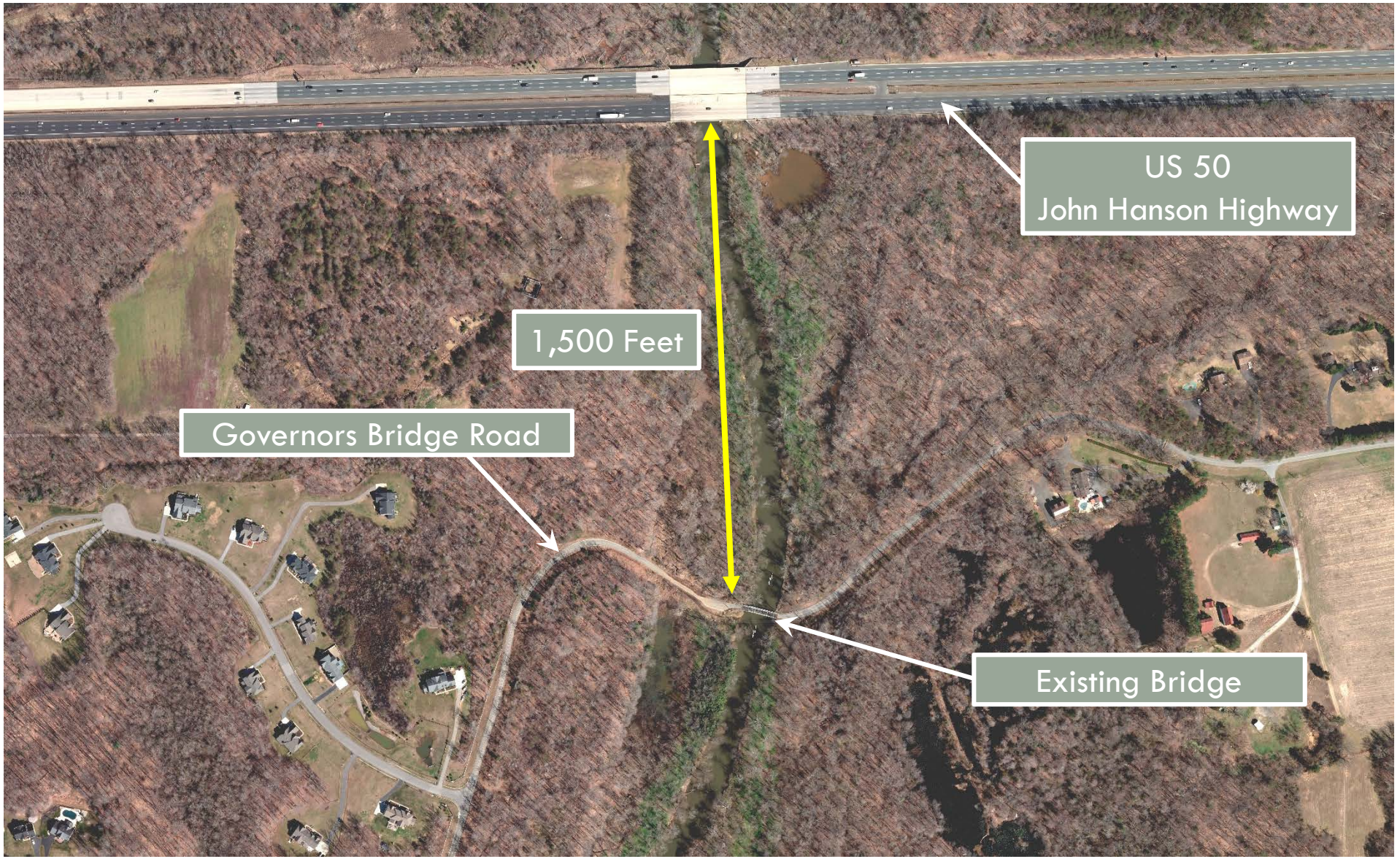
Department of Public Works and Transportation

October 17, 2018

Gwendolyn T. Clerkley
Acting Director

GOVERNORS BRIDGE ROAD BRIDGE OVER THE PATUXENT RIVER

LOCATION MAP



PROJECT BACKGROUND

Governors Bridge

- Built around 1910
- Designated as a Historic Structure by Maryland Historic Trust
- Single Span 114 feet long
- Single Lane 12’-3” wide
- Pratt Through-Truss Bridge

PROJECT BACKGROUND

NORTH ELEVATION

SOUTH ELEVATION

PROJECT BACKGROUND

Rushern L. Baker, III
County Executive

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Acting Director

West Approach Road from Prince George's County side

Bottom of the Bridge

East Approach Road from Anne Arundel County side

PROJECT BACKGROUND

- Major Rehabilitation Performed in 1995 & 2014

  - 1995 Repairs include:
    - Replaced damaged end post and vertical members of bridge truss members
    - Replaced damaged stringers , floor beams & steel grid deck
    - Repaired and replaced traffic railing

