



Lincoln BO TRUS(7) Local Concerns Meeting

Town Highway 6 – Bridge 46 over New Haven River

April 1, 2025

Introductions

JB McCarthy, P.E.

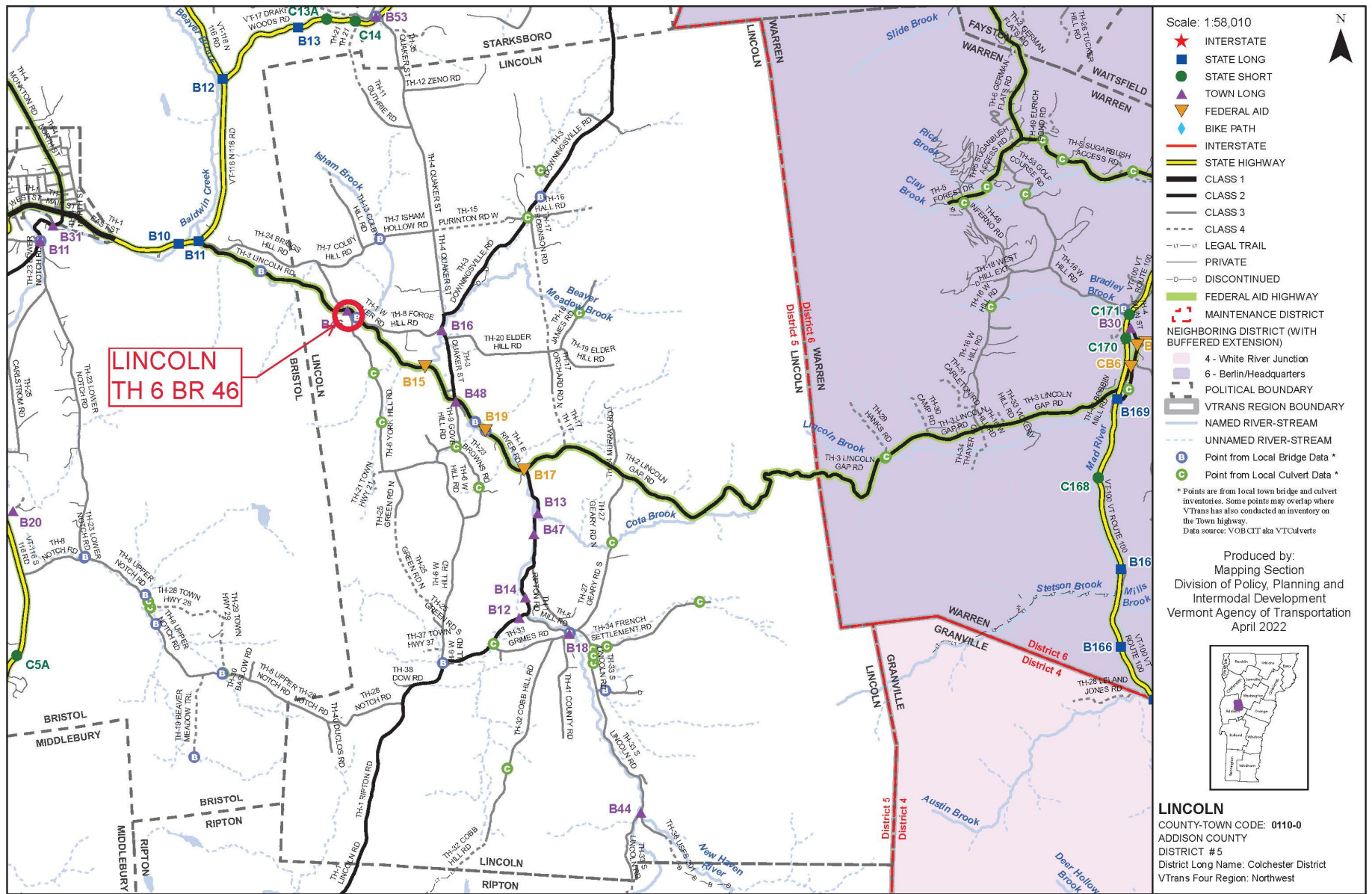
VTrans Design Project Manager

Laura Stone, P.E.

VTrans Scoping Engineer

Purpose of Meeting

- Provide an understanding of our approach to the project
- Provide an overview of project constraints
- Gather Town's needs for the project
- Discuss alternatives that are being considered
- Provide an opportunity to ask questions and voice concerns

