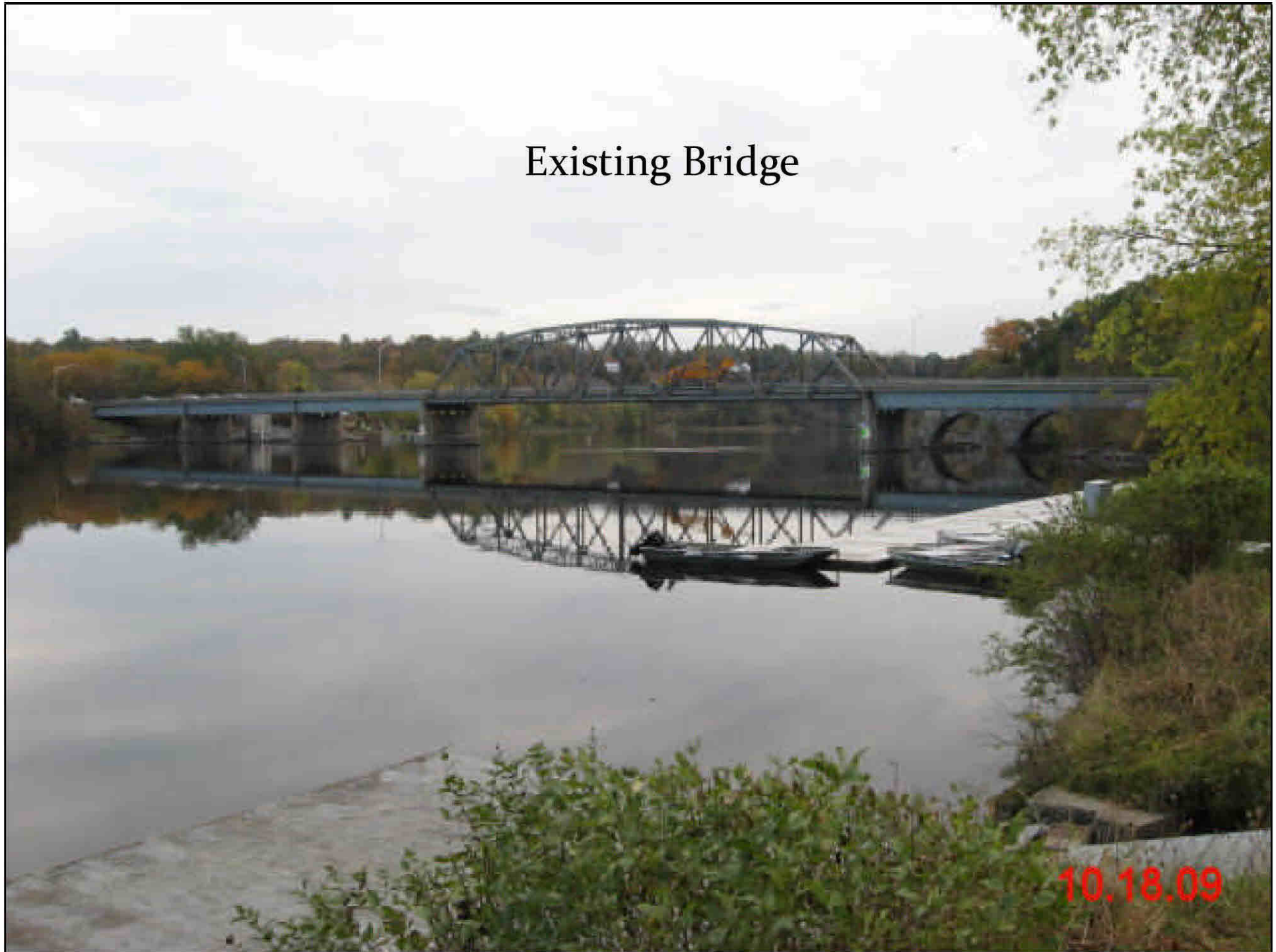


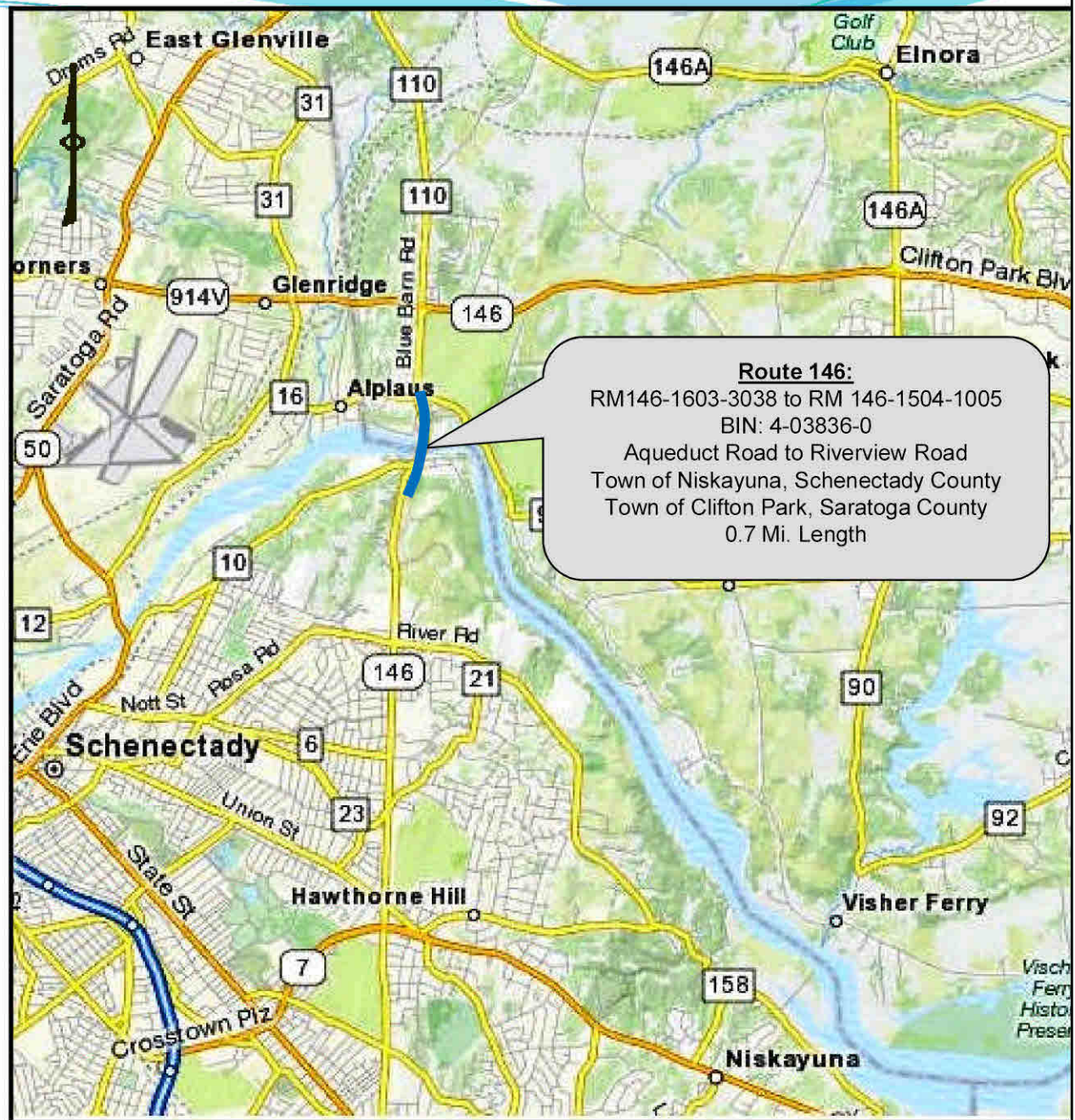


PIN 1085.42  
Route 146 over the Mohawk River

# Existing Bridge



# Project Location



Project Limits  
Aqueduct Road, Niskayuna to  
Riverview Road, Clifton Park



Aqueduct Road

Riverview Road



# Project Need

- To develop a safe, operationally efficient and environmentally sensitive multi-modal corridor plan to meet travel and infrastructure needs with available funding.