  - 2014 Repairs include:
    - Removed and reset existing steel grid deck
    - Replaced defective stringers
    - Repaired structural steel members throughout bridge
    - Repaired and replaced traffic railing
    - Bridge was opened to lightweight vehicular traffic (Cars and Ambulances)

CRITICAL STEEL MEMBER DETERIORATION

- **2015 Bridge Inspection Report Discovered Significant Deterioration of Critical Steel Members.**
- **Bridge was closed to all vehicular traffic in April 2015.**
  - Excessive section loss of bottom chord members
  - Gusset plates exhibit severe section loss
  - Diagonal inclined end posts of the truss exhibits severe corrosion and section loss

Deteriorated Bottom Steel Chords, Bottom Sway Brace and Gusset Plates

PROJECT TIMELINE AND GOALS

- **January 2016: Prince George's County & Anne Arundel County DPWT staff met and discussed need for Rehabilitation/Replacement of the Governors Bridge Road Bridge**
  - Met with MDSHA to secure Federal funding for Feasibility Report/ Alternate Study and 30% Plans.
  - KCI Technologies' engineers reviewed existing bridge inspection reports and initiated design.
  - Met with Maryland Historic Trust, Maryland Department of Environment & Army Corp of Engineers to discuss required preliminary environmental, archeological and permitting requirements.
  - Performed topographic survey.
  - Performed detailed environmental study & prepared Wetland Assessment & Delineation Report.
  - Performed detailed archeological study.
  - Prepared Hydrology & Hydraulic Report for various bridge alternates.
  - Prepared feasibility/ alternate analysis report for six alternates with plans and cost.
- **The primary objectives of this initiative are to address the:**
  - Structurally deficient historic structure while maintaining historic elements.
  - Frequent flooding on the Prince George's County approach road.
  - Horizontal and vertical sight distance deficiencies on the approach roads.

BRIDGE ALTERNATIVES

- Alternative 1 – No-Build Alternative
- Alternative 2 – Rehabilitation of the Existing Bridge
- Alternative 3 – Existing Alignment – New 1 Lane Bridge
- Alternative 4 – Existing Alignment – New 2 Lane Bridge
- Alternative 5 – Shifted Alignment – New 1 Lane Bridge
- Alternative 6 – Shifted Alignment – New 2 Lane Bridge

