



# ALTERNATIVES PRESENTATION MEETING

DEPOT STREET BRIDGE  
JAMAICA BO 1442(42)  
TH 19, BRIDGE NO. 32 OVER WEST RIVER

JUNE 28, 2021



Vermont Agency of Transportation  
Jamaica BO 1442(42)

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# PRESENTATION OUTLINE

- Introductions / Purpose of Meeting
- Location Map
- VTrans Project Development Process
- Existing Conditions
- Design Criteria and Considerations
- Alternatives Considered – Bridge #32
- Recommended Alternative – Bridge #32
- Preliminary Project Schedule
- Questions



# INTRODUCTIONS

- Laura Stone, P.E.
  - VTrans Scoping Engineer
- Gary Laroche, P.E.
  - VTrans Project Manager
- Kyle Obenauer
  - VTrans Senior Architectural Historian
- Sean James, P.E.
  - Hoyle Tanner Project Manager



# PURPOSE OF MEETING

- Provide an Understanding of Our Approach to the Project
- Provide and Overview of Project Constraints
- Discuss Our Recommended Alternative
- Provide and Opportunity to Ask Questions and Voice Concerns



# LOCATION MAP



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# VTRANS PROJECT DEVELOPMENT PROCESS



# EXISTING BRIDGE INFORMATION

- Bridge No. 32 constructed in 1926
- Fabricated by the Berlin Construction Company
- Kittredge Bridge Company as the contractor
- Pratt Through-Trusses:
  - 165' Total Span Length
  - 15'-4" On Center, 13'-6" Between Curbs
  - 14'-7" Vertical Clearance
  - Posted Weight: 8 Tons



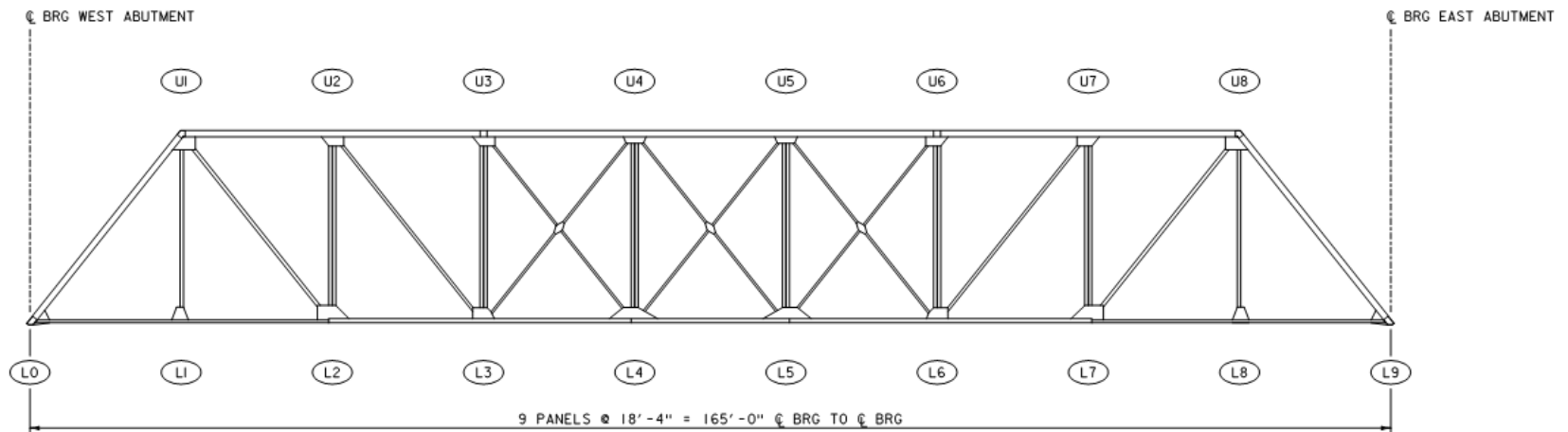
## EXISTING BRIDGE INFORMATION

- Precursor to post-1927 standardized Pratt Trusses
- Utilizes built up members rather than rolled I-beams
- Meets registration requirements for inclusion in the National Register of Historic Places (NRHP)
- 1998 VTrans Historic Bridge Programmatic Agreement
  - Listed as Category A for limited highway use
  - Change of use would require additional review and agreements
- Substructures: dry-laid stone masonry