# Project Objectives

- Eliminate the structural deficiencies of the existing bridge and restore the bridge condition rating to 5 or greater for at least 75 years for replacement or a rating of 5 or greater for at least 25 years for rehabilitation, using cost effective techniques to minimize the life cycle cost of maintenance and repair.
  - Rexford Bridge Condition Rating 3.547
  - The Rexford Bridge is safe, but will need attention over the next few years.



# Project Objectives

- Enhance overall traffic conditions and improve traffic operations to reduce safety concerns and provide improved flow.
- Provide for integration of vehicular traffic with pedestrians and bicycles.



# Project History

- Rexford Bridge
  - 5-Span Structure
  - Built 1965
- 1998 Expanded Project Proposal
  - Proposed 5-Lane section from River Road to Glenridge Road
  - Never Funded





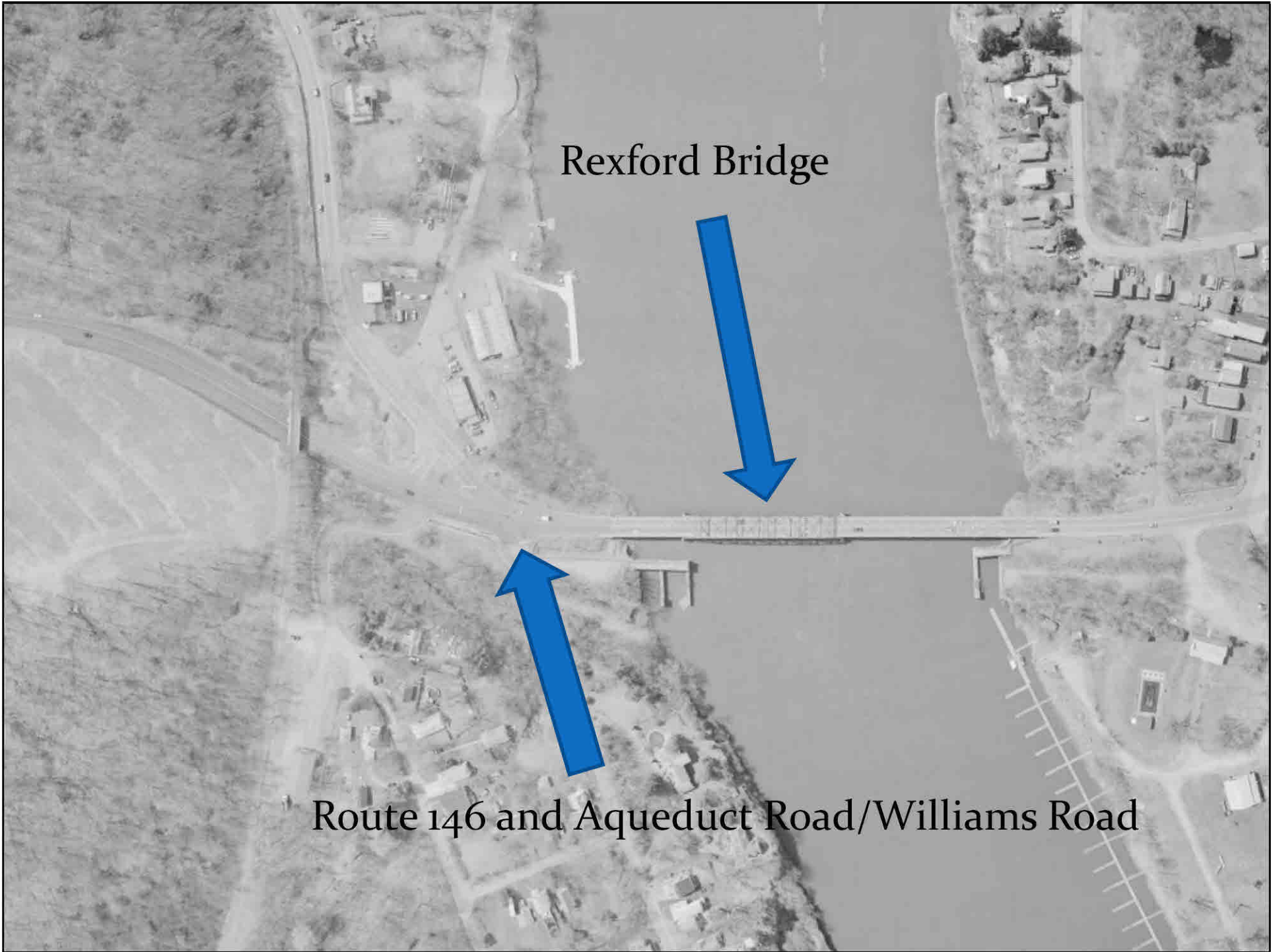
# Project History

- Interim Intersection Improvement Project (2010)
  - Riverview Road intersection
    - Added Turn Lanes
    - Paved North of the Rexford Bridge
- Rexford Bridge painted in 2010
- Paved South of the Rexford Bridge 2012



# Preferred Alternative

- Replace the Rexford Bridge with a new bridge
  - 3-Lane Bridge with Auxiliary Lane carrying southbound traffic
- Intersection Improvements
  - Add Auxiliary Lanes at the intersection of Route 146 and Riverview Road
  - Replace the intersection of Route 146 and Aqueduct Road with a 2-Lane Roundabout
- Add a 10-foot wide multi-use path between Riverview Road and the Mohawk-Hudson bike-hike trail



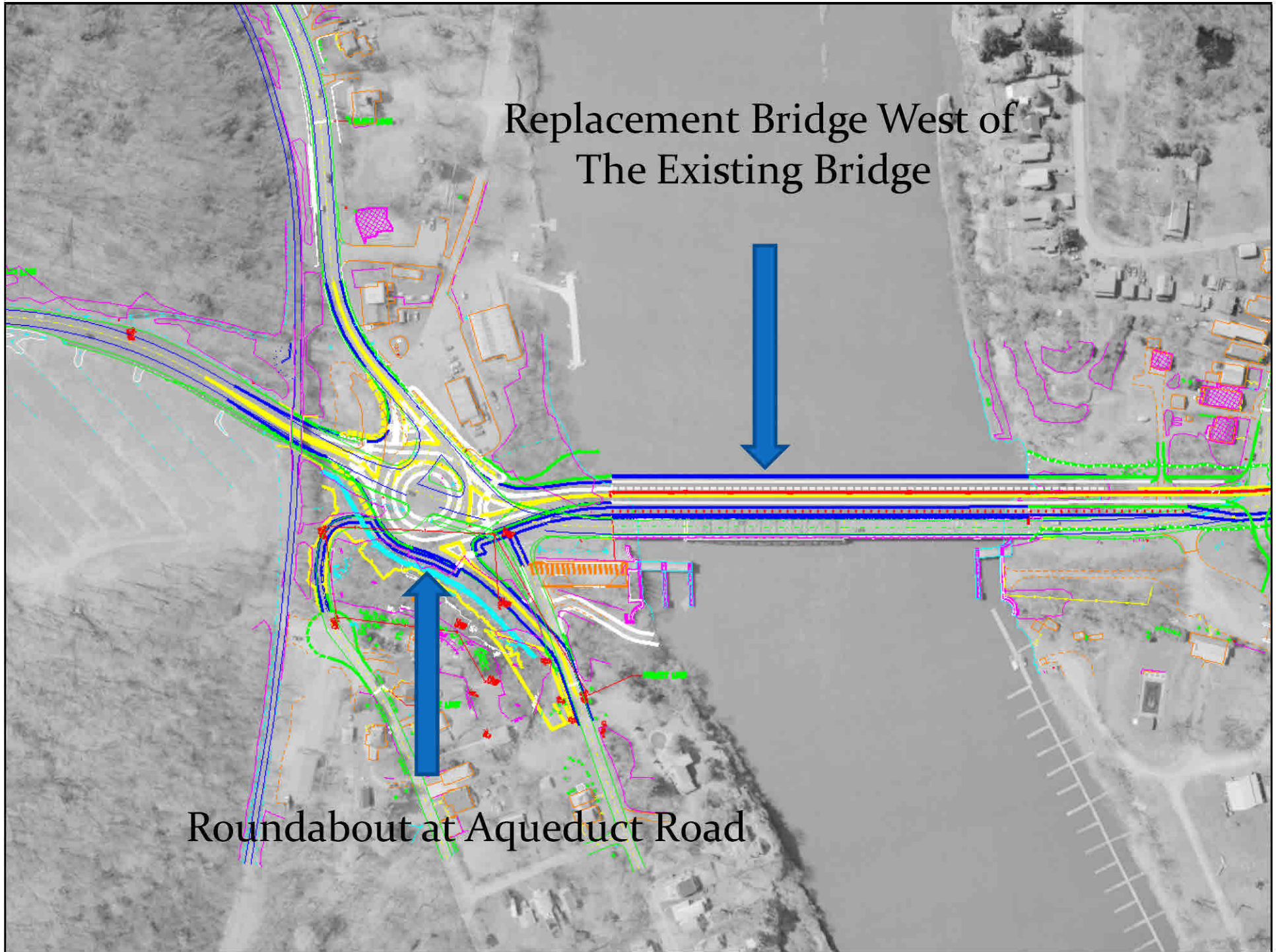
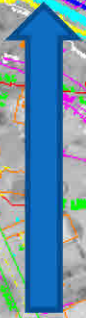
Rexford Bridge