ALTERNATE 1 – NO BUILD ALTERNATE

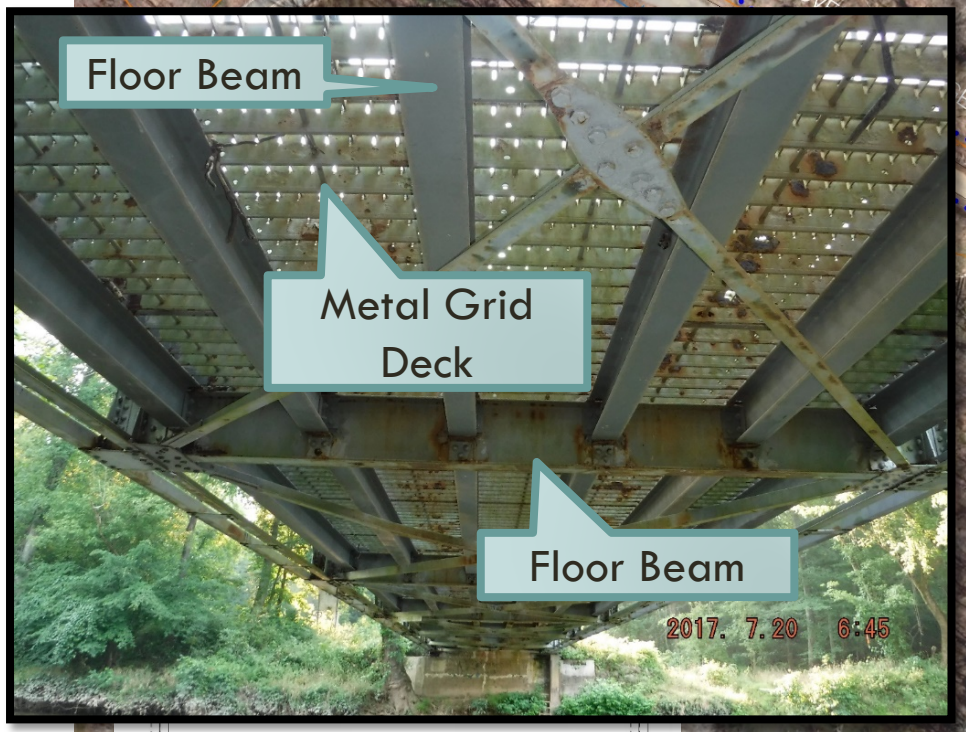
ALTERNATE 1 – NO BUILD ALTERNATE

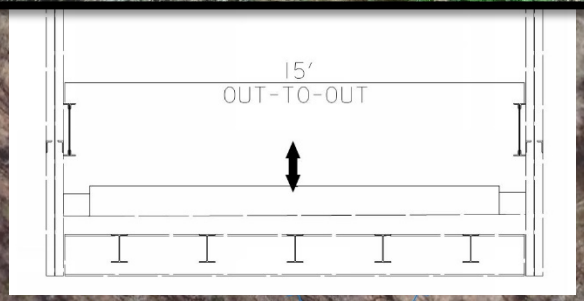
ESTIMATED COST $200,000

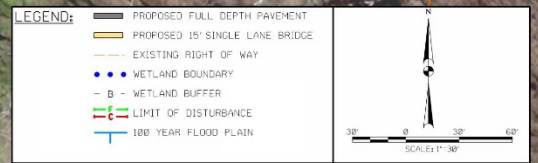
- **Advantages**
  - Low cost.
  - Existing historic structure would not be impacted.
  - No impacts to the surrounding parks, historic or environmental site features.
  - No impacts to the Patuxent River.
  - Existing structure could be used by pedestrians, bikers, fisherman, and other non- vehicle based users with minimum repair of the structure.
  - No additional right-of-way required.
  - No utility impacts.

- **Disadvantages**
  - Bridge will remain structurally deficient, will not be opened to vehicular traffic.
  - Roadway remains closed and detour route stays in effect.
  - The Prince George's County approach would still be subject to frequent closings due to flooding.