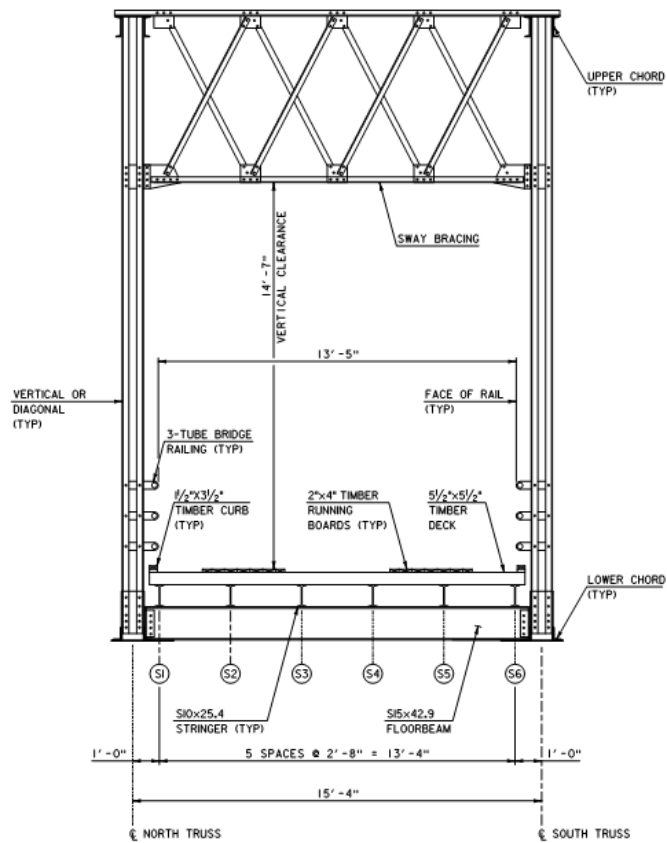




# ELEVATION VIEW



# TYPICAL SECTION



EXISTING BRIDGE SECTION



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# INSPECTION FINDINGS

- National Bridge Inspection Standard Condition Ratings
  - 9 = Excellent
  - 0 = Failed Condition - Closed
- Overall bridge condition is rated 6 or satisfactory.
  - Deck condition is rated 6 or satisfactory.
  - Superstructure condition is rated 6 or satisfactory.
  - Substructure condition is rated 6 or satisfactory.
  - Channel condition is rated 8 or very good.



