FAST 4 on VT 73 in Rochester, VT

- VT 73 Bridge Replacement Locations
FAST 4 on VT 73 in Rochester, VT
Bridge 15 Over Brandon Brook

• Located in Historic District
• Substandard Alignment
  • 90° Curve on 60’ Radius Immediately West of Bridge
  • Advisory Speed Limit of 25 MPH
• Sustained Minor Erosion During Irene
• Deteriorated Condition
• Inadequate Hydraulic Capacity
• Functionally Obsolete
Design and Construction Bridges 15 and 16

- Designed with Same Features
- Northeast Extreme Tee (NEXT) D Beams
- Precast Concrete Abutments on Steel H-Piles
- Beams Integral with Precast Curtainwalls and Approach Slab Seats
- Precast Concrete Approach Slabs
- Constructed over Extended Weekend Closure
1. Begin bridge is along the back tangent of curve No. 1, at the intersection of the approach slab seat.

Plan
Scale 1" = 10'-0"
ADDITIONAL END BEAM REINFORCING

DIMENSIONS AND NORMAL TO GRID
SCALE 1/8" = 1'-0"

NOTE: BARS IN FLANGE PLANE SWITZERED FOR CLARITY

PROJECT NAME: ROCHESTER
PROJECT NUMBER: B8E (ENG126)

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Yamasaki Hagen, Resnick, Inc.
VTrans - NEXT Beam Today

NEXT D Beam
Note updates

- Sandblasting changed to 1/8 inch exposed aggregate
- Extended Grout submitted as Concrete mix
Special Provisions

• High Performance Concrete Rapid Set
  • Pile Cavities
  • Joints between NEXT Beams

Lessons Learned
• Separate mix design for cross slopes greater than 2%
• Include inserts in NEXT Beam flange for forming
Special Provisions

- Membrane Waterproofing, Spray Applied
  - Higher Cost than Torch Applied Membrane
  - Provides Superior Protection
- Allowed for Traffic to Drive on Spray Applied Membrane
  - Can Open Bridge Prior to Final Paving (Critical for Short Duration Closures)
Demolition

Precast post-tensioned Abutments

Slider Beam
Closure Pour

Forming of Longitudinal Joint

Approach Slabs Placed
Spray Applied Membrane

Bridge Complete

Spray Applied Membrane with Cast Aggregate
Questions?