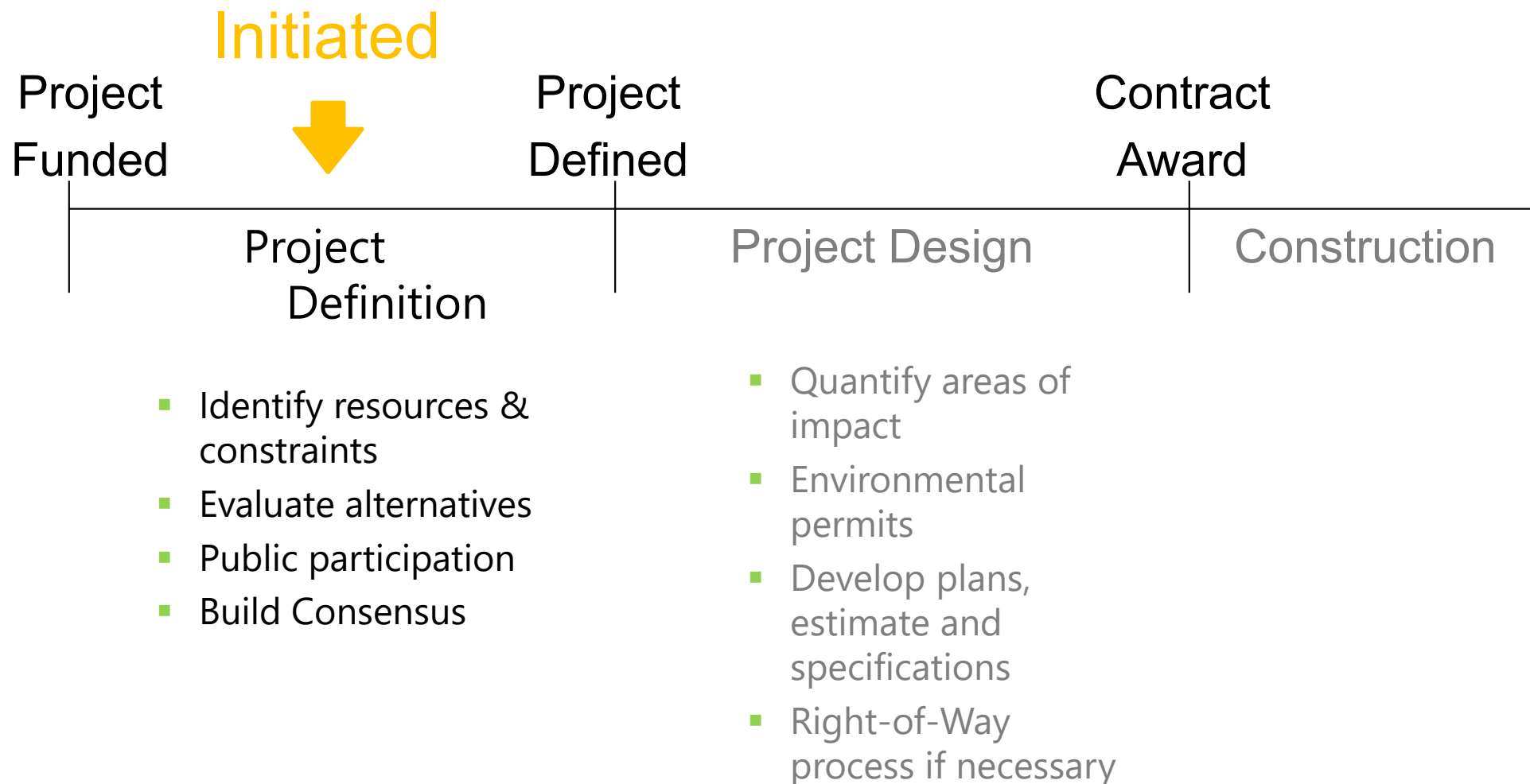


Location Map

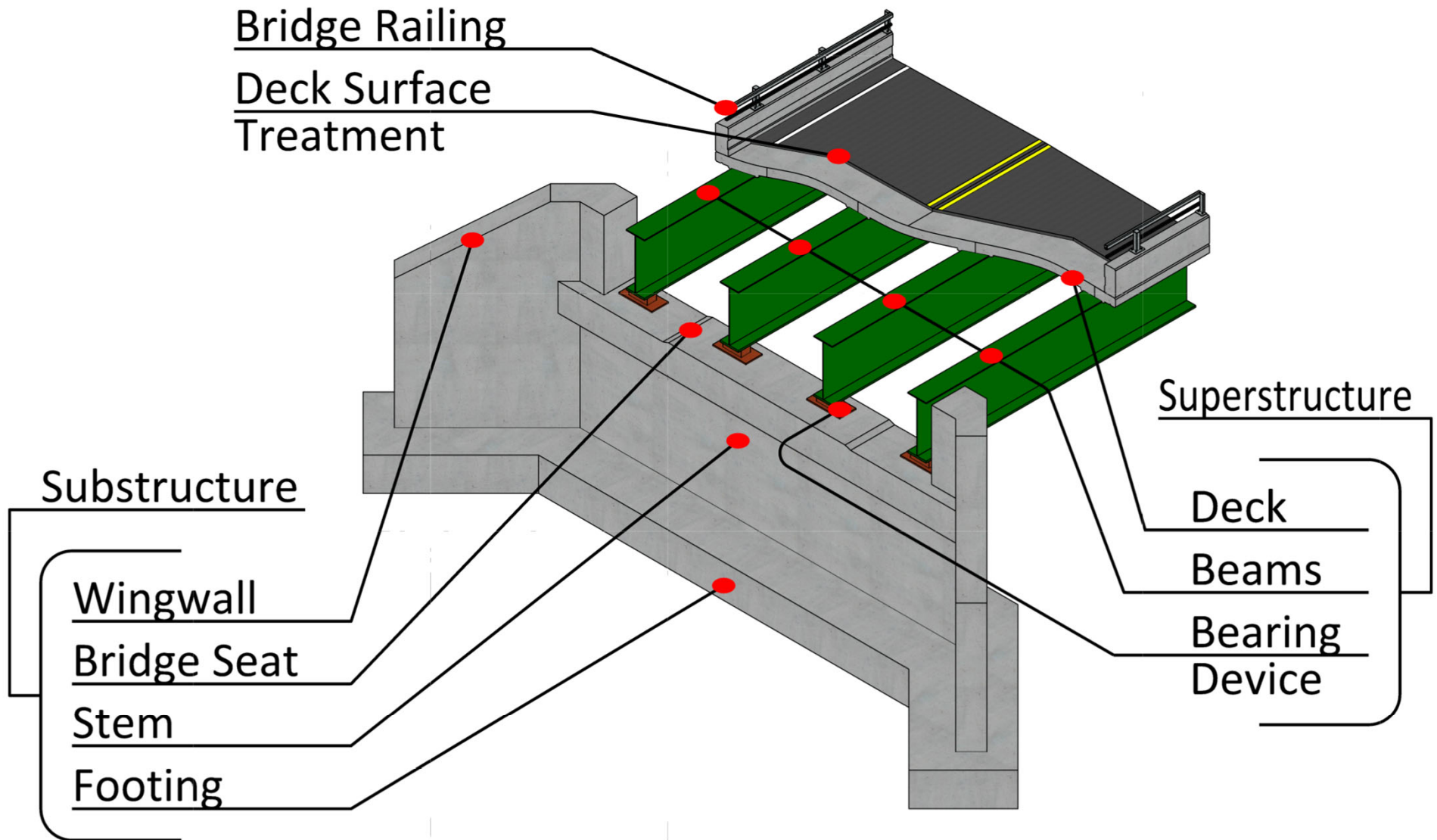


Bridge 46
Project Location

VTrans Project Development Process



Description of Terms Used



Looking North Towards TH 1



Existing Conditions – Bridge #46

- Roadway Classification – Local Road, Class 3
- Bridge Type – Parker Pony Truss
- Ownership – Town of Lincoln
- Constructed in 1919, reconstructed in 1970

ACT 153 of the 2012 Legislative Session

	Local Share	
	Road Closed During Construction	Road Open During Construction
Rehabilitation	2.5%	5%
Replacement	5%	10%

- Per Act 153, the local share is reduced by 50% for rehabilitating versus replacement
- Per Act 153, the local share is reduced by 50% for closing the road to traffic during construction

Looking South



Existing Conditions – Bridge #46

- Utilities – Aerial (Green Mountain Power, Comcast, Waitsfield Champlain Valley Telecom)
- Posted for 8 Ton Weight Limit

Existing Conditions – Bridge #46

- The bridge has been getting spot repairs for a decade and the existing steel is showing deterioration. The guardrail is damaged and substandard. The deck needs a new layer of asphalt, preferably with a protective sealant underneath.
- The shoulder width on Bridge 46 and TH 6 is substandard.
- Bridge 46 has substandard freeboard, and the bridge was partially submerged in the 1976, 1998, 2011, & 2023 flood events. The bottom chords should also be washed to remove debris from the flood events.

Extensive Corrosion



Existing Conditions - Bridge #46

- Deck Rating 6 (Satisfactory)
- Superstructure Rating 4 (Poor) – 12-month inspection frequency!
- Substructure Rating 6 (Satisfactory)
- Channel Rating 6 (Satisfactory)