# APPROACHES

Limited  
sightlines  
north  
approach

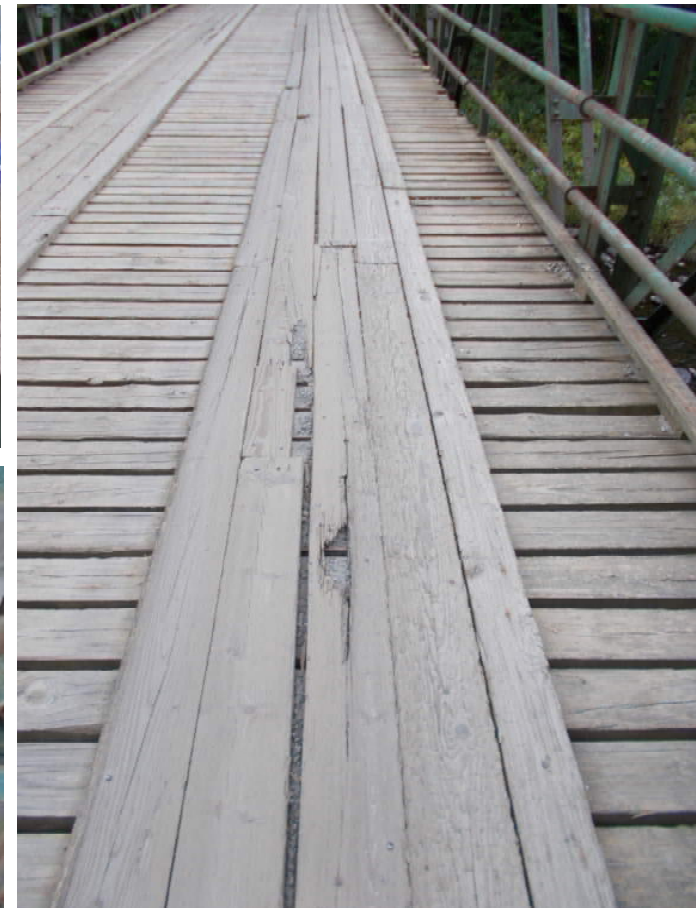


Satisfactory  
sightlines  
south  
approach



# DECK

Transverse deck planks are in fair condition



# FLOOR SYSTEM

Stringers and floorbeams have some section loss

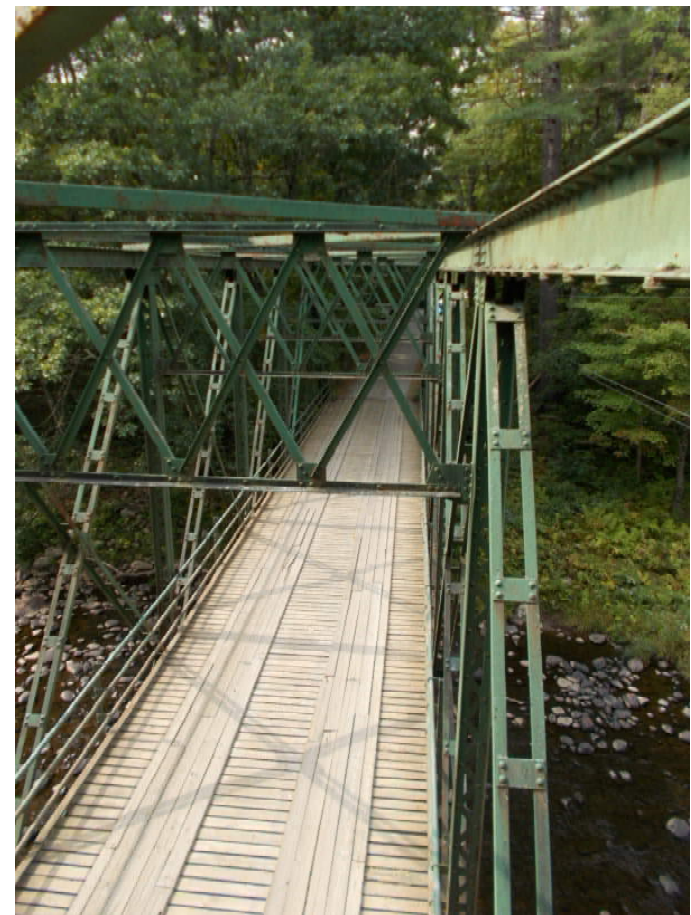


Debris collecting on floor system members from gaps in deck



# TRUSS MEMBERS

Minor section loss observed on lower portions of trusses



# SUBSTRUCTURE

Some smaller stones have fallen outward from abutment faces





# RESOURCES

- Resource ID Completed in October 2019 by Others
  - Study Area
    - 100' Upstream and Downstream
    - 200' Beyond Bridge on Approaches
    - 50' Beyond Edge of Pavement
  - Natural Resources ID