ALTERNATE 2 – REHABILITATION OF EXISTING STRUCTURE







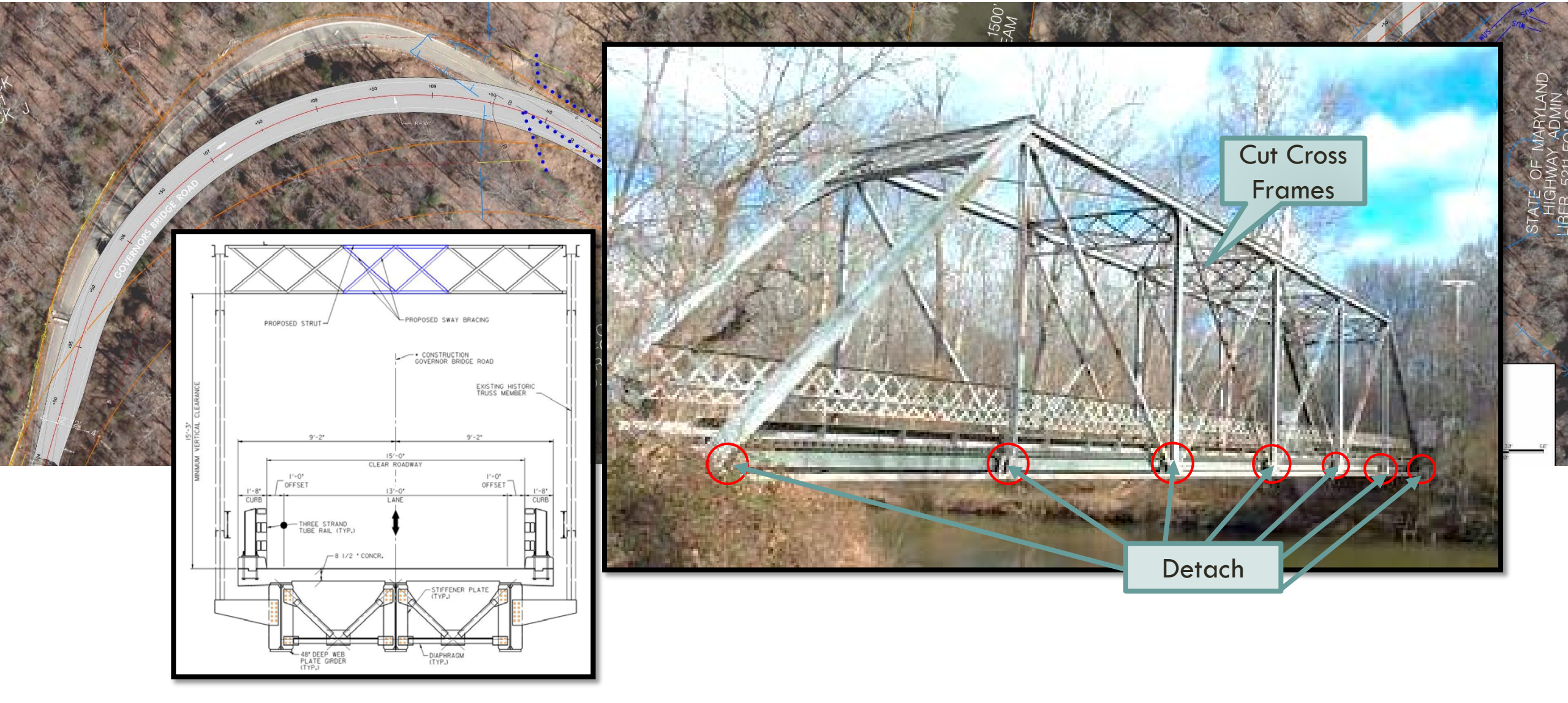
ALTERNATE 2 – REHABILITATION OF EXISTING STRUCTURE

ESTIMATED COST $2,000,000

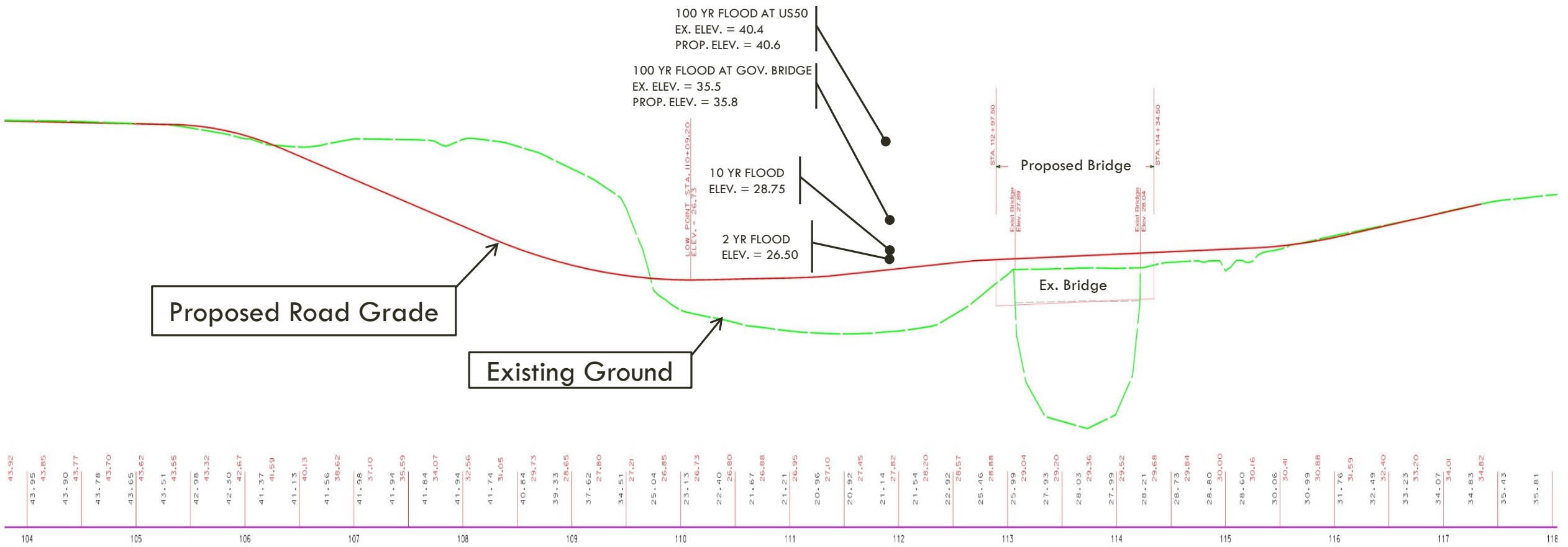
- **Advantages**
  - Structure retains its historic integrity.
  - Least expensive “build” alternate.
  - No additional right-of-way is required.
  - No impacts to the Patuxent River.
  - No impacts to the surrounding parks, historic or environmental site features.
  - No utility impacts.

- **Disadvantages**
  - Does not improve the horizontal or vertical alignment of the roadway.
  - The Prince George’s County approach would still be subject to frequent closings due to flooding.
  - Structure would be posted for load restrictions and limited to light weight vehicles.
  - Continual maintenance of bridge structure due to continuing deterioration.