Southern Abutment



Existing Conditions - Bridge #46

Northern Abutment



Existing Conditions - Bridge #46

Looking Upstream



Existing Conditions - Bridge #46

Looking Downstream



Existing Conditions - Bridge #46

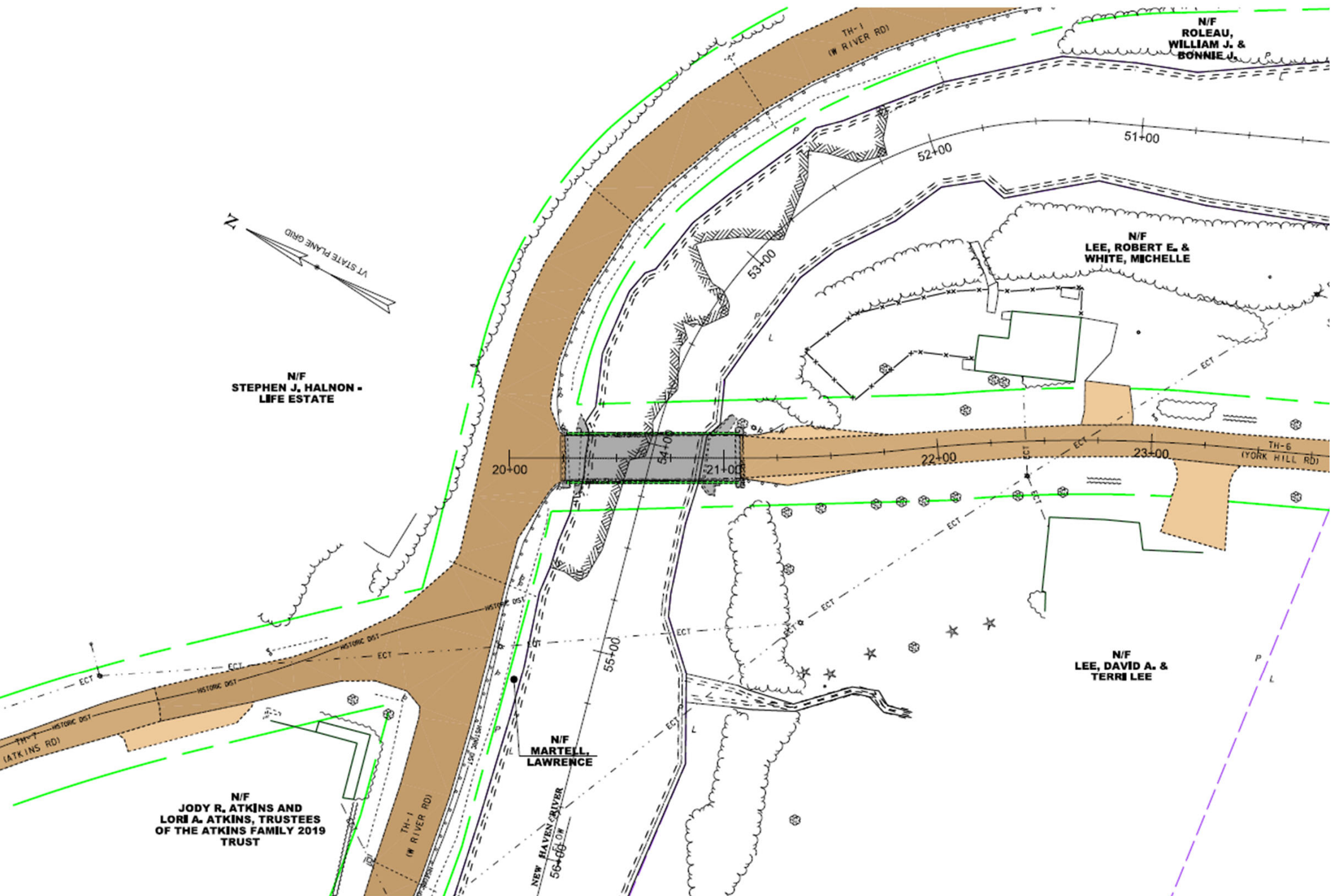
Extensive Corrosion



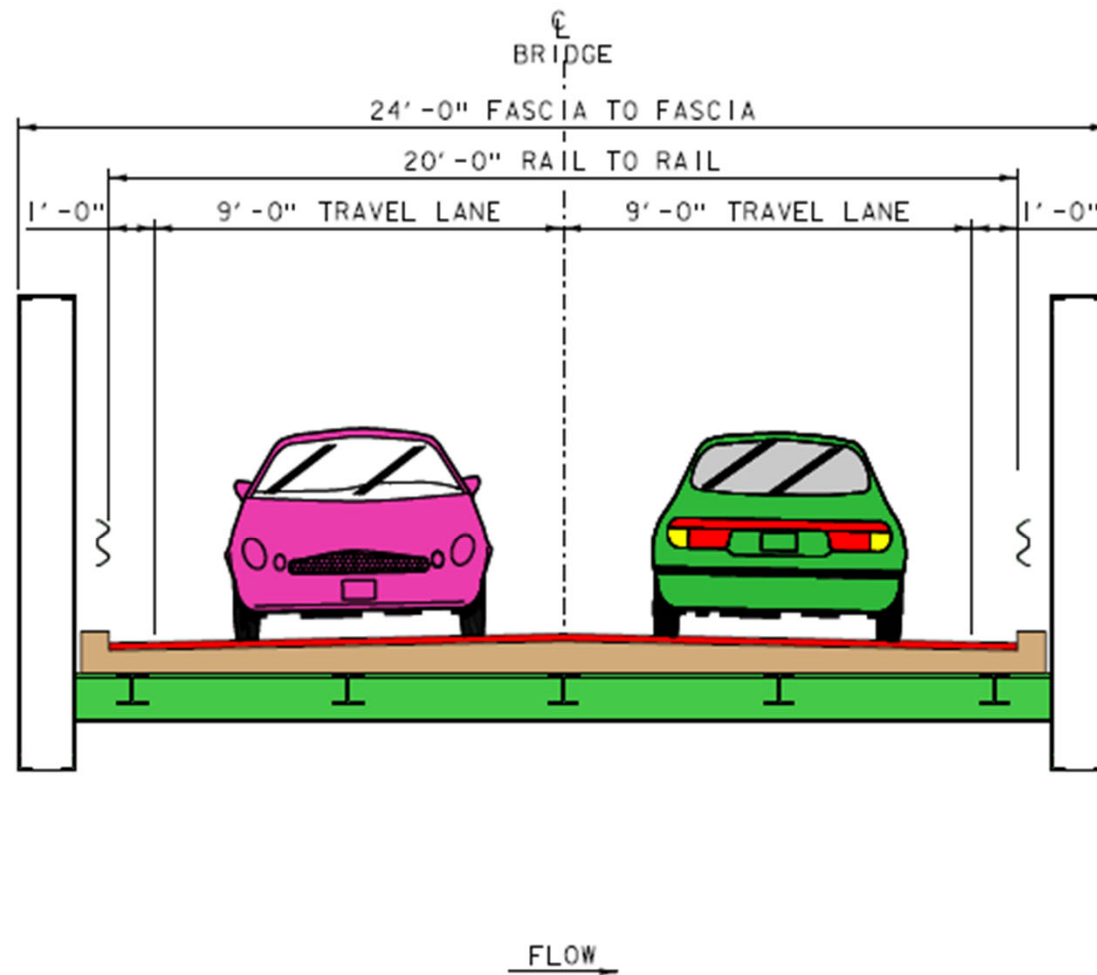
Existing Conditions – Bridge #46

- Wetland – None
- Rare, Threatened and Endangered Species - None
- Likely to facilitate terrestrial wildlife movement
- Archaeological - None

Existing Conditions Layout

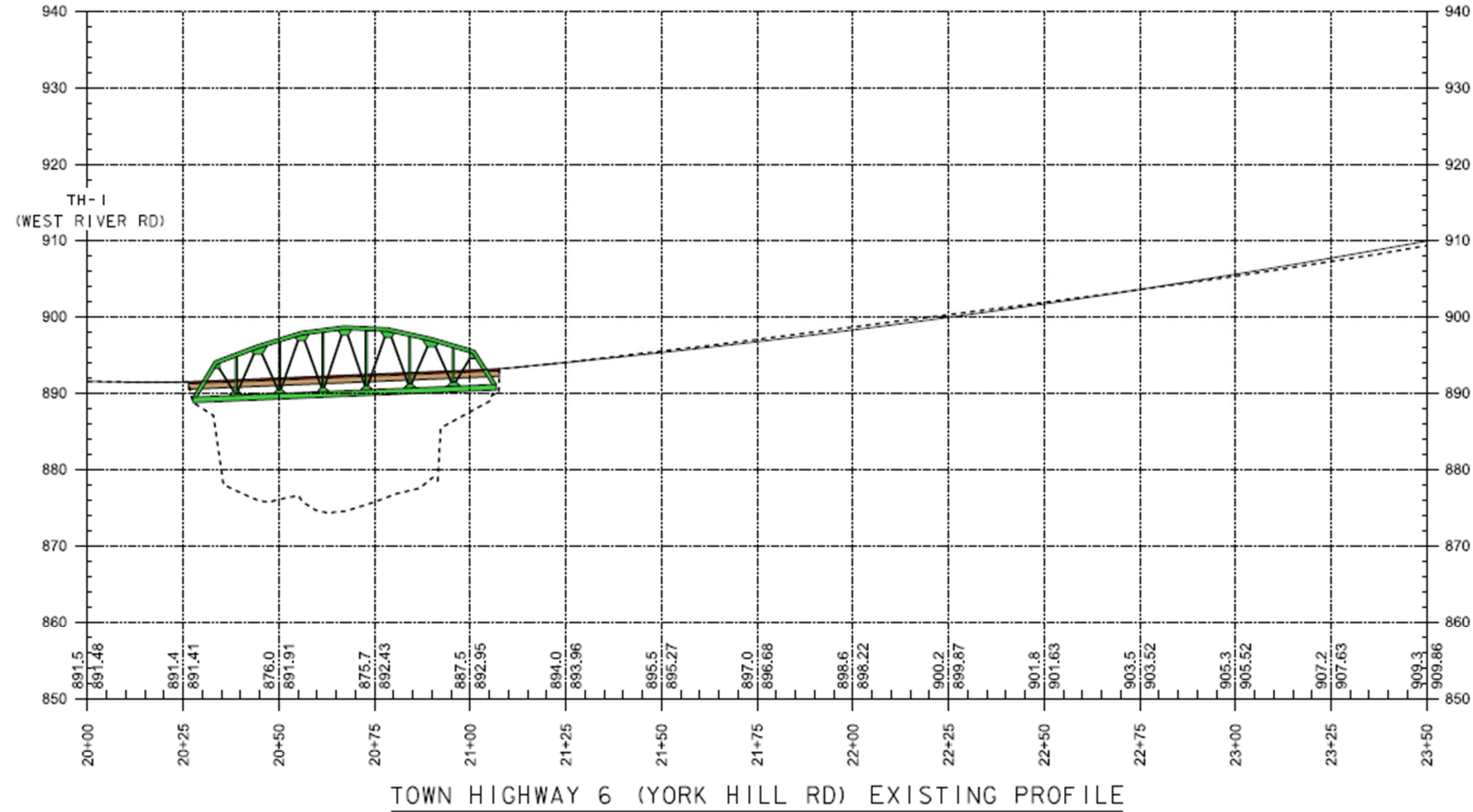


Existing Conditions Typical Section



EXISTING BRIDGE TYPICAL SECTION

Existing Conditions Profile



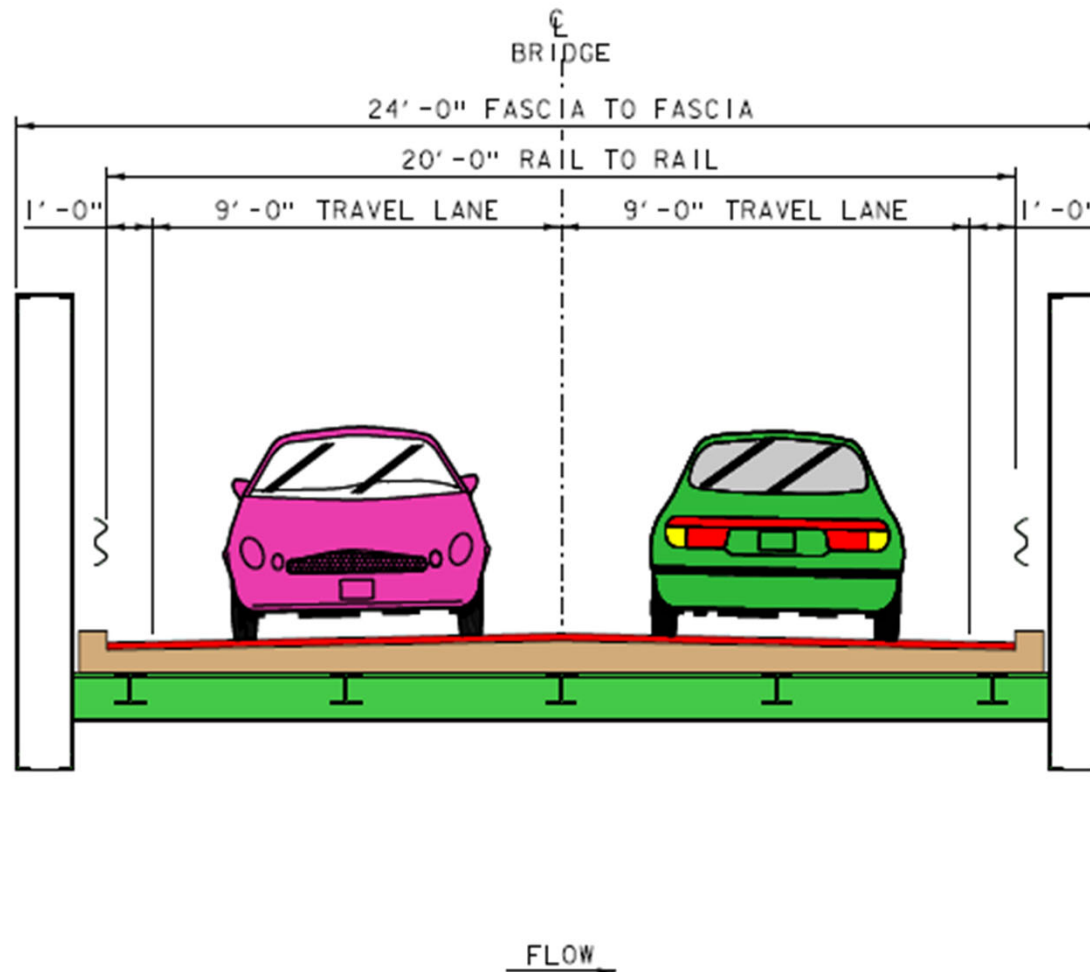
Design Criteria and Considerations

- Average Daily Traffic
 - 140 vehicles per day
- Design Hourly Volume
 - 22 vehicles per hour
- % Trucks
 - 6.0%
- Design Speed: 35 MPH

Alternatives Considered – Bridge #46

- No Action
 - Not recommended. Additional maintenance is required
- Truss Rehabilitation
 - Structural deficiencies would be addressed
 - Matches existing typical (9'/1')
 - 40-year design life
- Full Bridge Replacement with New Pony Truss (On and Off Alignment)
 - 80' span for improved hydraulics, and meet minimum BFW standards
 - Widen to meet minimum standard (9'/2')
 - 75-year design life
- Full Bridge Replacement with Steel Beam Bridge (On and Off Alignment)
 - 85' span for improved hydraulics
 - Widen to meet minimum standard (9'/2')
 - 75-year design life