**Table 1. Resource ID Summary Table**

| TOWN    | STRUCTURE ID | WETLANDS | SURFACE WATERS | FLOODPLAIN / FLOODWAY | SIGNIFICANT HABITAT | RTE SPECIES | FARMLAND SOILS | INVASIVE SPECIES |
|---------|--------------|----------|----------------|-----------------------|---------------------|-------------|----------------|------------------|
| JAMAICA | BRIDGE 32    | X        | X              | X                     | X                   | X           | X              | X                |



# RESOURCES

- Resource ID
  - Four Wetland Areas
  - Three Surface Waters (River and Two Intermittent Streams)
  - FEMA FIRM Panel 50025C0182E Eff. 9/28/2007)
    - 100-Year Floodplain Mapped
    - No Regulatory Floodplain or Base Flood Elevations
  - VT Nongame and Natural Heritage Program
    - Significant Natural Community (EO ID 2507)
    - Upstream River Cobble Shore Community – Ranked S2 (Rare)



# RESOURCES

- Resource ID (Continued)
  - Rare, Threatened and Endangered Species
    - State-Listed Canada Burnet – Ranked S2 (Rare). Northwest Quad.
  - Vermont Natural Heritage Inventory Report
    - Eastern Pearlshell Freshwater Mussel – Ranked S2 (Rare)
    - Documented in Vicinity in 1996, 2004 and 2011
      - Not Noted During Resource ID
    - Four Other State-Listed Species Potentially in Project Limits



# RESOURCES

- Resource ID (Continued)
  - Federally-Listed Species
    - Northern Long-Eared Bat
  - Invasive Species
    - Area Dominated by Natural Vegetation with Small Areas of:
      - Purple Loosestrife
      - Japanese Barberry
      - Japanese Knotweed