Route 146 and Aqueduct Road/Williams Road

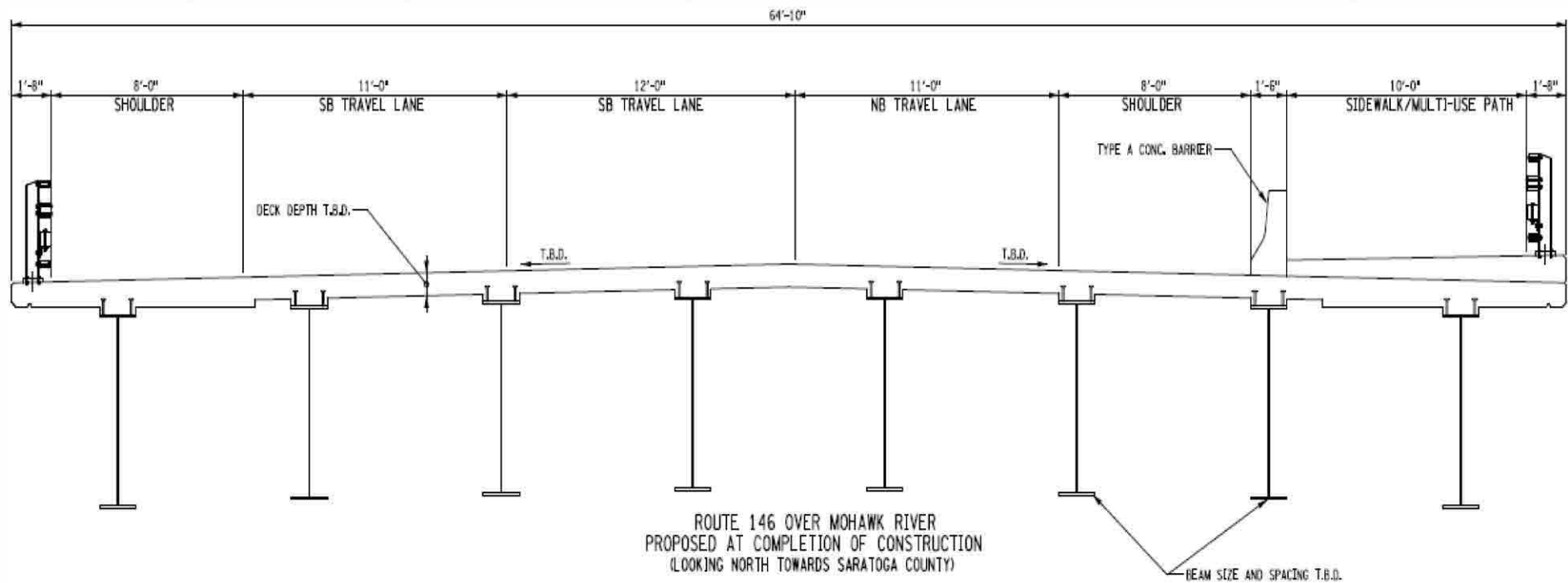
Replacement Bridge West of  
The Existing Bridge