Alternative 1 Typical

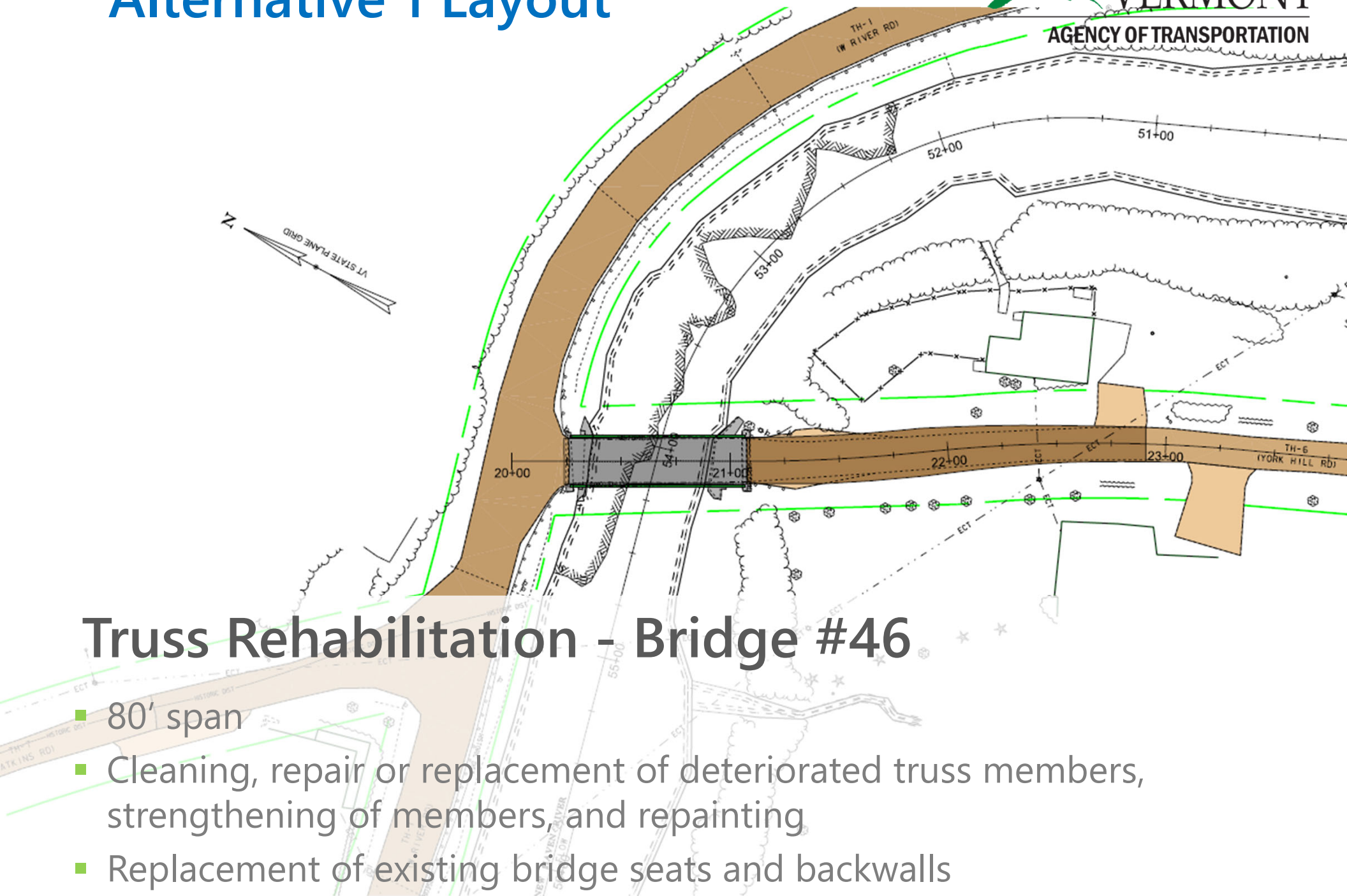


EXISTING BRIDGE TYPICAL SECTION

Truss Rehabilitation - Bridge #46

- 9'/1' typical, meets existing

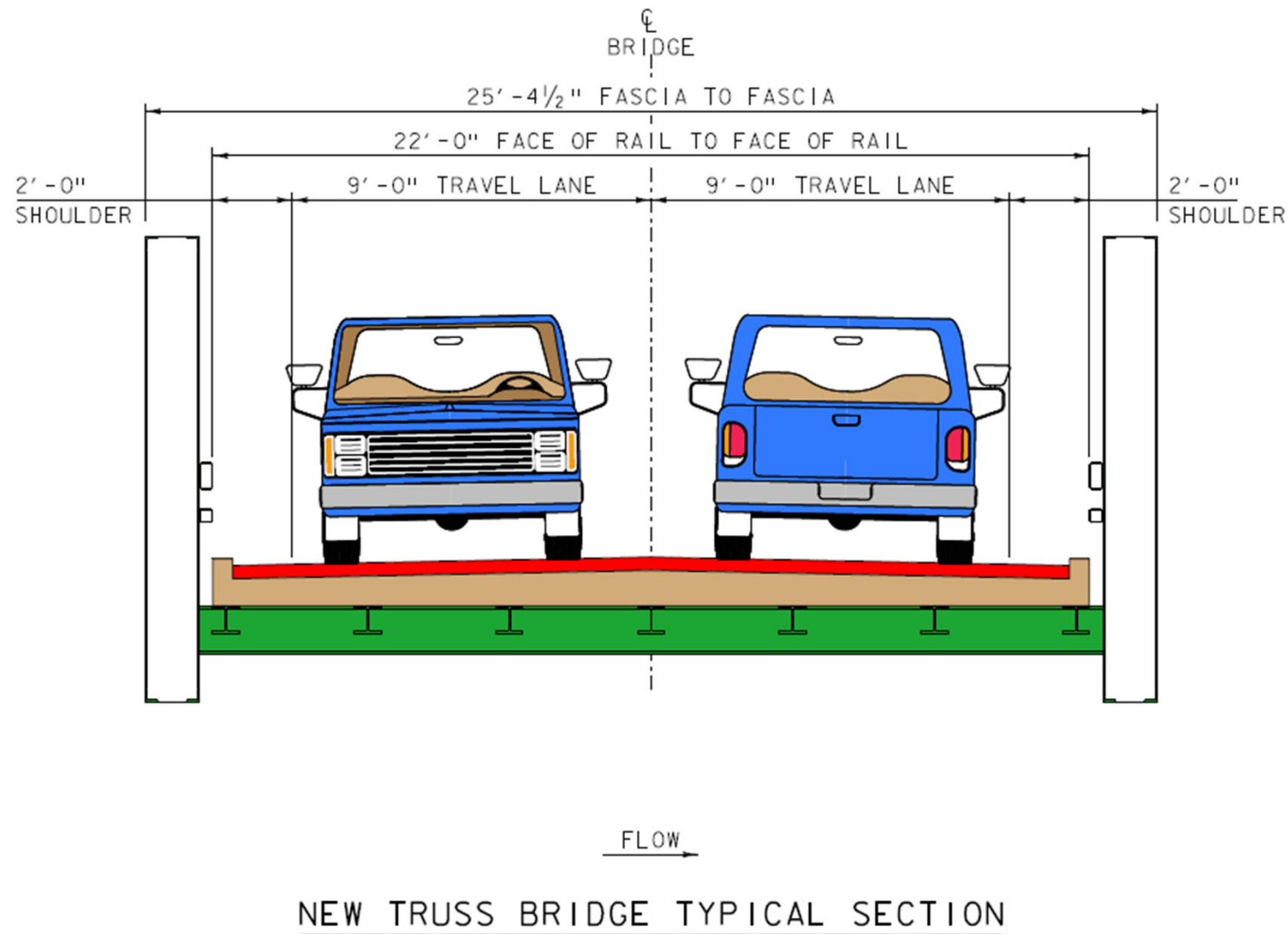
Alternative 1 Layout



Truss Rehabilitation - Bridge #46

- 80' span
- Cleaning, repair or replacement of deteriorated truss members, strengthening of members, and repainting
- Replacement of existing bridge seats and backwalls
- Construct new floor system and deck