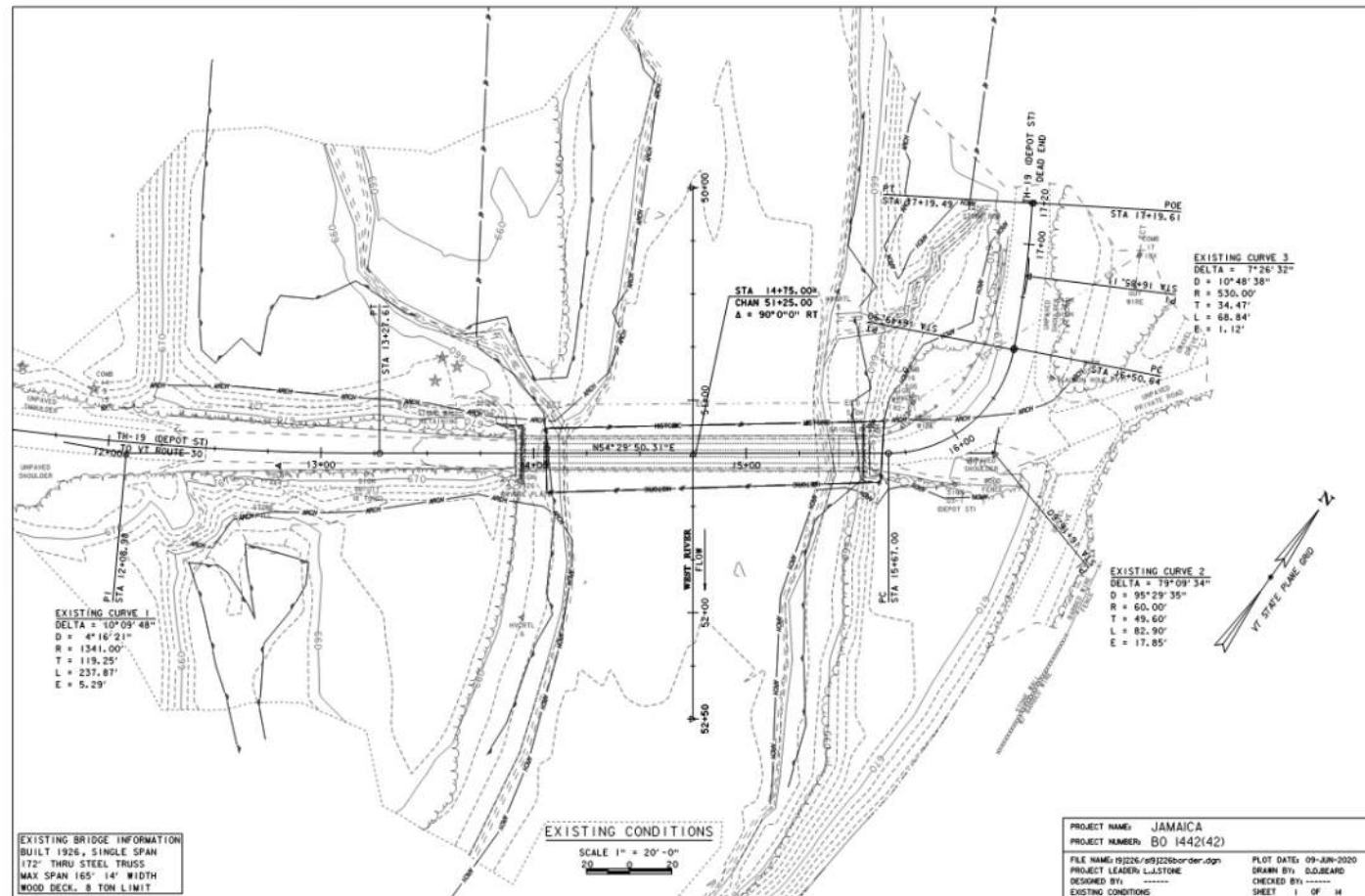
# RESOURCES

- Resource ID (Continued)
  - Archaeological Resource Identification (VTrans)
    - West-River is a Well-Known Native American Travel Corridor
    - VT-WD-0002 – A Large Multi-Component Native American Archaeological Site is Located Slightly North of the Bridge.
    - Phase I Testing will be Required



# DESIGN CRITERIA AND CONSIDERATIONS

## Existing Conditions



# DESIGN CRITERIA AND CONSIDERATIONS

- Average Daily Traffic
  - 2023 – 260
  - 2043 - 280
- % Trucks
  - 2023 – 5.8%
  - 2043 – 8.6%