Roundabout at Aqueduct Road

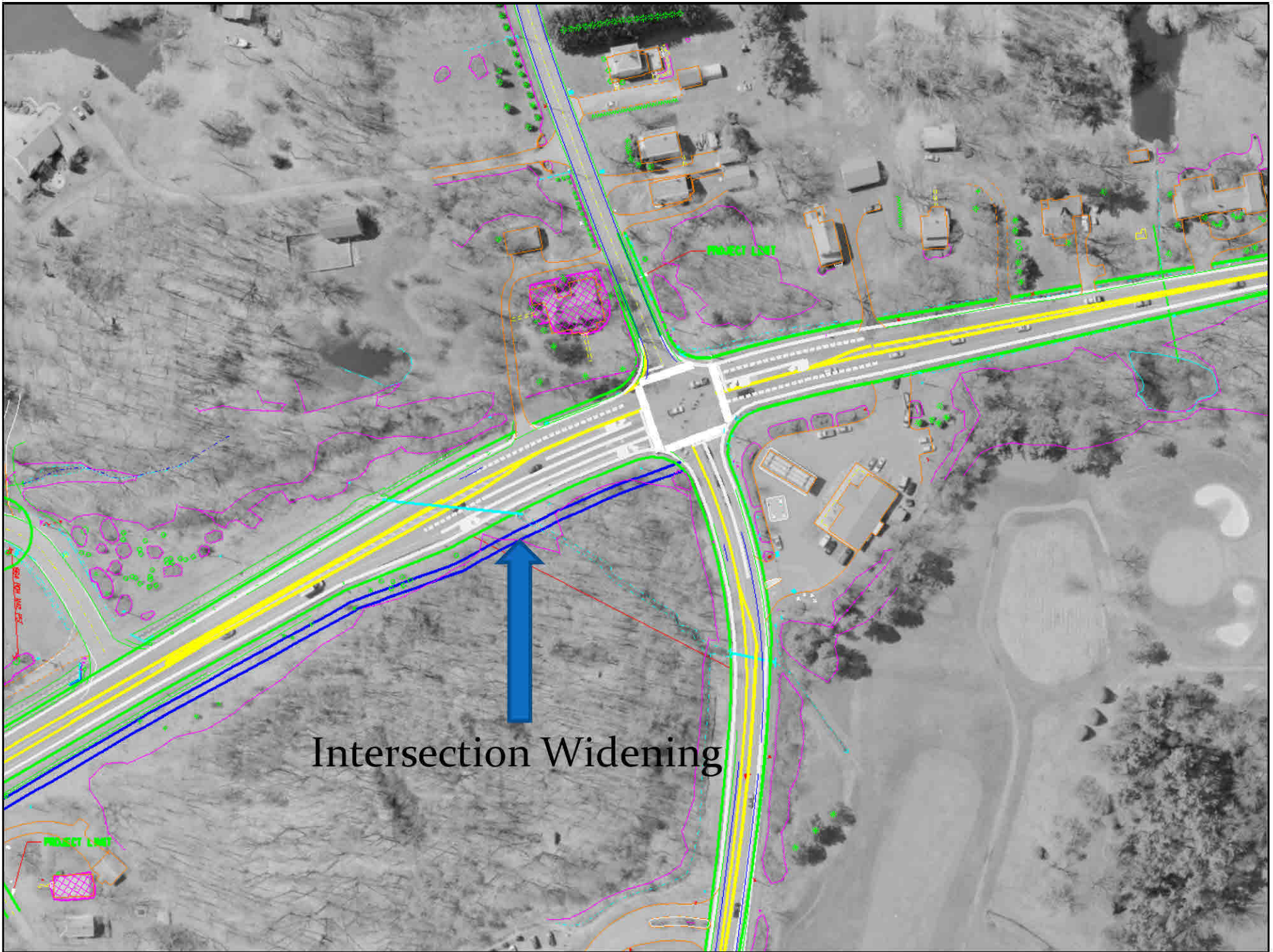


# Bridge Typical Section



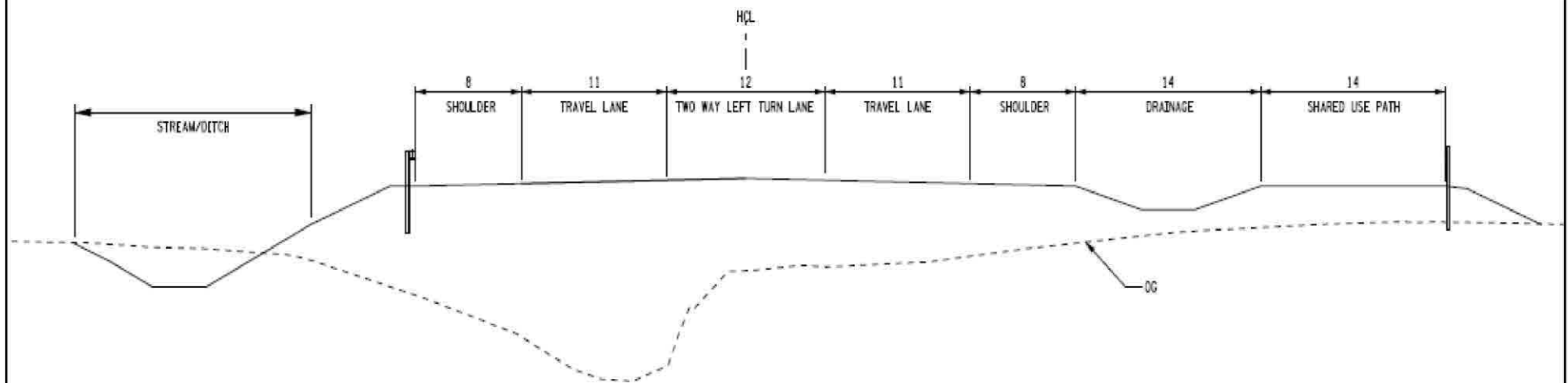


Route 146 and Riverview Road



Intersection Widening

# Highway Typical Section

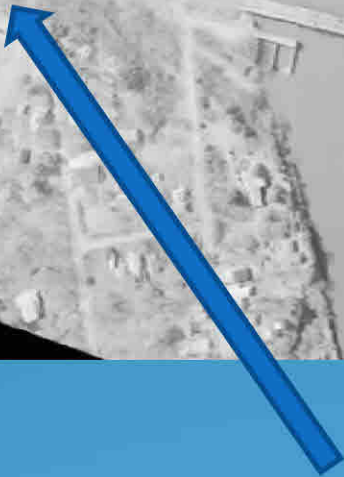


3 LANE TYPICAL SECTION



Multi-Use Path

East Street



Mohawk-Hudson Bike Hike Trail

Riverview Road



# Traffic Analysis

- Existing Conditions
  - Four study area intersections were evaluated:
    - NY Route 146/Glenridge Road/Blue Barns Road
    - NY Route 146/Riverview Road/Alplaus Avenue
    - NY Route 146/Aqueduct Road/Williams Street
    - NY Route 146/River Road/Providence Road
  - Turning Movement Counts (TMCs) were conducted during the morning (7-9 am) and afternoon (4-6 pm) commuter peak hours on Thursday, September 26, 2013 while school was in session.



# Existing Traffic Conditions

- Existing conditions were observed multiple times in the field.
- Specific turning movements destined SB during the AM peak hour and destined NB during the PM peak hour were increased by 17% to account for latent traffic demand that the study area intersections could not process during the morning and afternoon peak hours.



# Design Year Traffic Conditions

- Projected traffic volumes developed using CDTC's Regional Systematic and Traffic Evaluation and Planning (STEP) model in conjunction with NYSDOT coordination.
- CDTC's STEP model developed AM and PM peak hour traffic volumes for the 2016 ETC (Estimated Time of Completion) design year and for future 2026, 2036, and 2046 design years.



# Design Year Traffic Conditions

- Separate traffic volume scenarios were developed for a no-action/no-build condition and for a future build condition.
  - Alternative #5 Improvements associated with the build condition include:
    - NY Route 146/Riverview Road/Alplaus Avenue
      - Construct second NB and SB through lane on NY Route 146.
      - Construct WB left-turn lane on Riverview Road.
    - NY Route 146/Aqueduct Road/Williams Street
      - Construct a roundabout that will provide two entering lanes on the NB, SB, and EB approaches and one entering lane on the WB approach.
    - Rexford Bridge
      - Reconstruct the Rexford Bridge to accommodate two SB lanes and one NB lane.



# Level of Service Analysis

- The results of the analyses describe operating conditions in terms of control delay for signalized, roundabout, and unsignalized intersections.
- In developed or urban areas, LOS C or above is considered desirable and LOS D is considered the minimum acceptable LOS.

# Level of Service Analysis

- The table provides a comparison between existing and future 2036 no-build and build design year operating conditions at the study area intersections.

Intersection Level of Service and Delay (seconds)						
Intersection Approach	AM Peak Hour			PM Peak Hour		
	Existing 2013	No-Build 2036 (ETC+20)	Build 2036 (ETC+20)	Existing 2013	No-Build 2036 (ETC+20)	Build 2036 (ETC+20)
NY Route 146/Glenrdige Rd/Blue Barns Rd	C (25)	C (29)	C (24)	C (22)	C (24)	C (26)
NY Route 146/Riverview Rd/Alplaus Ave	F (103)	F (155)	D (38)	E (75)	F (130)	C (31)
NY Route 146/Aqueduct Rd/Williams St	E (67)	F (144)	B (10)	D (41)	E (56)	C (25)
NY Route 146/River Rd/Providence Ave	D (39)	D (42)	D (40)	D (37)	D (43)	D (37)



# Speed Study

- A speed and delay study was conducted between the intersections of Riverview Road/Alplaus Avenue and Aqueduct Road/Williams Street.
- Average travel speeds and delay experienced by NB and SB drivers passing over the Rexford Bridge during the AM and PM peak commuter periods was identified.



# Speed Study

- The table provides average operating speeds along NY Route 146 for existing through future 2036 no-build and build design year conditions.

Highway Design Year Speed, Level of Service, and Delays (seconds) NY Route 146, From Riverview Rd/Alplaus Ave to Aqueduct Rd/William St								
YEAR	AM Peak				PM Peak			
	Northbound		Southbound		Northbound		Southbound	
	Speed (mph)	Travel Time (sec)	Speed (mph)	Travel Time (sec)	Speed (mph)	Travel Time (sec)	Speed (mph)	Travel Time (sec)
Existing 2013	26	71	7	249	5	336	26	71
No-Build 2036 (ETC+20)	24	75	7	279	4	464	21	88
Build 2036 (ETC+20)	21	86	24	77	13	147	28	65