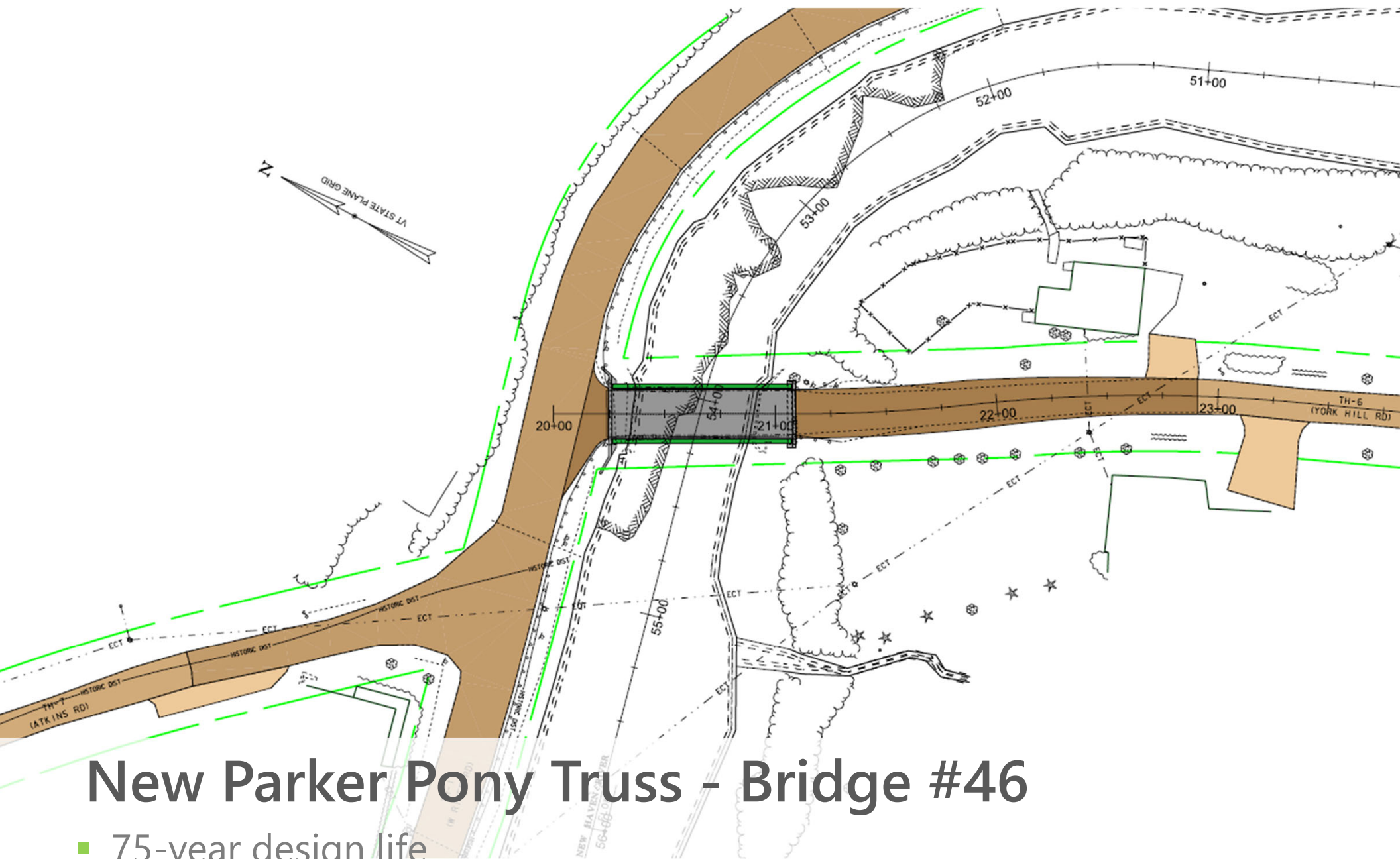
Alternative 2 New Pony Truss Typical



New Parker Pony Truss - Bridge #46

- 9' 1/2' typical

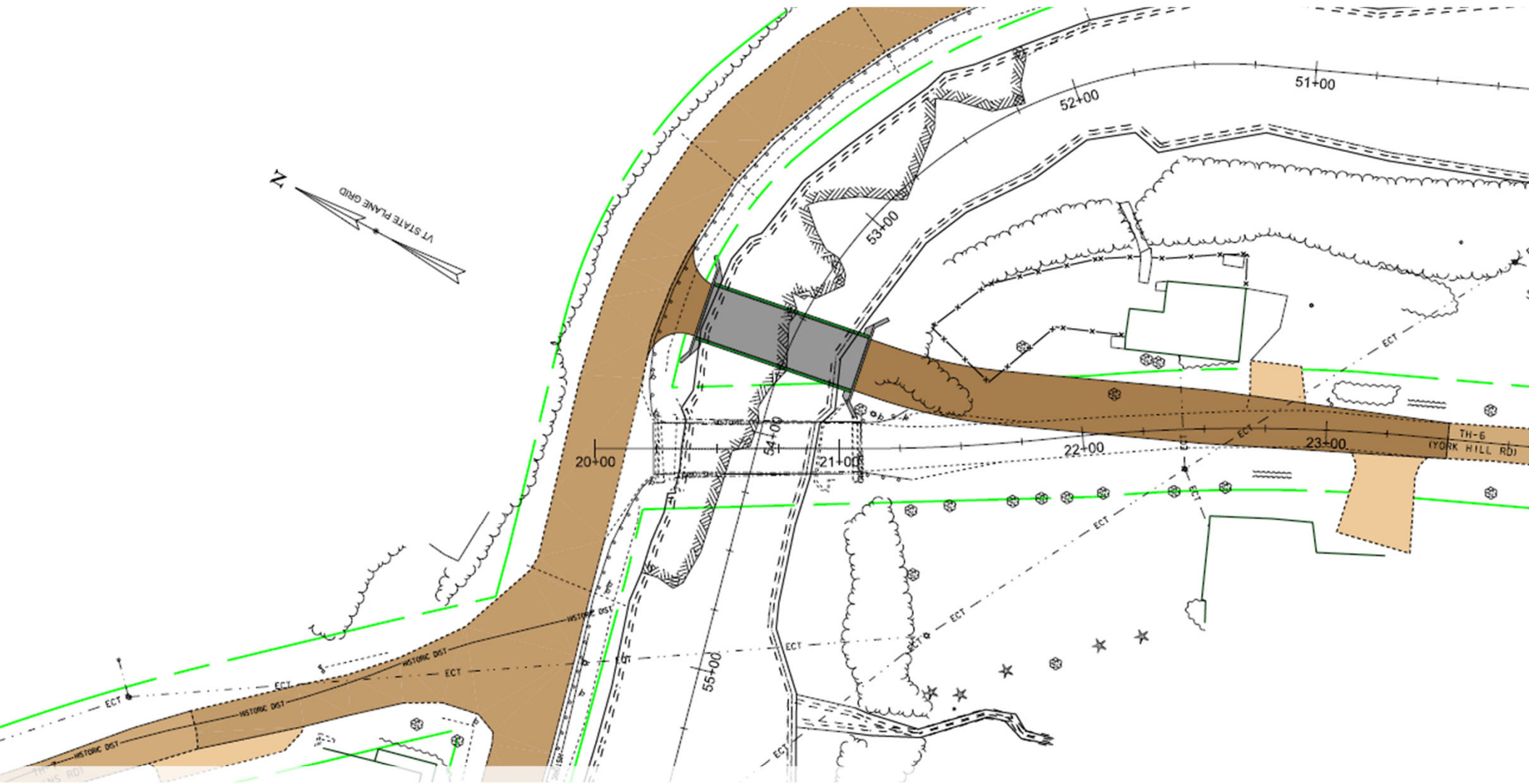
Alternative 2 On-Alignment Layout



New Parker Pony Truss - Bridge #46

- 75-year design life
- 80' span for improved hydraulics

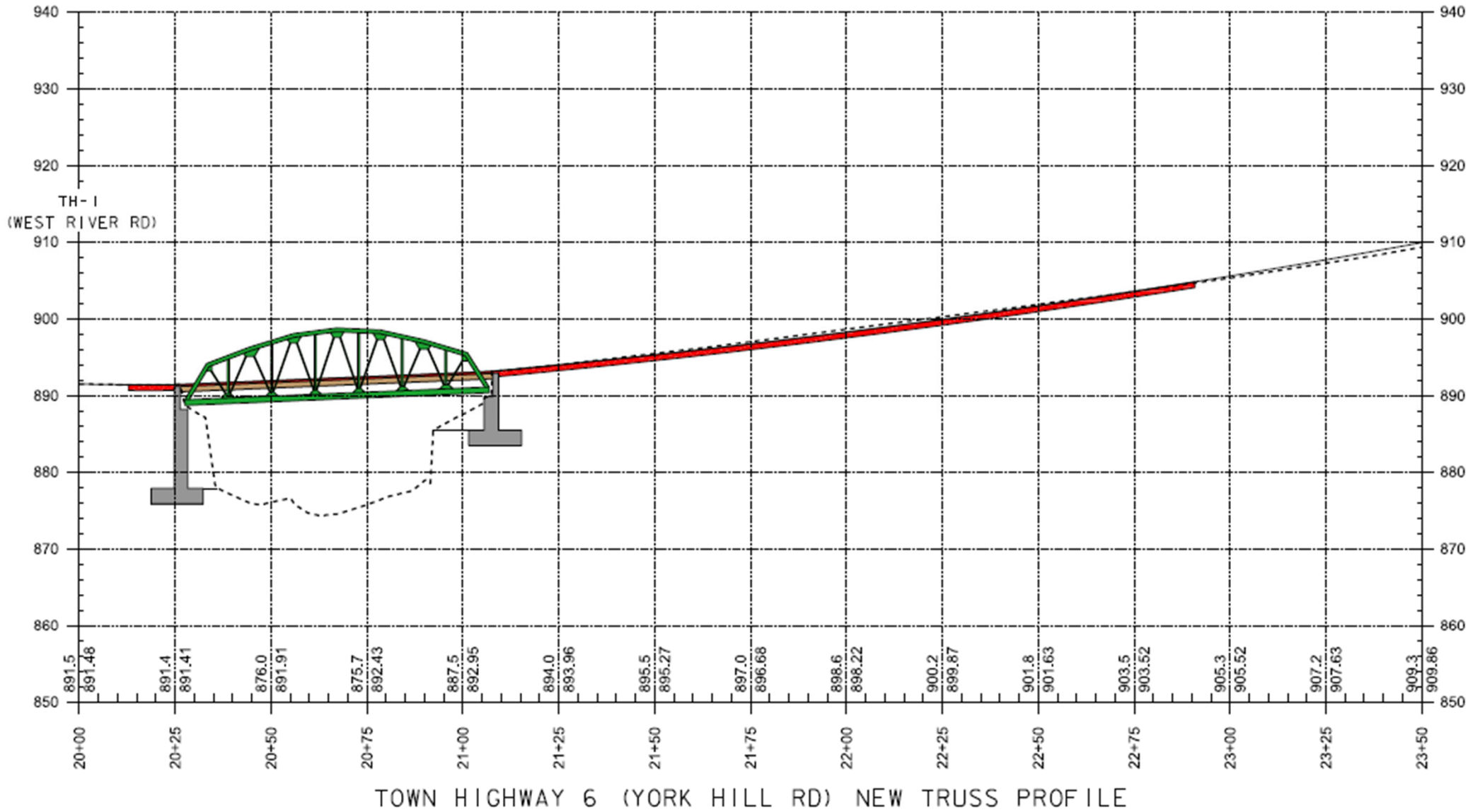
