Synopsis:

This session will highlight some of the key steps in the design approval process for a project involving three separate bridges over the Sacandaga River in the Town of Wells, New York. The project was originally proposed as the renovation of a historic single span steel truss. Ultimately, interagency cooperation and forward-thinking created the opportunity to replace the original bridge and reuse the historic structure as a replacement for a second historic bridge.

Not only did this project involve two bridges that were eligible for the National Historic Register, but the bridges were also located along a Wild, Scenic and Recreational River and within the jurisdiction of the Adirondack Park Agency. This presentation will detail how Hamilton County, the New York State Department of Transportation, New York State Office of Parks, Recreation and Historic Preservation, Adirondack Park Agency and the Town of Wells made this a success story.

About the Presenter:

Brian McMahon is the Operations Manager for the Saratoga Springs office of Edwards and Kelcey. He has conducted and managed environmental documentation for transportation infrastructure projects for nearly 20 years. He has a Bachelor's degree in Environmental Science from SUNY Plattsburgh and a Master's Degree in Environmental Science from SUNY ESF in Syracuse.
Multi-Agency Cooperation
Hamilton County, NY

• Coordinated construction of two bridges
• One construction contract

Presented by
Brian McMahon, Edwards & Kelcey
Phase I

• Replacement of Algonquin Drive (CR 5)
Phase II

- Relocation of Single Span Truss from Algonquin Drive to Teachout Road
Phase III

• Dismantle existing Teachout Road truss bridge
Algonquin Drive

- Built in 1938
- Town of Wells
- Outfall of Lake Algonquin
- Maintained by Hamilton County
Project Evolution - Algonquin

• Regional Bridge Management Group
  – candidate for rehabilitation

• IPP approved by NYSDOT in 1999

• Added to STIP as rehabilitation project
Project Evolution - Algonquin

- Programmed as a Structural Rehabilitation with no record plan available

- Suspected existing steel truss was only an H15 Design

- Upgrade to H25 to meet truck traffic not feasible
Project Evolution - Algonquin

- Project upgraded to superstructure replacement
- Found 3 blueprint sheets
Project Evolution – Algonquin

• Confirmed H15 steel truss design

• Abutments
  – concrete facings of older stone abutments
  – no steel reinforcement

• Recommended bridge replacement
Environmental Documentation

• Class II, Programmatic Categorical Exclusions with Documentation under NEPA

• Type II, Exempt project under SEQRA
Sacandaga River

• Proposed for listing on National Rivers Inventory of Wild, Scenic and Recreational Rivers
Sacandaga River

• No impairment to free flow
Adirondack Park Agency

- Non-jurisdiction in a hamlet area
Visual Impacts

• Reduce visual profile of bridge
SHPO Statement of Significance

- Highly intact example of a welded, steel, pony truss bridge

- Represents an important phase in evolution of bridge engineering, early 20\textsuperscript{th} century transition from riveted to welded construction
SHPO

• Satisfy requirements for preservation of historically significant structures
Alternatives

• Do Nothing/Maintenance
  – Advanced deterioration of steel stringers

• Rehabilitation
  – Load posting would remain
  – Not attain 50 year service life

• Replacement
  – Twinning
  – Adjacent construction
New Algonquin Bridge

29.46 meters (96.65’) span
10.6 meter (35’) width
SHPO Hierarchy

• No Adverse Effect
  – Rehabilitation and reuse
  – Rehabilitation and bike/pedestrian use

• Adverse Effect
  – Relocation to deficient structure
  – Reuse of trusses
  – Storage
SHPO Requirements

- Researched deficient structures to use Algonquin truss
Teachout Road

• Provide unrestricted emergency vehicle and maintenance vehicle access
Teachout Road

• One-lane, single span

• Original H-10 design rating in 1903

• Dead-end road

• East Branch of Sacandaga River
Current Conditions

- 3-ton load rating
- Low condition rating
- Unable to receive emergency services
- No road maintenance or plowing
East Branch – Sacandaga River

- River classified as a State “Wild, Scenic and Recreational River”
- Proposed for listing on National Rivers Inventory
APA

- Located w/in 1/8 mile of wilderness area (CEA)

- Installation of any new structure (e.g., field office, trailer or footbridge) would require permit

- Class A regional project and a rivers project
APA Mitigation

• New stub abutments behind existing stone abutments

• Replace steel truss with similar structure

• No temporary structures
SHPO – Teachout Road

Historically significant as:

“a highly intact and rare-surviving example of early 20th century, riveted, steel thru-truss bridge with decorative railings and a wooden deck.”
Alternatives

• Do-Nothing/Maintenance

• Rehabilitation
  – Thru-truss members inadequate for H-25 load rating

• Replacement
  – Twinning
  – Adjacent location
Teachout Road Bridge
Teachout Road Bridge

• Modified to one-lane to meet H-25 design criteria
• Traffic volumes do not warrant two-lane bridge (<10 vpd)
Teachout Road Bridge

- 30.78 meters (101’) long
- 5.44 meters (17’10”) wide
- 4.47 meters (14’-8”) roadway
- New stringers and decking
- Glue laminated panel decking
- 51 mm asphalt overlay
Existing Teachout Road Bridge

- Dismantled and stored for reuse in a non-vehicular trail setting
- Detailed inventory to ensure rebuilding
- Catalog its constructions and contents
SHPO

- Both truss bridges eligible for National Historic Register
- Early coordination in the SEQR/NEPA process
  - Project review checklist
  - Marked topographic map
  - Photo location map
  - Photos with descriptions on backside
SHPO

• Removal of Bridges
  – Constitutes an “Adverse Effect”

Memorandum of Agreement
  – Governs removal and replacement
SHPO MOA

• Historic American Engineering Record
  – Level II Documentation
    • Deterioration
    • Historical Context
    • Black and White Photography
SHPO MOA

• Technical, archival and interpretive documentation and displays for Wells Historian
  – Design record plans
  – Photographic history
  – Calculations and specifications
SHPO MOA

- Preservation of Teachout truss members, connecting hardware and Builder’s Plates
- Discard existing deck
- Storage in secure and weather-protected place
- County’s responsibility for 5 years
Reasons for Success

• Interagency Collaboration

• Partnering with SHPO