ALTERNATE 3 – EXISTING ALIGNMENT – 1 LANE BRIDGE OPTION



ALTERNATE 3, 4, 5, AND 6: ROADWAY PROFILE CHANGES



ALTERNATE 3 – EXISTING ALIGNMENT – 1 LANE BRIDGE OPTION

ESTIMATED COST $6,000,000

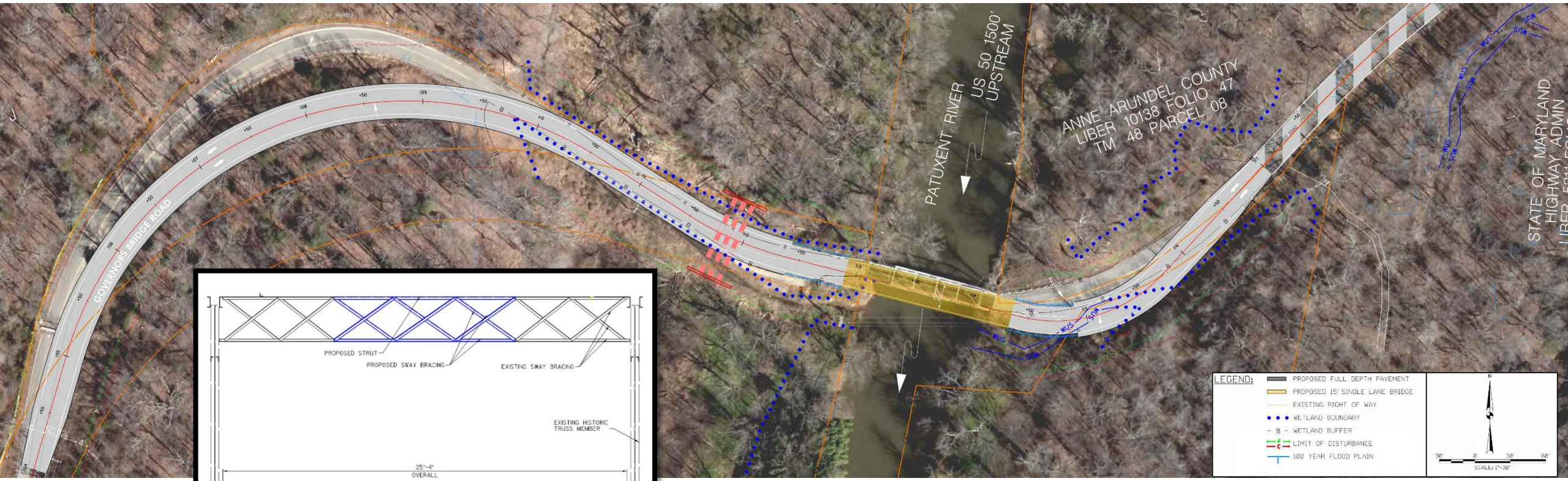
Advantages

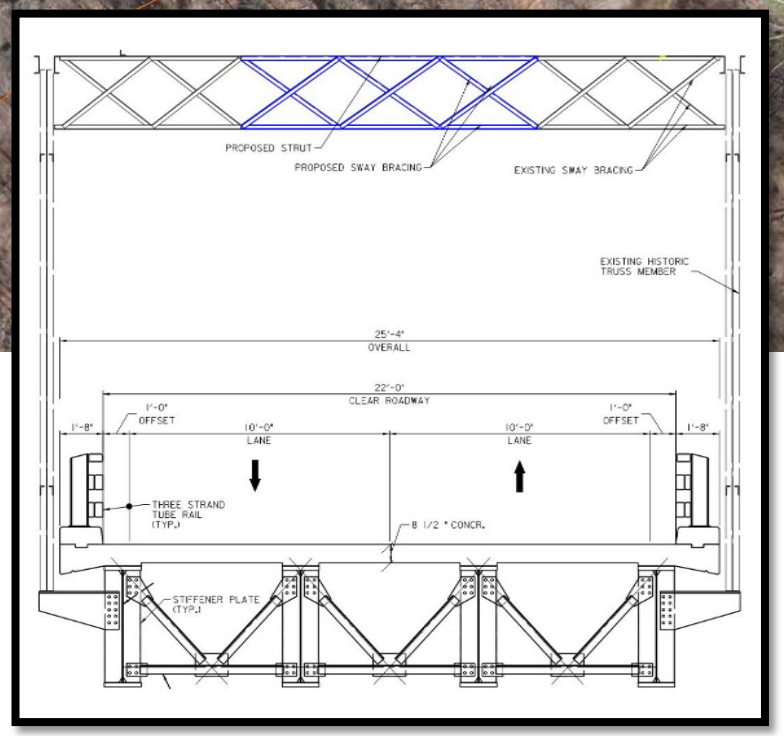
- Installation of 15-foot wide one-lane bridge would replace one-lane bridge and would allow one lane of traffic.
- No loading restrictions on the bridge for light weight or heavy weight vehicles.
- Portions of existing bridge would be retained for historical context.
- Improved horizontal & vertical sight distance on the Prince George's County approach.
- Reduced frequency of flooding during minimal storm event.
- Least expensive new bridge alternative.
- Minimal impacts to the Patuxent River compared to Alternates 4, 5 and 6.
- Less right-of-way impacts compared to Alternates 4,5 and 6 due to improved horizontal & vertical sight distance on west approach road and two-lane bridge structure.

Disadvantages

- Impacts to parks, historic, and environmental site features due to Prince George's County approach roadway's horizontal and vertical sight distance improvements.
- Right-of-way is required to improve the roadway alignment.
- Aerial utility pole impacts adding time and cost.
- Prince George's County approach roadway would flood during higher storm events.