# Environmental Issues

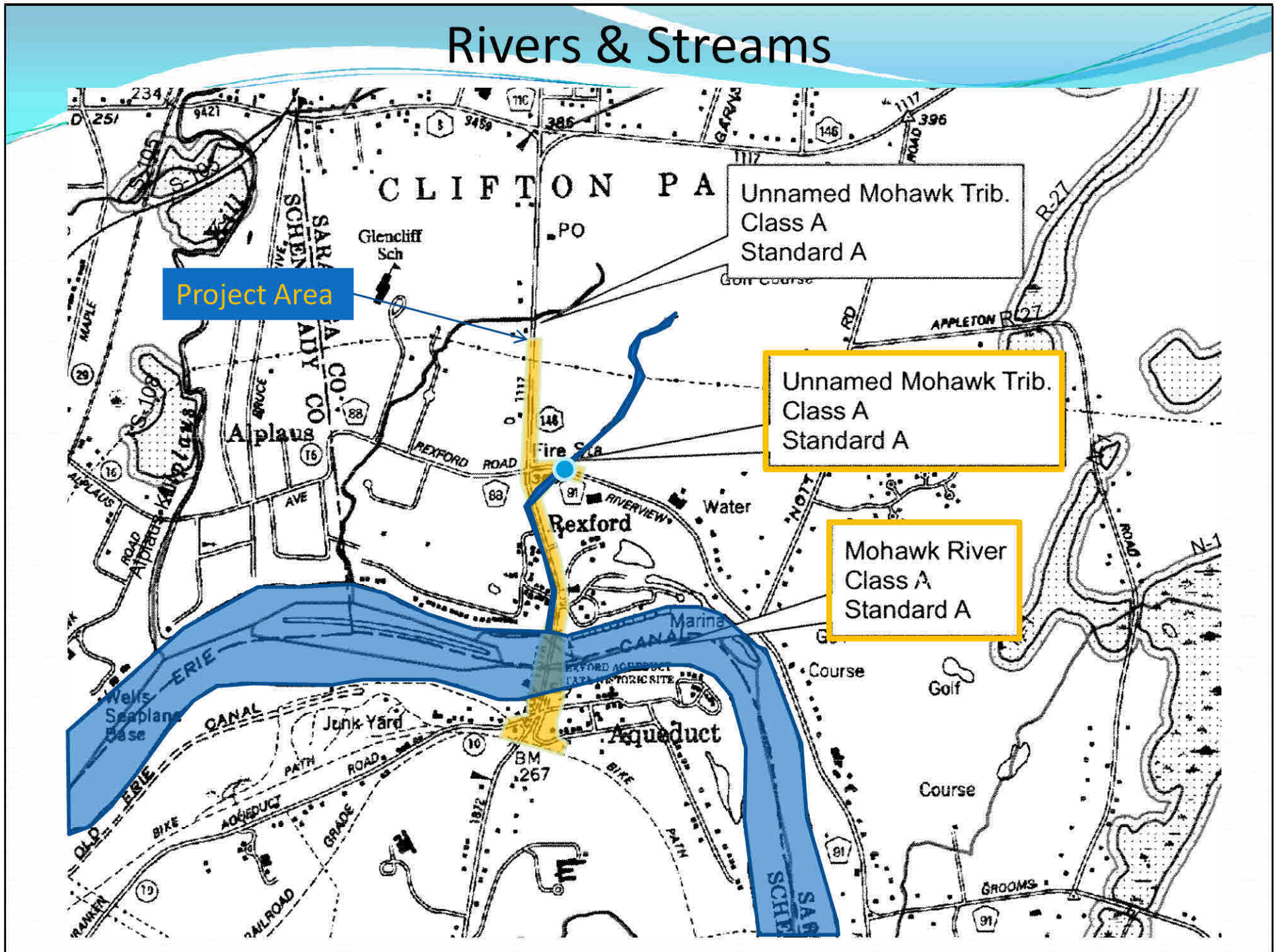
- The project is being progressed as a NEPA Class II (Categorical Exclusion with Documentation) pending approval by FHWA.



# Environmental Considerations

- Mohawk River and Un-named Stream
- Wetlands
- Parks and Trails
- Historic Properties

# Rivers & Streams



# Rivers & Streams

The **Mohawk River** (classified a Class “A” river) will undergo minimal impacts with the proposed new bridge piers and new scour protection. Work in the water will be performed during the dates NYSDEC allows (between June 15 – September 30).



A “Class A” water body best use is drinking water.

# Rivers & Streams

Improvements are planned for the concrete lined **Un-Named** Class “A” stream.

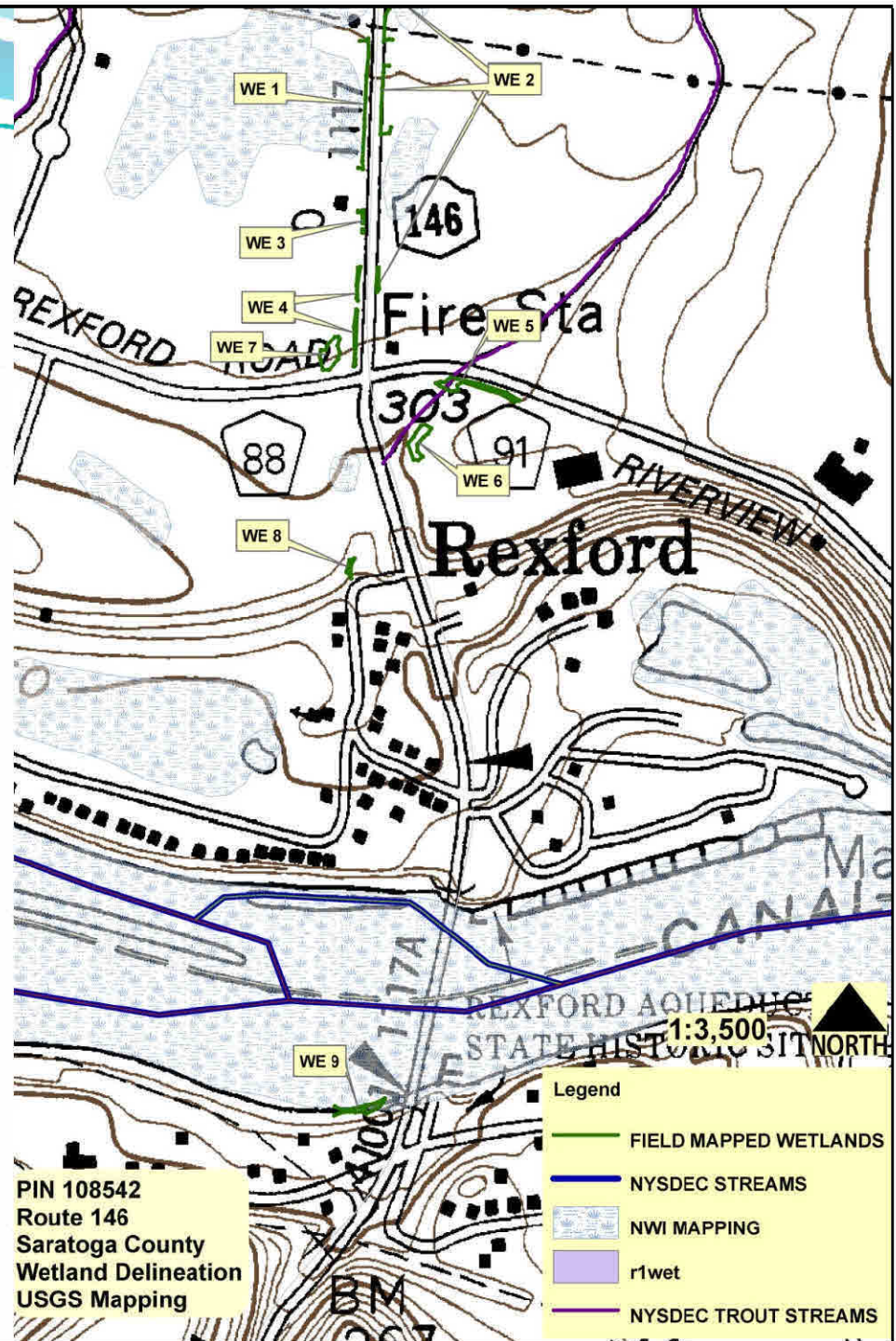
This project will include removing 1500’ concrete bottom and creating a natural bottom. The outlet of the stream is planned to be relocated to the current site of the existing north bridge abutment. Work in the water will be performed during the dates NYSDEC allows (between June 15 – September 30).