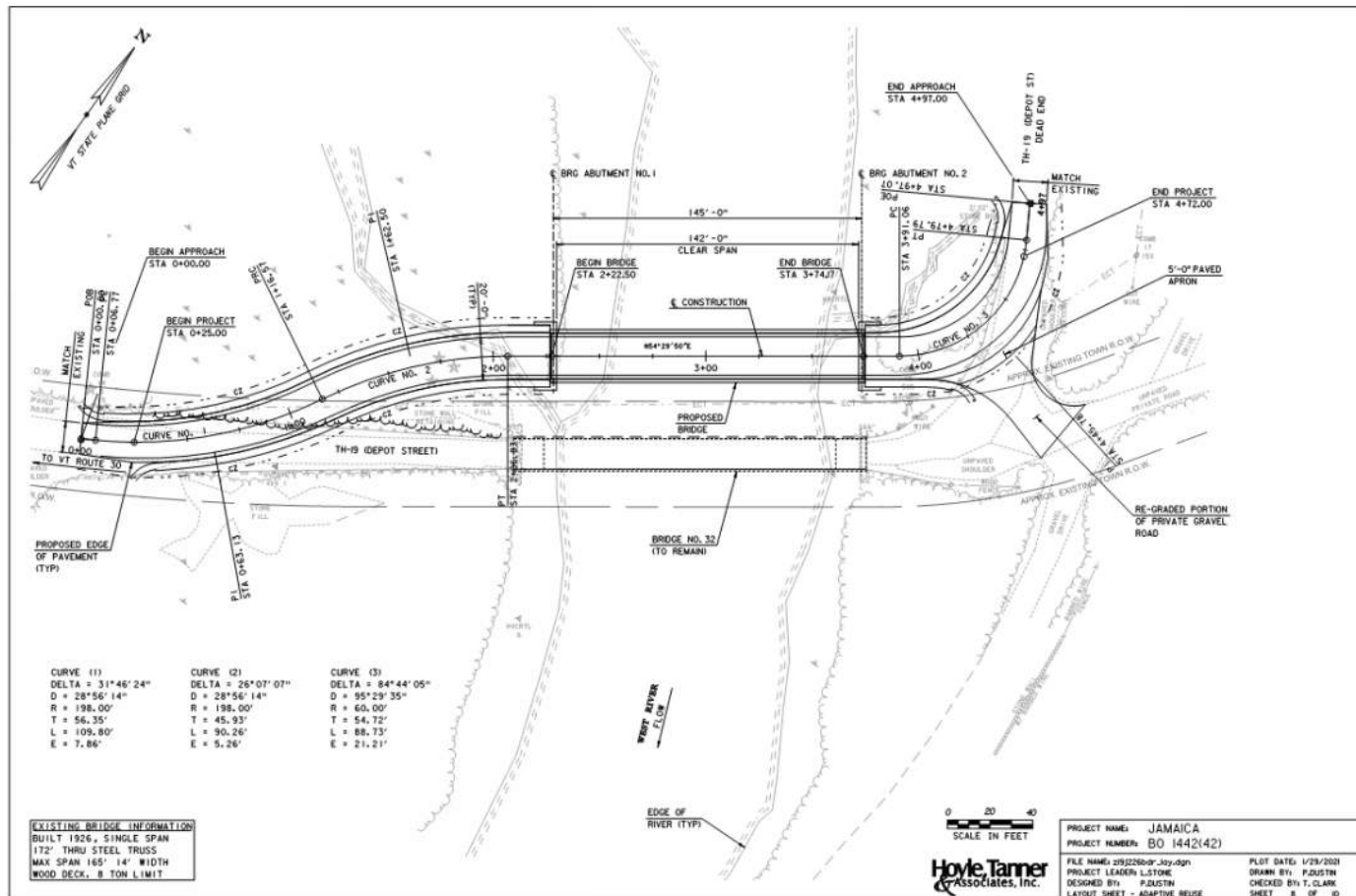
# ALTERNATIVES ANALYSIS

- No Action
  - Stringers will Require Action within 5-10 Years
- Rehabilitation Alternatives:
  - H-8 (8-Ton) Design Vehicle
  - H-12 (12-Ton) and H-15 (15-Ton) Design Vehicle
  - H-20 (20-Ton) Design Vehicle
- Adaptive Reuse and New Bridge Upstream





# ALTERNATIVES ANALYSIS



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 Clarendon BO 1443(55)



# ALTERNATIVES ANALYSIS

- Recommended Alternative – H20 Rehabilitation:
  - Only Rehabilitation Alternative that Accommodates Town Fire Truck.
  - New Floor System – Deck, Stringer, Floor Beams
  - Truss Member Repair or Replacement (Portion of Lower Chord)
  - Cleaning and Painting of all Remaining Truss Members
  - Approach Work Including New Guardrail
  - Abutment Work – Concrete Repair and Chinking