Alternative 2 Off-Alignment Layout



New Parker Pony Truss - Bridge #46

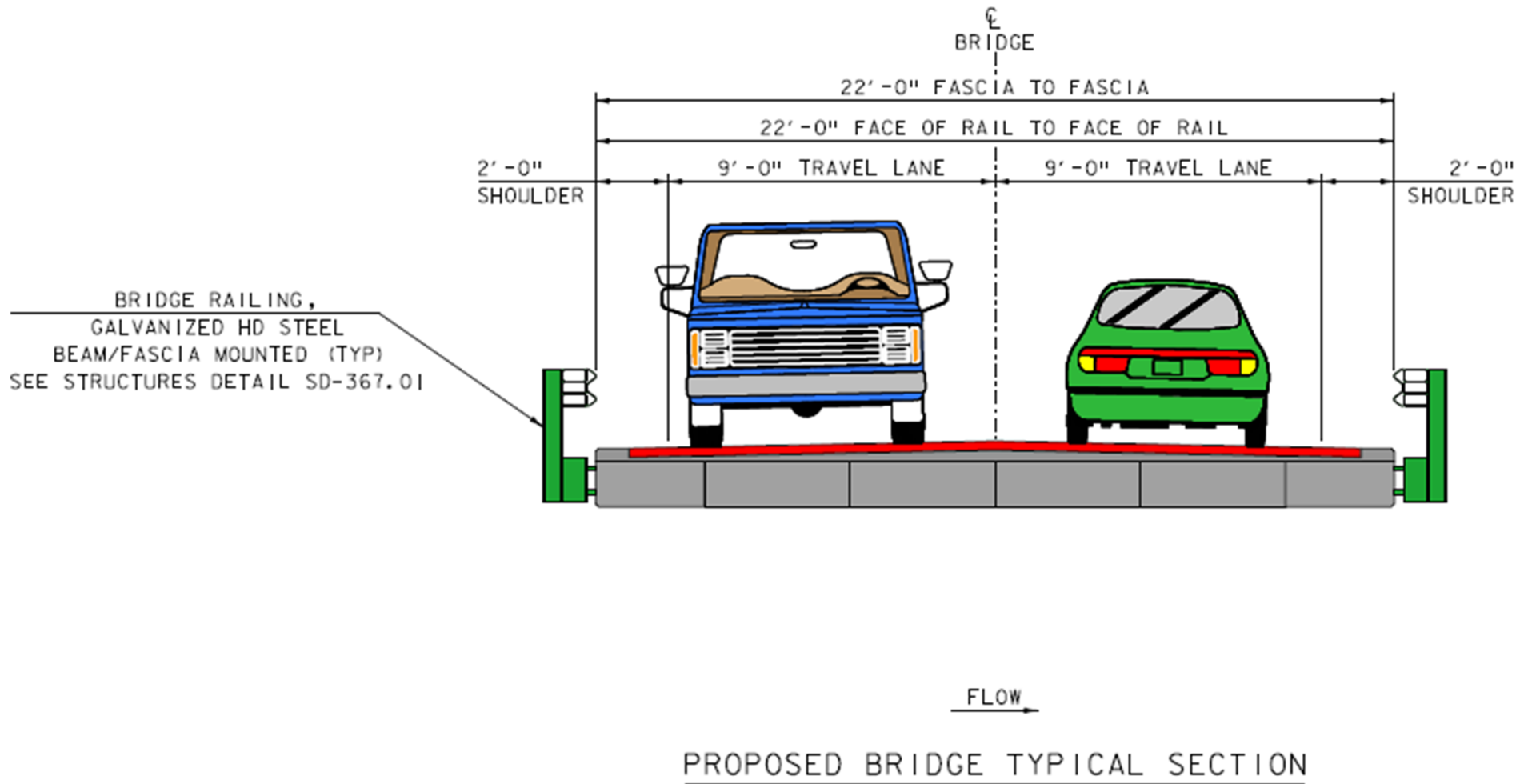
- 75-year design life
- 80' span for improved hydraulics

Alternative 3 Profile



New Parker Pony Truss - Bridge #46

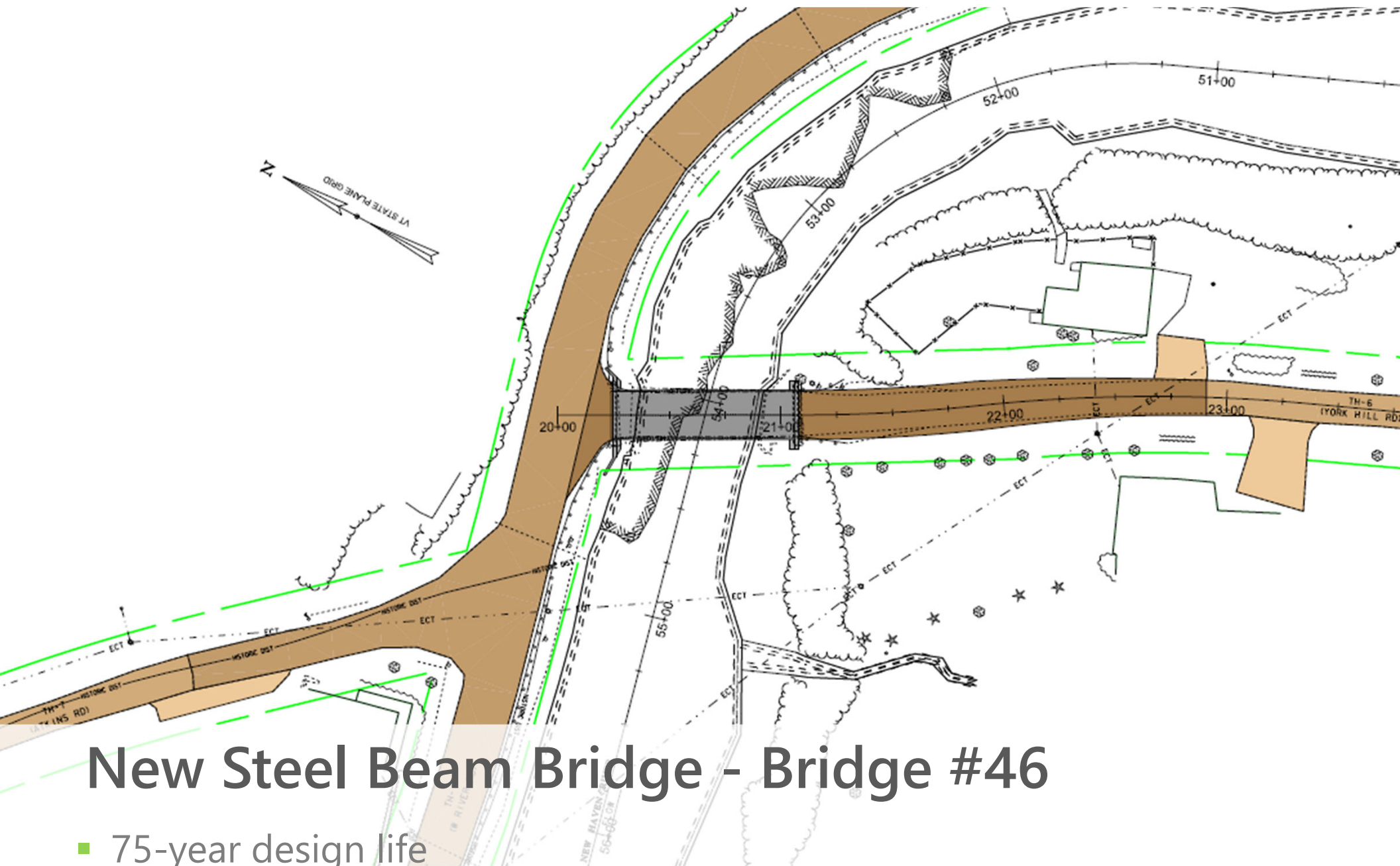
Alternative 3 New Steel Beam Bridge Typical