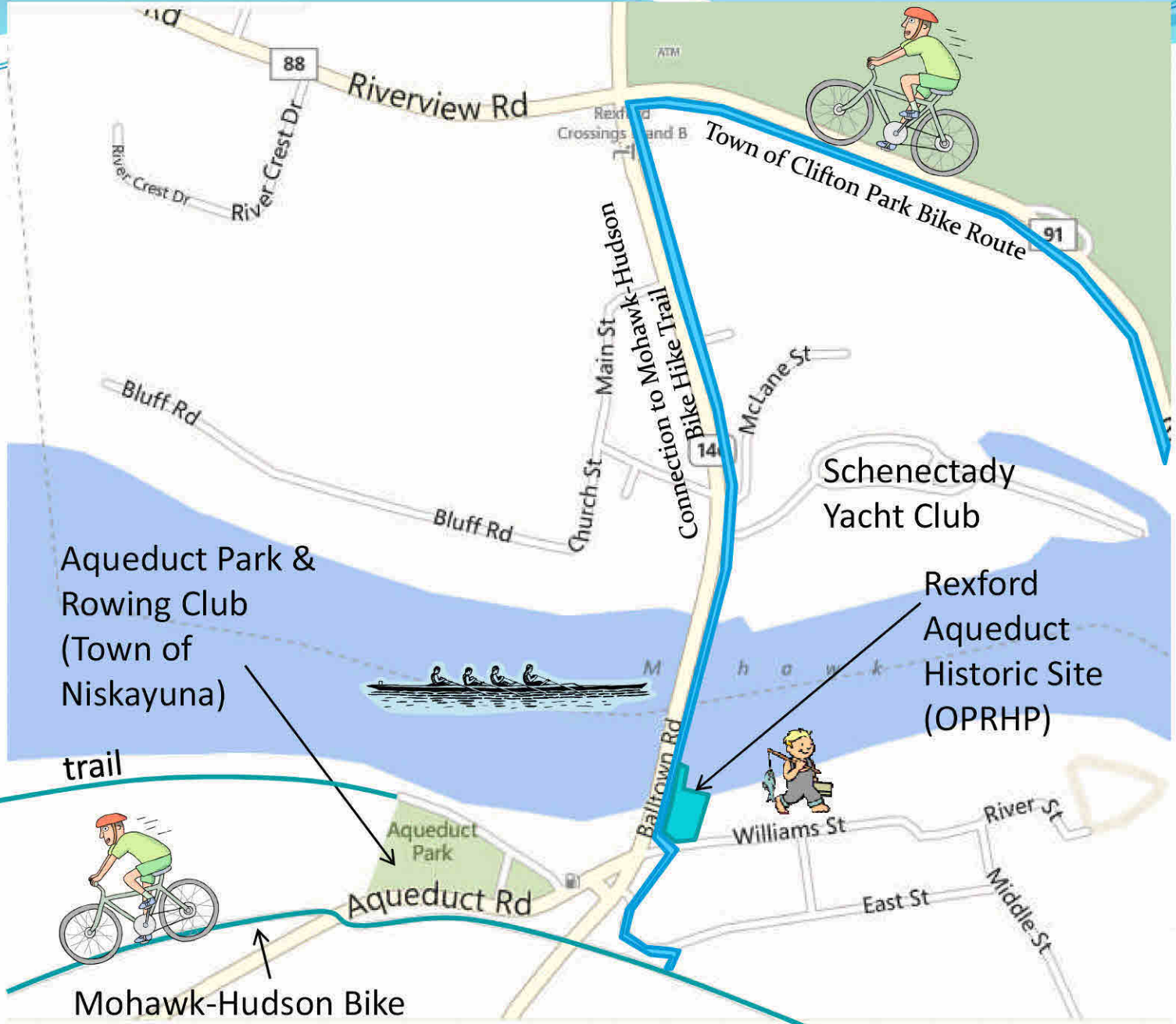
# Wetlands

NYS DOT identified 20 acres of Federally Regulated Wetlands throughout the project area. These are marked in green to the right.

The proposed project will avoid the majority of wetlands and impact only .061 acres of wetlands.



# Parks & Trails



Aqueduct Park & Rowing Club (Town of Niskayuna)

Schenectady Yacht Club

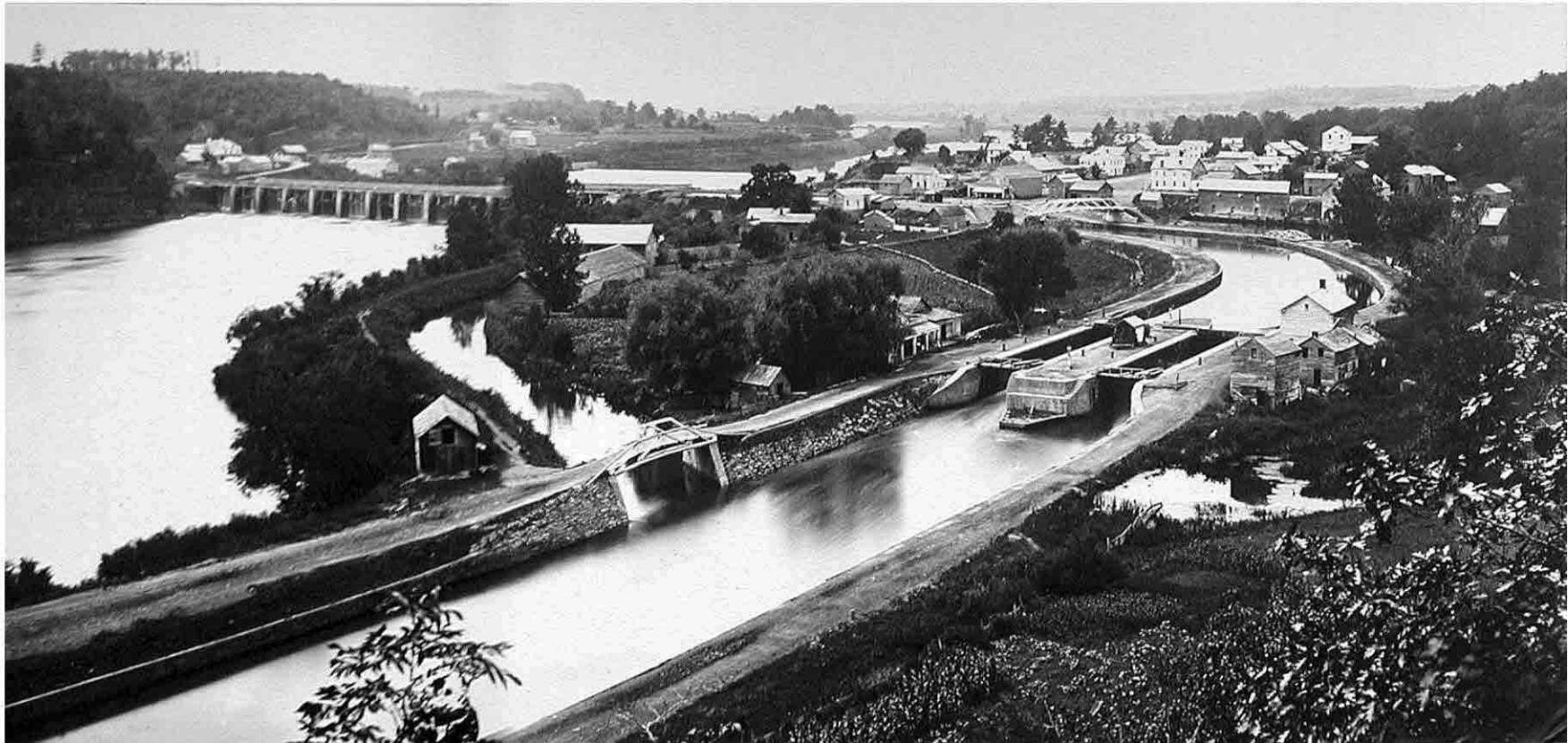
Rexford Aqueduct Historic Site (OPRHP)

Mohawk-Hudson Bike Hike Trail (OPRHP)



# Historic

This area is rich in history.



View looking west from the Clifton Park slope.  
Left is Mohawk River with Aqueduct crossing it, center is Erie Canal,  
Right is Rexford Aqueduct and Lock



NYS DOT completed a Cultural Resources Survey in 1999.

Results include:

