

## Route 15/29 SBL Bridge Superstructure Replacement & Widening



NOVA District



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## AGENDA

- Existing Structure ■
- Scope ■
- Accelerated Construction Procedure ■
- Construction Staging (Superstructure) ■
- Preparatory Work (Substructure) ■
- Questions



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## EXISTING STRUCTURE

**Location:** Route 15/29 SB Bridge over Broad Run, Prince William County

**Superstructure:** 3-Span, Concrete T beam, Simply Supported

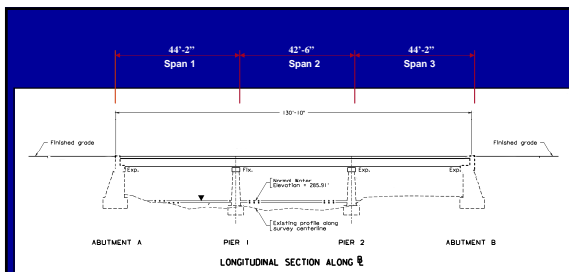
**Substructure:** Wall Type Piers & Abutments

**Year Built:** 1952

**Condition in 2005:** Severe Deterioration of Superstructure



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**Bridge Elevation**



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## Bridge Views



Profile View

Approach Roadway View



AGENDA ■



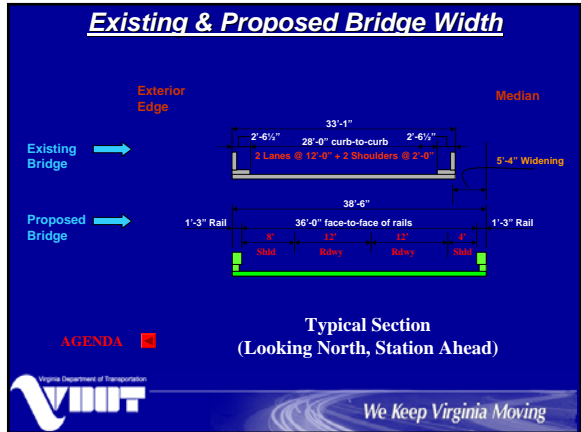
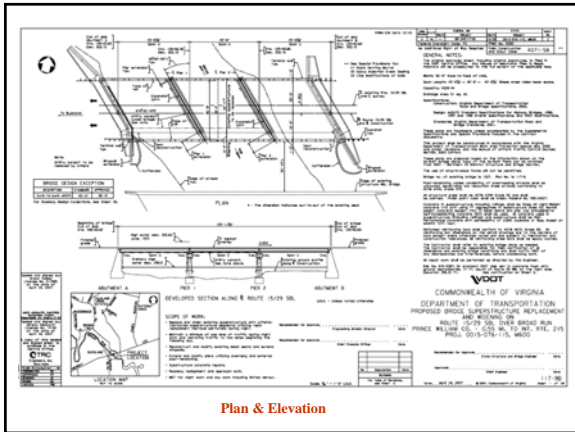
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## SCOPE

- Replace & Widen Superstructure
- Minimize Traffic Disturbance
  - Construction at Night only
  - Maintain 1 Lane of Traffic at Night
  - Restore Traffic to Normal (2 Lanes) at Day
  - Complete Work in 12 Nights



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### ACCELERATED CONSTRUCTION PROCEDURE (MODULAR CONSTRUCTION)

1. Preparatory Work
  - Maintain all Traffic Lanes
  - Widen Approaches
  - Modify Substructure for Modular Superstructure
2. Superstructure Replacement
  - Maintain 1 Lane of Traffic at Night
  - Remove Designated Portions of Superstructure
  - Replace with Modular Segments
  - Restore traffic to Normal (2 Lanes) at Day
  - Accomplish Work in 12 Nights
3. Overlay the Bridge and Approaches

AGENDA

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### PROPOSED MODULAR STRUCTURE

**Module Configuration:**  
 Each Module Consists of a Prefabricated Conc. Deck on Two Steel Beams  
 Module Width Arrangement in Transverse Section: (12'- 11") (9'-0") (8'- 9") (7'-10")  
 Module Length = Span Length (- 44")  
 Max. Module Weight = ~35 tons w/ Lightweight Concrete

**Longitudinal Joints between Modules:**  
 Grouted/Waterproofed Keyways

**Diaphragms between Modules:**  
 Field Installed Steel Diaphragms

**Deck Parapets:**  
 Plant Cast Concrete

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