New Steel Beam Bridge - Bridge #46

- 9'/2' typical

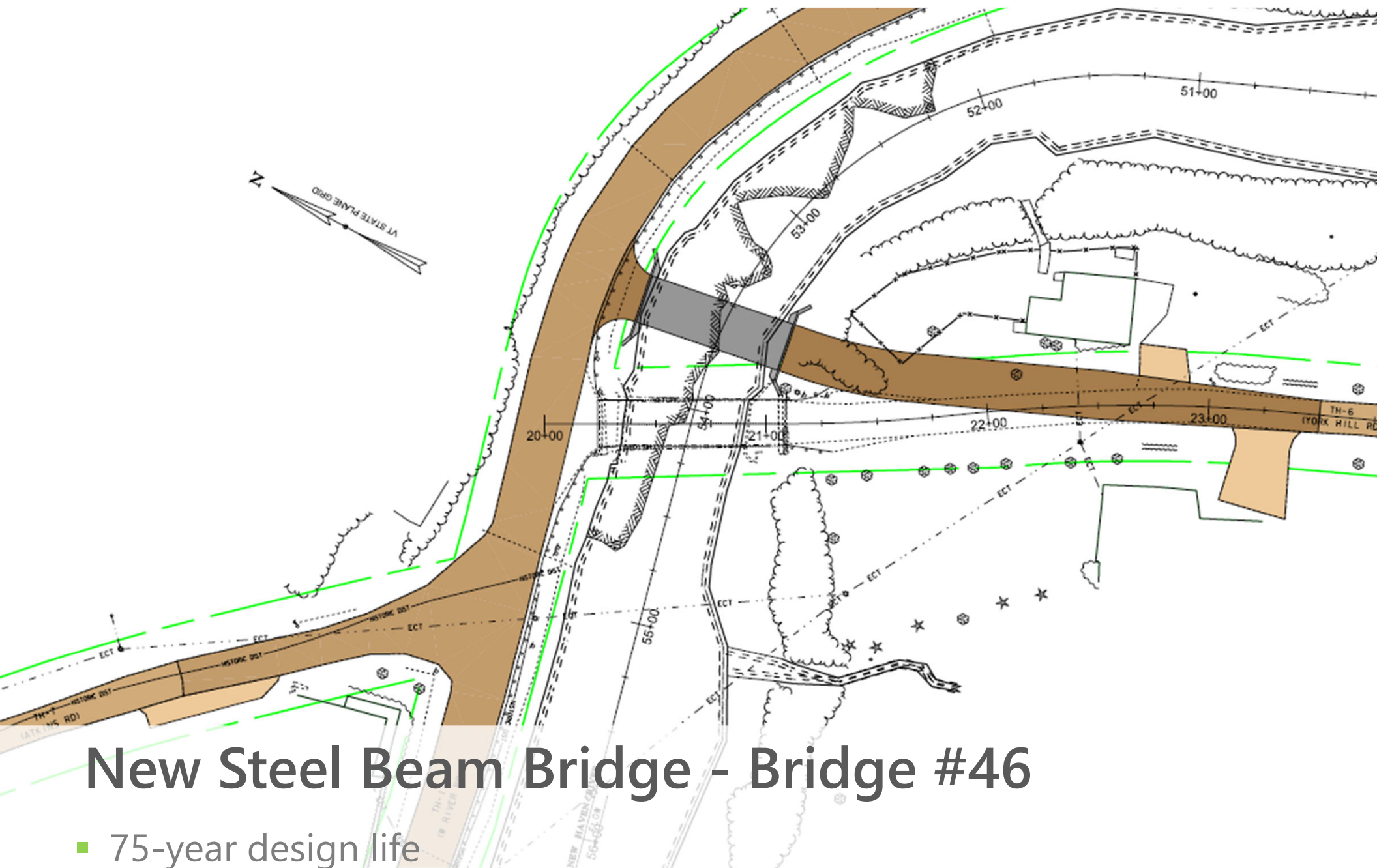
Alternative 3 On-Alignment Layout



New Steel Beam Bridge - Bridge #46

- 75-year design life
- 85' span for improved hydraulics

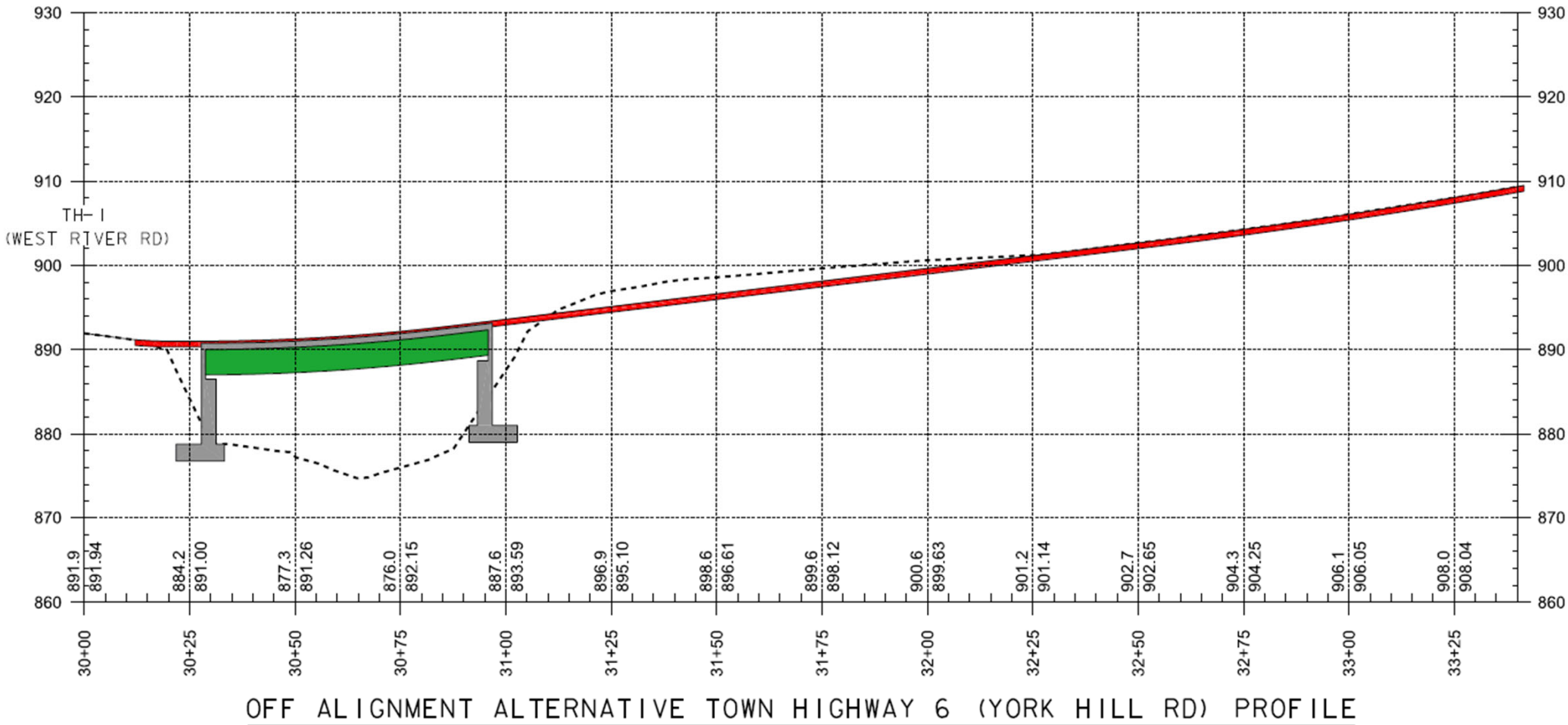
Alternative 3 Off-Alignment Layout



New Steel Beam Bridge - Bridge #46

- 75-year design life
- 85' span for improved hydraulics

Alternative 3 Profile



New Steel Beam Bridge - Bridge #46

Maintenance of Traffic Options Considered

- Offsite Detour
- Temporary Bridge

A photograph of a road closure. In the center, a white rectangular sign with a black border and the words "ROAD CLOSED" in large, bold, black capital letters is mounted on a white post. The sign is flanked by two horizontal barriers with red and white diagonal stripes. In the background, there is a concrete wall, a chain-link fence, and green trees under a clear blue sky.

ROAD
CLOSED

Road Closure

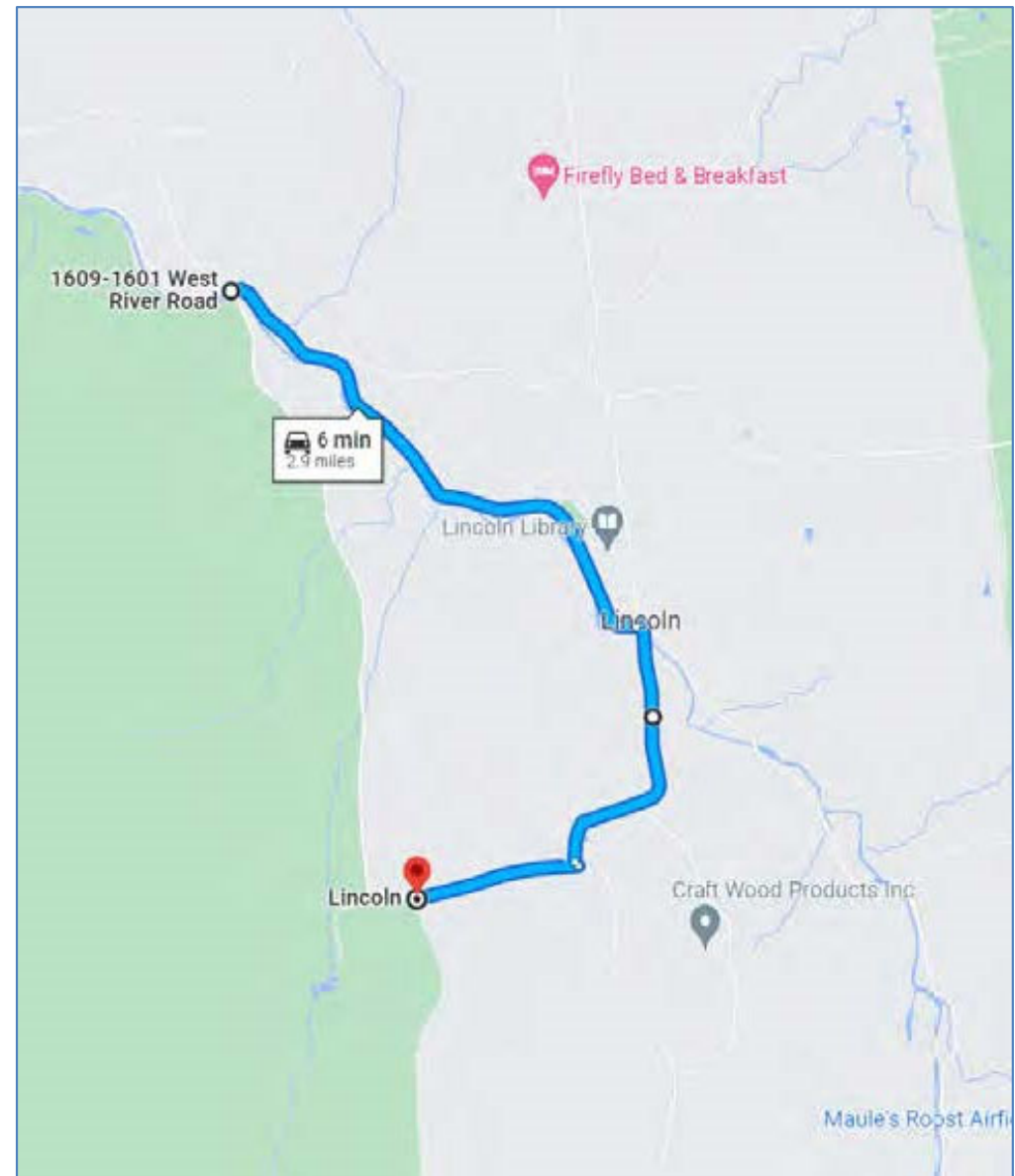
- Detour chosen and signed by Town
- Construction Season duration
- Shortest Detour Route is 4.8 miles end-to-end

Traffic Control – Detour

- **Regional Detour Route:**

From the intersection of West Hill Rd. and York Hill Rd. - Gove Hill Rd. to West River Rd., and back to the intersection of West River Rd. and West Hill Rd.