The National Register Listed

**Cyrus Rexford House**

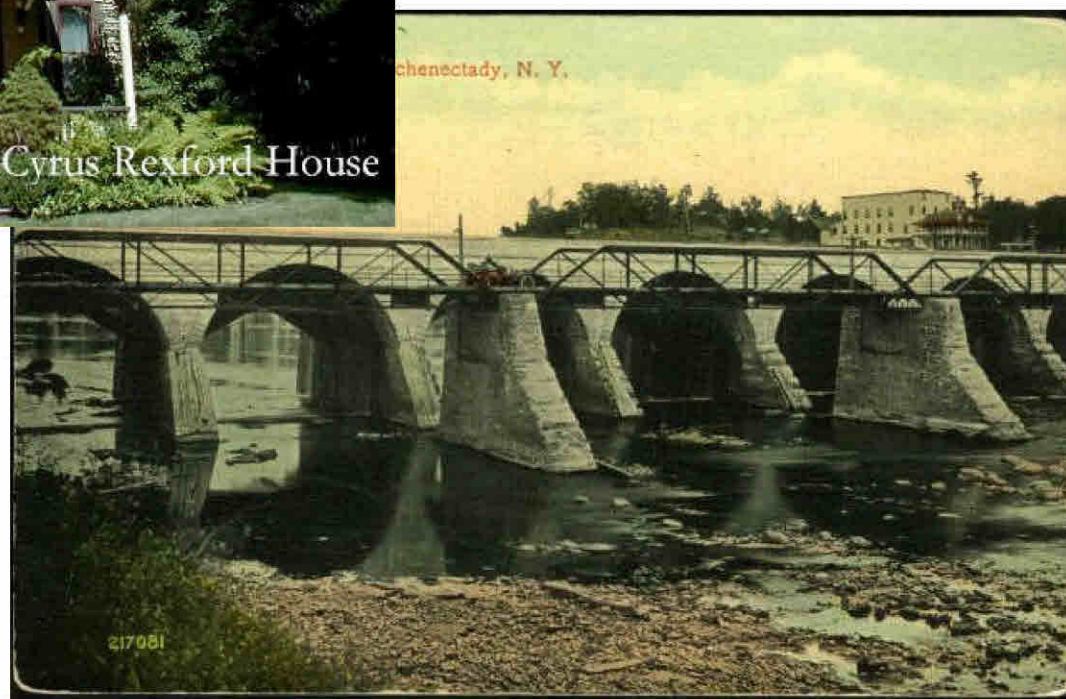
**ca. 1883**

and the

**Erie Canal ca. 1825 / Rexford**

**Aqueduct Site ca. 1842**

7 additional properties were identified within or adjacent to the project area. The project, as proposed, will not remove any historic properties.



Ca. 1842 Railroad Bridge

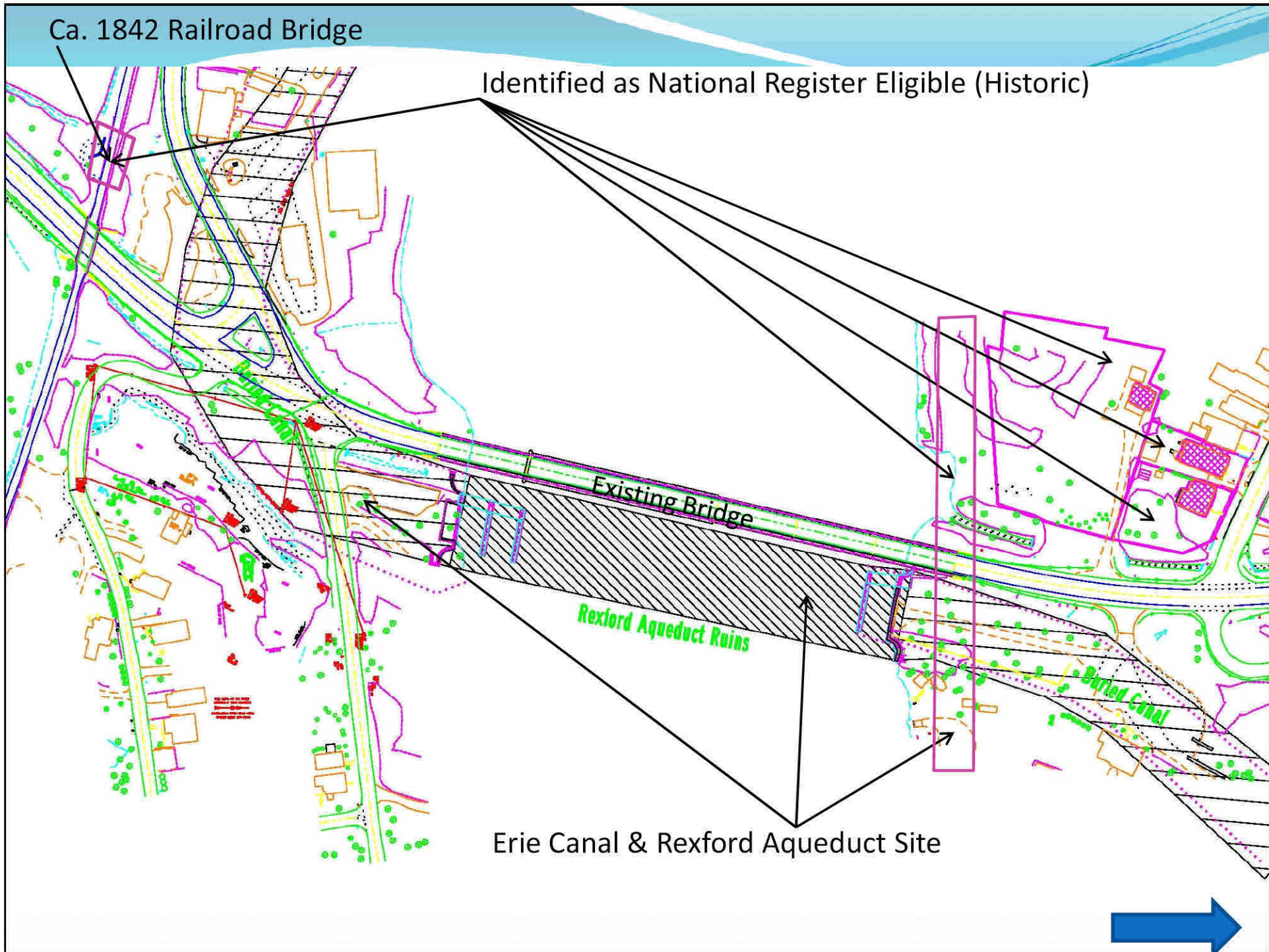
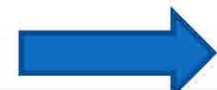
Identified as National Register Eligible (Historic)

Existing Bridge

Rexford Aqueduct Ruins

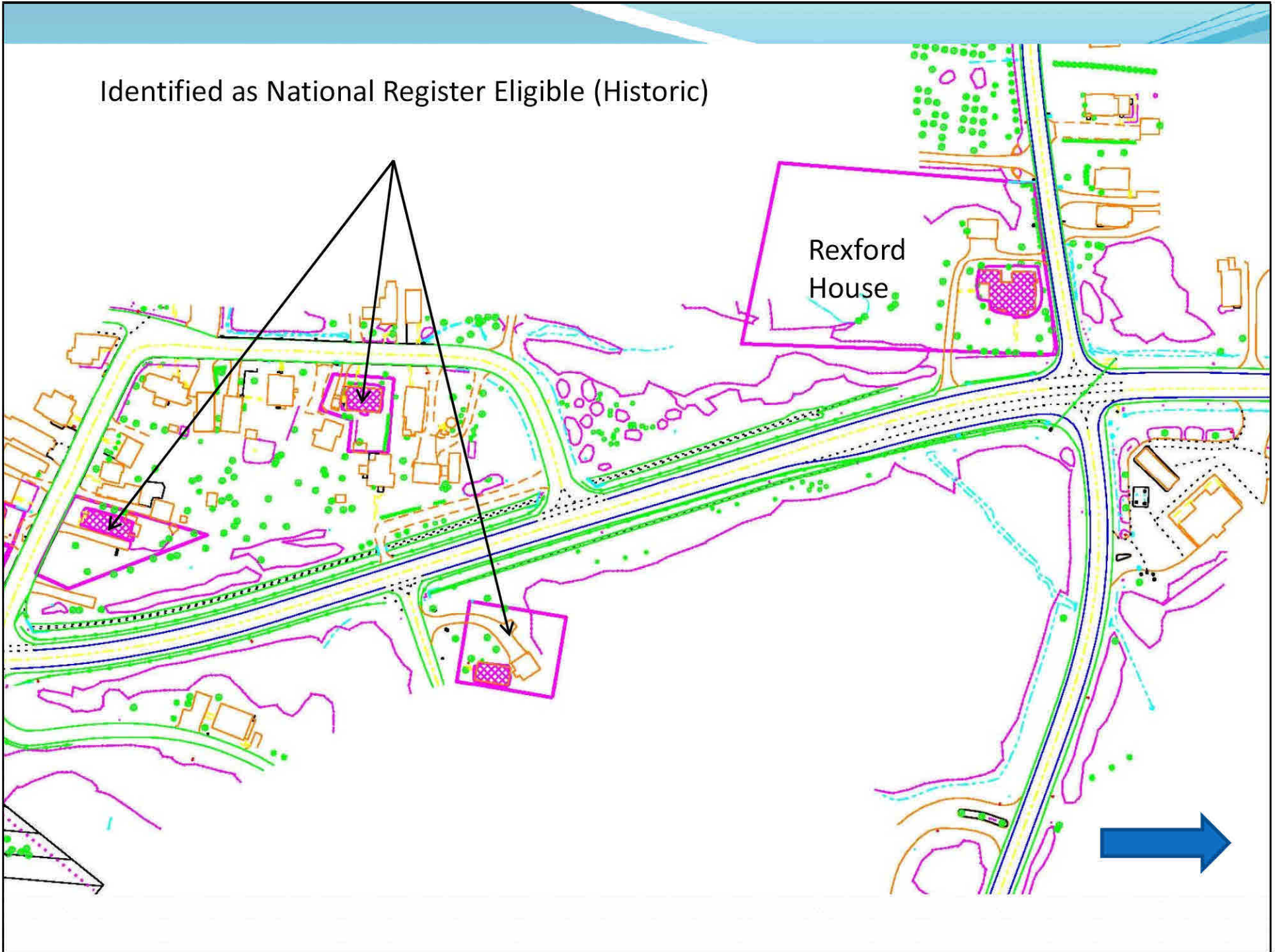
Barren Canal

Erie Canal & Rexford Aqueduct Site



Identified as National Register Eligible (Historic)