ALTERNATE 4 – EXISTING ALIGNMENT – 2 LANE BRIDGE OPTION





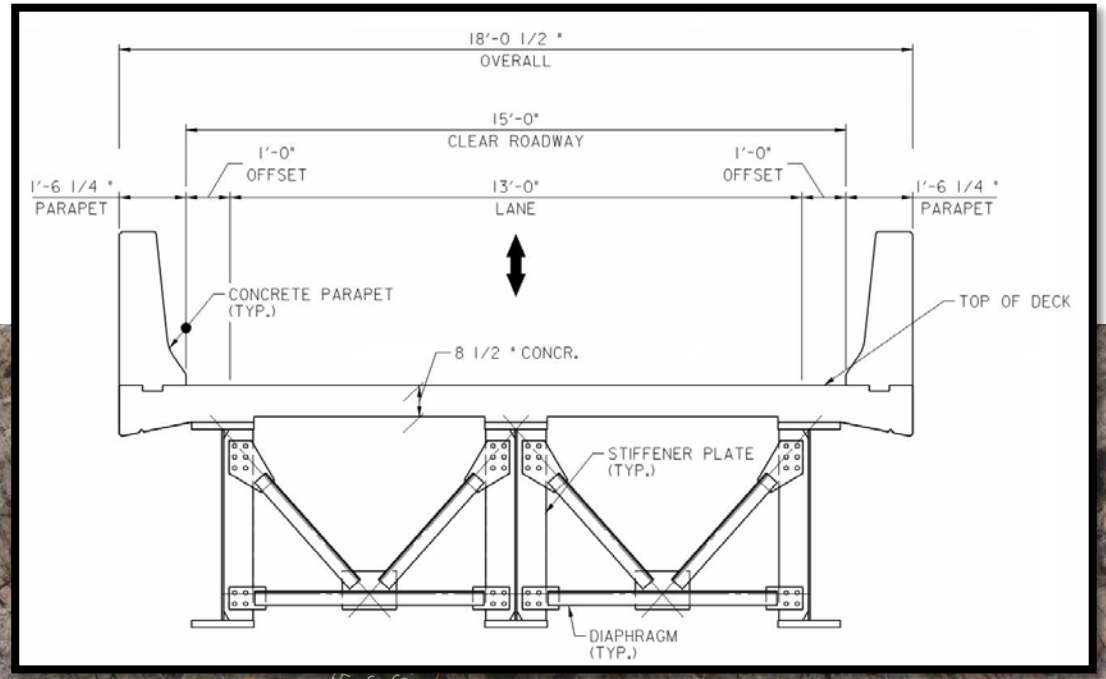
ALTERNATE 4 – EXISTING ALIGNMENT – 2 LANE BRIDGE OPTION

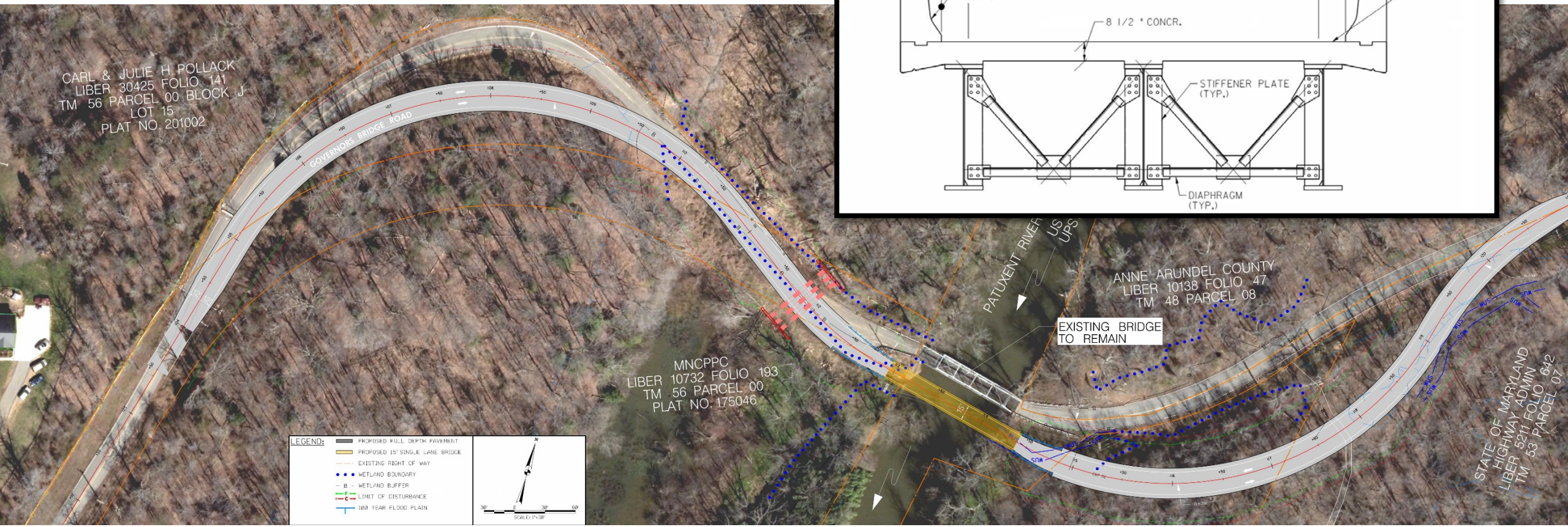
ESTIMATED COST $6,800,000

- **Advantages**
  - Installation of 22-foot wide two-lane bridge would replace one-lane bridge and would allow two lanes of traffic.
  - No loading restrictions on the bridge for light weight or heavy weight vehicles.
  - Improved horizontal & vertical sight distance on Prince George's County approach.
  - Reduced frequency of flooding during minimal storm event.