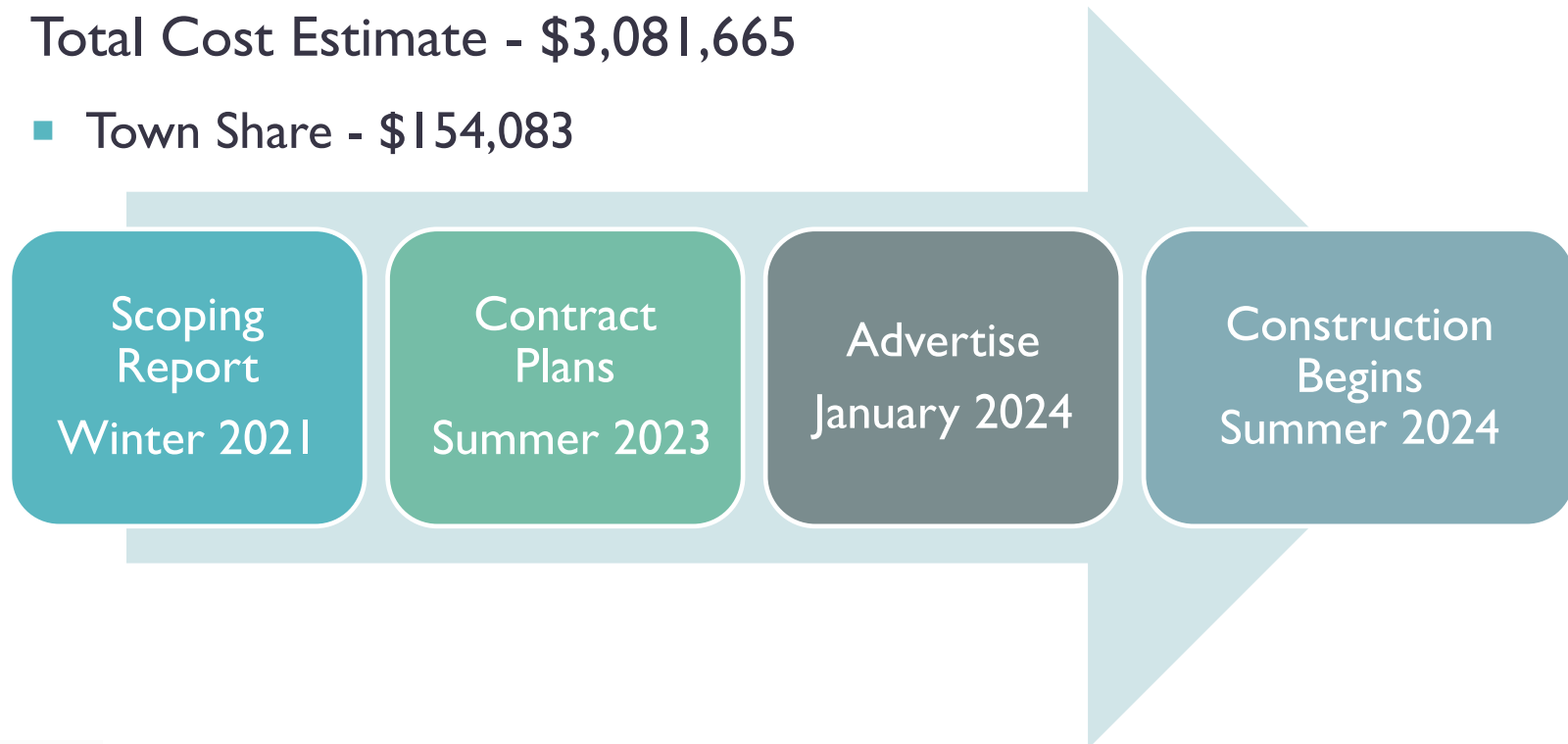
# ALTERNATIVES ANALYSIS

- Traffic Control
  - No Available Roadway Detour
  - Truss Bridge Closed During Construction
  - Installation of Temporary Bridge Upstream
    - Approximate Same Location Shown for Adaptive Reuse



# PRELIMINARY PROJECT SCHEDULE

- Construction Start – 2024
  - Total Cost Estimate - \$3,081,665
    - Town Share - \$154,083



# QUESTIONS



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