Rexford House

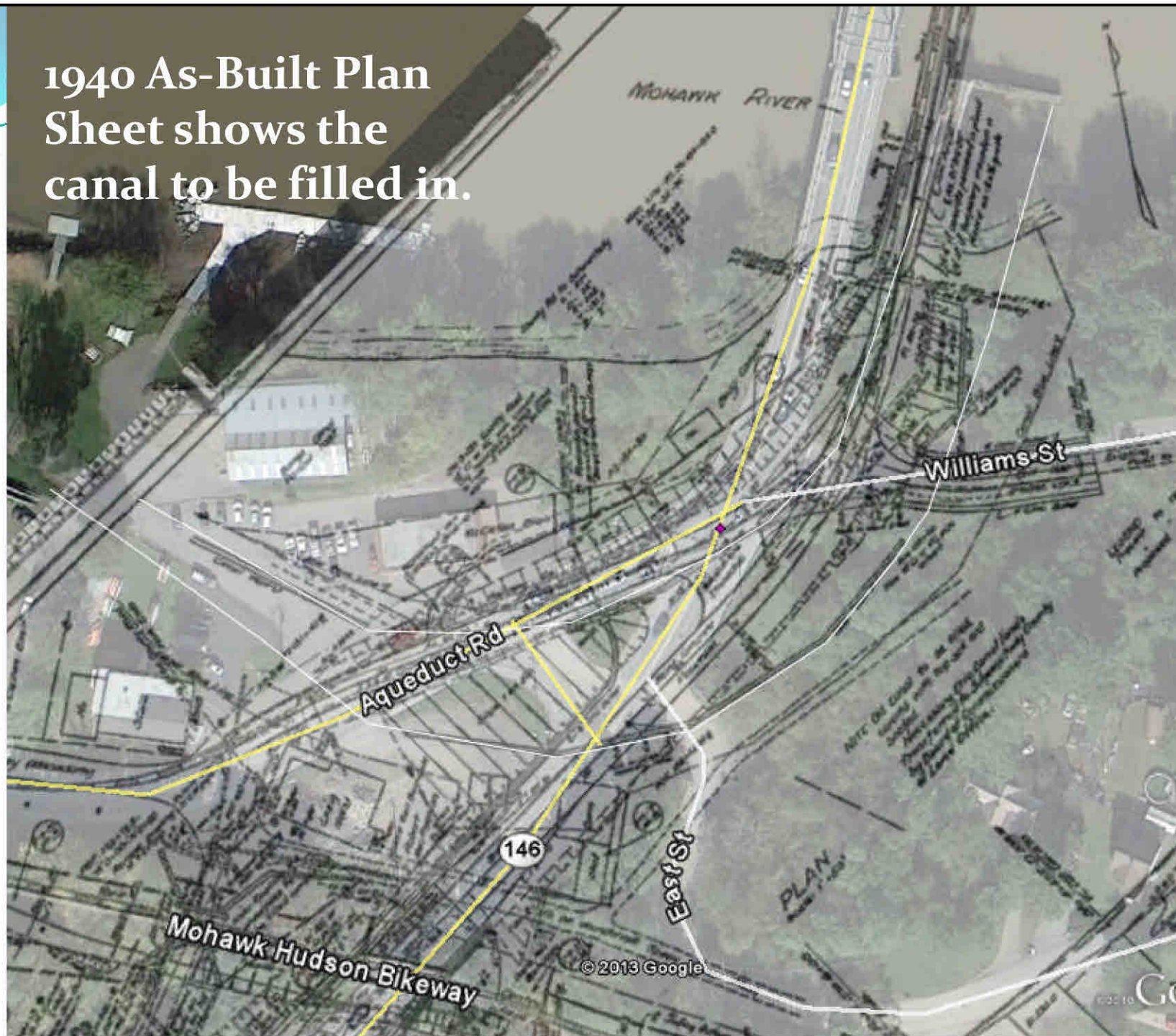




NEW VERTICAL WALL AT ENTRANCE TO UPPER MOHAWK AQUEDUCT.

Looking east on the Niskayuna side. The top of wall pictured is 5 feet below the existing ground. This project, as proposed, will make every effort to avoid the buried canal walls.

1940 As-Built Plan  
Sheet shows the  
canal to be filled in.



# Archeology



Archeological trench testing to identify the exact location of the canal walls was performed in December 2013.

NYS DOT and the State Historic Preservation Office staff have met onsite and have coordinated.

Monitoring excavations during construction is planned for the construction of the new bridge and roundabout on the Niskayuna side.

The project is expected to have a  
“No Adverse Effect”  
on properties Listed or Eligible for the  
National Register of Historic Places.  
A Programmatic Agreement between  
NYSDOT, the State Historic Preservation  
Office and the Federal Highway  
Administration is anticipated.



WHERE THE ERIE CANAL CROSSES THE MOHAWK RIVER NEAR SCHENECTADY, N. Y.

1906

1264





# Traffic During Construction

- The Rexford Bridge and Route 146 will remain open to vehicles during most of construction
- Closure of the Route 146 intersection with Aqueduct Road will be closed for one or more weekends to construct the roundabout.
- Route 146 will remain open to pedestrians during most construction phases. Bicycles will be able to share the travel lane.
- River Navigation will be maintained with short term closures.



# Property Acquisition

- 23 Property Takings
  - 15 Fee Takings
  - 2 Permanent Easements
  - 6 Temporary Easements



# Bridge Type

- Will be determined during final design
- Possibly similar to but smaller than the Crescent Bridge (Route 9 over the Mohawk River)



# Other Alternatives Considered

- No Build
- 5-Lane Section (from 1998 EPP)
  - Cost Prohibitive
- Bridge Rehabilitation
  - Not Cost Effective
- 2-Lane Bridge
  - Would degrade operations at the Aqueduct Road Intersection



# Cost and Schedule

- Preliminary Cost Estimate: \$25 million ±
- Schedule for Design Approval: March 2014
- No Schedule for Construction
  - TIP lists 2017 for funding

*Linda McGloine*  
*NYSDOT Office of Right-Of-  
Way*



# How does the State determine what I will receive for my property?



Can I receive payment of the State's offer and still seek additional monies in court?





# Suppose my remaining property is devalued?



▣ Pre-Construction



▣ Post-Construction

## Example:

Appraised Before Value	\$135,000
Appraised After Value	\$155,000
Difference	\$20,000
Land Acquired	\$8,000
Land Improvement Acquired	\$2,000
Building Improvement Acquired	\$0
<b>Damage To Remainder</b>	<b>\$10,000</b>

# HOW YOUR STATE ACQUIRES PROPERTY FOR PUBLIC PURPOSES

**A Guide for Property Owners**



STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION  
MARIO M. CUOMO, Governor      FRANKLIN E. WHITE, Commissioner

PUB 6c (3/86)

# Questions and Comments

- Questions or comments may be directed to:
  - - Richard Filkins, Project Manager
      - [richard.filkins@dot.ny.gov](mailto:richard.filkins@dot.ny.gov)
  - New York State Department of Transportation
    - Region 1 Design
      - 50 Wolf Road, POD 2-3
      - Albany, New York 12232
        - (518) 457-9756