- **Disadvantages**
  - Modification of the bridge to accommodate two traffic lanes would modify the historic context of the existing historic structure.
  - Increased impacts to the Patuxent River compared to Alternate 3 due to roadway horizontal and vertical sight distance improvements and two-lane bridge structure.
  - Increased right-of-way impacts compared to Alternate 3 due to improved horizontal & vertical sight distance on west approach road and two-lane bridge structure.
  - Aerial utility pole impacts adding time and cost.
  - Prince George's County approach roadway would flood during higher storm events.

ALTERNATE 5 – SHIFTED ALIGNMENT – 1 LANE BRIDGE OPTION





ALTERNATE 5 – SHIFTED ALIGNMENT – 1 LANE BRIDGE OPTION

ESTIMATED COST $6,900,000

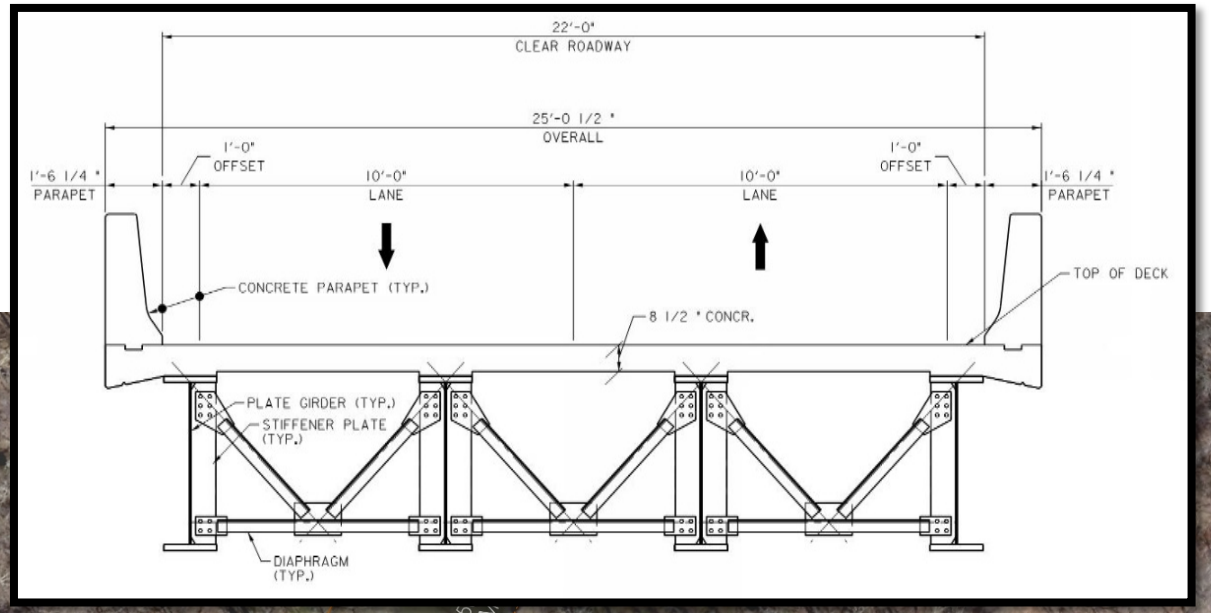
Advantages

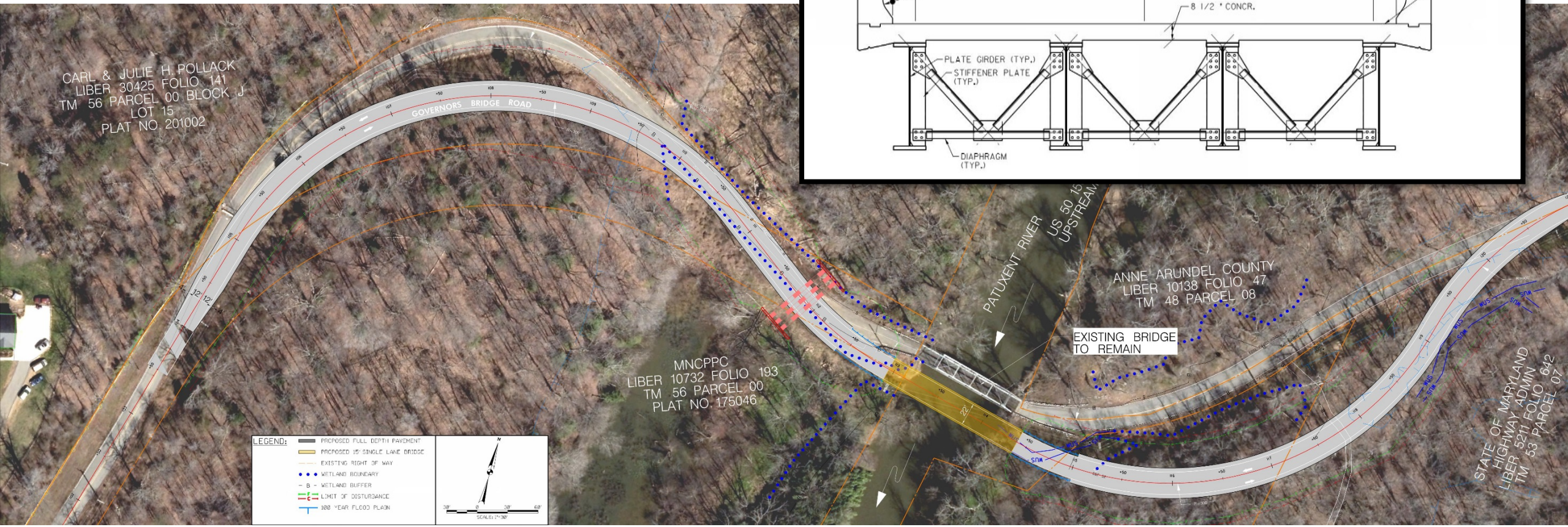
- New 15-foot clear roadway width one-lane bridge to the south of existing bridge on shifted road alignment to avoid impact on exiting historic bridge.
- No loading restrictions on the bridge for light weight or heavy weight vehicles.
- Existing historic bridge would remain in place for historical context.
- Improved horizontal & vertical sight distance on Prince George's County's and Anne Arundel County's approach roadways.
- Reduced frequency of flooding during minimal storm event.