- End-to-End Distance: 4.8 miles
- Through Distance: 1.9 miles
- Detour Distance: 2.9 miles
- Added Distance: 1.0 mile

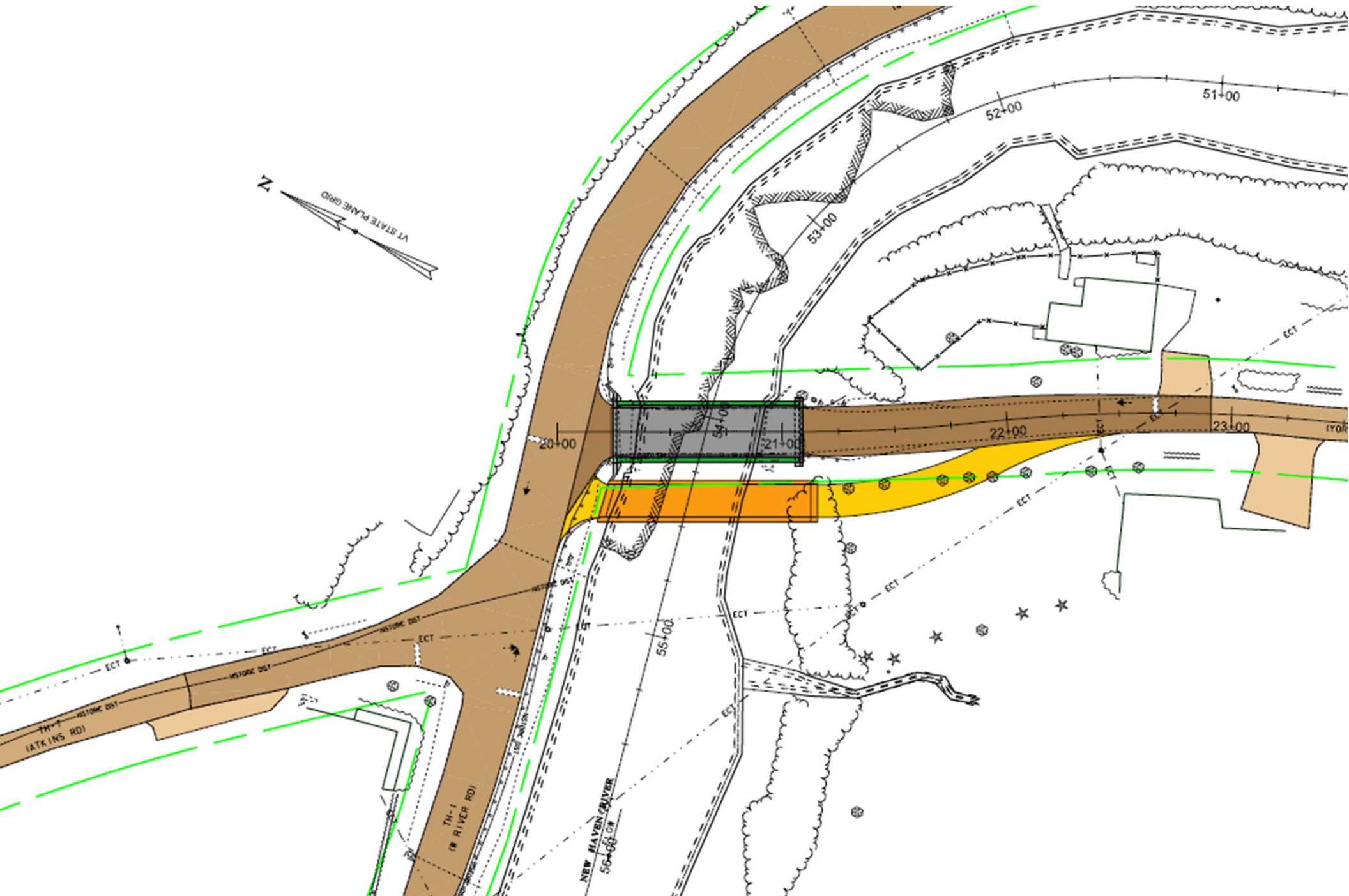




Temporary Bridge/Roadway

- One Lane Temporary Bridge constructed Downstream

Downstream Temporary Bridge Layout



Alternatives Matrix

Lincoln BO TRUS(7)	Do Nothing	Alternative 1		Alternative 2			Alternative 3		
		Truss Rehabilitation		Full Bridge Replacement with New Parker Pony Truss			Full Bridge Replacement with New Steel Beam Bridge		
		On-Alignment		On-Alignment		Off-Alignment	On-Alignment		Off-Alignment
		a. Off-site Detour	b. Temporary Bridge	a. Off-site Detour	b. Temporary Bridge	c. Existing Bridge in Use	a. Off-site Detour	b. Temporary Bridge	c. Existing Bridge in Use
Total Construction Costs w CEC	\$0	2,687,863	2,823,231	3,775,533	3,635,670	3,526,500	2,730,858	2,826,656	2,779,375
Preliminary Engineering	\$0	509,065	564,646	456,718	908,918	564,240	315,099	452,265	444,700
Right of Way	\$0	-	30,000	-	30,000	75,000	-	30,000	75,000
Total Project Costs	\$0	3,196,928	3,417,878	4,232,251	4,574,588	4,165,740	3,045,957	3,308,921	3,299,075
Annualized Costs	\$0	79,923	85,447	56,430	60,995	55,543	40,613	44,119	43,988
TOWN SHARE	N/A	79,923	170,894	211,613	457,459	416,574	152,298	330,892	329,908
TOWN %	N/A	2.50%	5%	5%	10%	10%	5%	10%	10%
Project Development Duration	N/A	4 years	4 years	4 years	4 years	4 years	4 years	4 years	4 years
Construction Duration	N/A	6 months	8 months	6 months	8 months	6 months	6 months	8 months	6 months
Closure Duration (If Applicable)	N/A	4 months	N/A	6 months	N/A	N/A	6 months	N/A	N/A
Typical Section - Roadway (feet)	16	16	16	22	22	22	22	22	22
Typical Section - Bridge (feet)	20	20	20	22	22	22	22	22	22
Geometric Design Criteria	Substandard Width	Substandard Width		Meets Minimum Standard			Meets Minimum Standard		
Traffic Safety	No Change	No Change	No Change	Improved	Improved	Improved	Improved	Improved	Improved
Alignment Change	No Change	No Change	No Change	No Change		Change	No Change		Change
Bicycle Access	No Change	No Change	No Change	Improved	Improved	Improved	Improved	Improved	Improved
Pedestrian Access	No Change	No Change	No Change	Improved	Improved	Improved	Improved	Improved	Improved
Hydraulics	Meets Minimum Standard	Meets Minimum Standard		Meets Minimum Standard			Meets Minimum Standard		
Utilities	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change
ROW Acquisition	No Change	No	Yes	No	Yes	Yes	No	Yes	Yes
Road Closure	No Change	Yes	No	Yes	No	No	Yes	No	No
Design Life	<10	40	40	75	75	75	75	75	75

Recommended Alternative Traffic - Bridge #46

- Maintain Traffic on an Offsite Detour
 - Method of traffic control will close the bridge for a construction season and maintain traffic on an offsite detour
 - By closing the road to traffic during construction, the local share is reduced by 50%

Recommended Alternative Bridge - Bridge #46

- Truss rehabilitation with new abutments
 - Cleaning, repairing or replacing deteriorated truss members, strengthening of members, and repainting
 - Replacement of existing foundations
 - Construct new floor system, deck and guardrail
 - 40-year design life
 - 2.5% Town Share with traffic detoured during construction

OR

- Full Bridge Replacement
 - Replace all bridge components – either a new pony truss or new conventional steel beam bridge is feasible
 - 75-year design life
 - 5.0% Town Share with traffic detoured during construction

Preliminary Project Schedule

- Construction Start – 2030
 - Total Cost Estimate: approx. \$3-4 Million
 - Town Share: Ranges from 2.5% to 10%

Next Steps – Bridge #46

This is a list of a few important activities expected in the near future and is not a complete list of activities.

- ➡ ■ Finalize scoping report recommendation based on Local Concerns Meeting Input
- Wait for Town response to recommendation on proposed project
- Develop Conceptual plans and distribute for comment
- Process local agreements
- Right-of-Way process (if needed)
- Updates on project plans and estimates at each submittal



Lincoln BO TRUS(7)

Questions and Comments

Town Highway 6 – Bridge 46 over New Haven River

April 1, 2025