Disadvantages

- Increased impacts to parks, historic and environmental site features compared to Alternates 3 & 4 due to improved horizontal & vertical sight distance on Prince George's and Anne Arundel County approach road on shifted alignment.
- Additional impacts to the Patuxent River due to construction of new bridge abutments for the shifted alignment.
- Prince George's County approach roadway would flood during higher storm events.
- Increased right-of-way impacts compared to Alternates 3 & 4 due to shifted alignments and roadway geometric improvements.
- Aerial utility pole impacts adding time and cost.
- Highest cost of all alternates.
- Permitting would be more difficult than Alternates 3 & 4.

ALTERNATE 6 – SHIFTED ALIGNMENT – 2 LANE BRIDGE OPTION





ALTERNATE 6 – SHIFTED ALIGNMENT – 2 LANE BRIDGE OPTION

ESTIMATED COST $7,700,000

Advantages

- New 22-foot clear roadway width Two Lane Bridge to the south of existing bridge on shifted road alignment to avoid impact on exiting historic bridge.
- No loading restrictions on the bridge.
- Existing historic bridge will be retained in place for historical context.
- Improved horizontal & vertical sight distance on east and west approach roads (Anne Arundel County & Prince George's County sides).
- Minimize frequency of flooding during low storm event (2 Year storm event) on west approach road (Prince George's County side).

Disadvantages

- Increased environmental impacts compared to Alternatives 3, 4 & 5 due to improved horizontal & vertical sight distance on east and west approach roads on shifted alignment.
- Class I Stream impacts due to construction of new bridge abutments on the banks of the Patuxent River on shifted alignment.
- Increased Right-of-Way impacts compared to Alternatives 3, 4 & 5 due to shifted alignments and roadway geometric improvements.
- Aerial utility pole impacts adding time and cost.
- Existing bridge will have to be maintained for historic context.
- Higher cost than Alternatives 3, 4 & 5.
- Permitting will be more difficult than Alternatives 3, 4 & 5.
- US50 will be impacted by 0.17 feet increase in the 100-year storm.

ALTERNATIVES SUMMARY

ALTERNATIVE	DESCRIPTION	COST	NUMBER OF LANES	BRIDGE WIDTH	RETAINS BRIDGE HISTORIC INTEGRITY	FLOODING REDUCED	ROADWAY GEOMETRY IMPROVEMENTS
1	NO-BUILD	$ 0.2 M	0	12.25’	YES	NO	NO
2	BRIDGE REHABILITATION	$2.0 M	1	12.25’	YES	NO	NO
3	NEW BRIDGE - EXISTING ALIGNMENT	$6.0 M	1	15’	YES	SLIGHTLY	WEST APPR ONLY
4	NEW BRIDGE - EXISTING ALIGNMENT	$6.8 M	2	22’	YES	SLIGHTLY	WEST APPR ONLY
5	NEW BRIDGE - SHIFTED ALIGNMENT	$6.9 M	1	15’	NO	SLIGHTLY	YES
6	NEW BRIDGE - SHIFTED ALIGNMENT	$7.7 M	2	22’	NO	SLIGHTLY	YES

PROJECT TIMELINE AND NEXT STEPS

- Since the Bridge Closed:
  - Perform Structural Evaluation
  - Environmental Delineation
  - Complete Field Surveys
  - Develop Archaeological Report and Evaluation
  - Develop Alternatives Concepts and Cost Estimates
  - Public Information Meeting

CONTACT INFORMATION

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Anne Arundel County DPW		
Dan Anderson Engineer Manager Anne Arundel County DPW Pwande85@aacounty.org		

Please Submit all Comments by Monday December 3rd 2018

https://www.princegeorgescountymd.gov/3010/Governors-Bridge-Road-Bridge

GOVERNORS BRIDGE ROAD BRIDGE

Department of Public Works and Transportation

Rushern L. Baker, III
County Executive

Thank You!

Gwendolyn T. Clerkley
Acting Director