

Paving the Way for Historic District Redevelopment

Bedford Springs Transportation Improvement Project SR 4009 (Business Route 220)

THE OVERVIEW

The Bedford Springs Hotel, a 200-year-old Historic District/National Historic Landmark (HD/NHL), was slated for a \$120 million renovation in 2007 by an interested private developer. State Route (SR) 4009 served as the main access to the Hotel but had a number of problematic issues:

- Early 20th century design, which, at the time of its construction, anticipated only non-motorized modes of transportation through the Appalachian Mountains
- Connection of US Route 220 and Business Route 30 (using the original roadway location) carrying through traffic between the hotel, some of its associated elements, such as Nawgel's Mill and the Miller's House and Shober's Run.

Although not part of the hotel renovation project, the Pennsylvania Department of Transportation (PennDOT) identified a 0.7 mile stretch of the heavily-traveled SR 4009 for improvements, citing its operational deficiency and its substandard design for current traffic. The improvements were considered a key element in the restoration project.

Backed by more than 50 years of experience, L.R. Kimball was given the task of providing roadway improvements while minimizing impacts to the HD/NHL Bedford Springs Hotel under an existing engineering

and environmental open-ended agreement for PennDOT District 9-0. L.R. Kimball provided the following services as part of the project:

- Extensive preliminary engineering studies
- Comprehensive environmental studies, including the successful completion of the state's first Nationwide/ Programmatic Section 4(f) Evaluation for Transportation Projects That Have Net Benefit
- Final design
- Construction consultation

The outcome of the engineering and environmental studies included a partial re-routing of SR 4009 to the west of and behind the hotel resulting in the elimination of the roadway's geometric deficiencies. This provided a more tranquil setting conducive to the HD/NHL and helped re-establish the historic quality and functions of the property. The project was completed on time, exceeding client expectations and making the road available for the resort's July 12, 2007 opening celebration.



Project Overview

CLIENT

Pennsylvania Department of Transportation

GOAL

Design and implement transportation and safety improvements to SR 4009 while minimizing the project's impact on Bedford Springs Hotel, a Historic District/National Historic Landmark

L.R. KIMBALL SERVICES

- Environmental services
- Geotechnical engineering
- Alternatives analysis
- Preliminary design plans
- Permit acquisition
- Final construction plans and bid documents
- Final right-of-way plans
- Construction consultation

L.R. KimballSM
TARGETED RESULTS. EXPERTLY MANAGED.
WE STAKE OUR REPUTATION ON IT.

A CDI Company



ARCHITECTURE • ENGINEERING • COMMUNICATIONS TECHNOLOGY

AVIATION | CIVIL | CONSTRUCTION SERVICES | DATA SYSTEMS | ENVIRONMENTAL
FACILITIES ENGINEERING | GEOSPATIAL | NETWORKS | PUBLIC SAFETY | TRANSPORTATION

Paving the Way for Historic District Redevelopment

Bedford Springs Transportation Improvement Project SR 4009 (Business Route 220)

THE PROBLEM

The section of SR 4009 under consideration was located between Bedford Springs Resort and Shober's Run. The route carried heavy traffic and presented several challenges to the team. These included:

- Frequent flooding from Shober's Run and persistent maintenance problems
- The structural integrity of a 430-foot retaining wall that separated the road and Shober's Run
- Substandard geometrics, resulting in poor sight distances that contributed to several accidents
- The resort's inclusion in the National Register of Historic Places and its National Historic Landmark status. These designations aided the 300-acre property but, at the same time, severely limited possible roadway locations. The designations resulted in major coordination efforts between more than a dozen entities, including PennDOT, Federal Highway Administration, National Park Service, Pennsylvania Historical and Museum Commission, National Trust for Historic Preservation, Bedford County Planning Commission and the general public.

As the team researched, analyzed and evaluated project options, it kept the meaningful history of the property in mind. Throughout its 200-year history, Bedford Springs had hosted 10 American presidents, served as the summer White House for U.S. President James Buchanan, was an essential training site for the US Navy during World War II and continued to attract affluent guests through the 1970s before falling into disrepair. Because of its storied past, the team recognized the importance of providing a quality project that would assist in achieving overall improvements to the historic hotel complex by essentially eliminating a heavily traveled roadway that bisected the historic district.

THE SOLUTION

Faced with an aggressive timeline that left little room for error, the L.R. Kimball team conducted a comprehensive feasibility study that considered project options based on constructability, cost-effectiveness and environmental impact. The team included civil, geotechnical, highway and structural engineers, environmental scientists, and historians and archeologists from Heberling Associates, Inc.

Based on study findings and an exhaustive preliminary engineering review, the team submitted the following key recommendation to PennDOT Engineering District 9-0 and its other project partners:

- Relocate the 0.7 mile stretch of SR 4009 from the front of the hotel to the west of and behind the hotel, well outside the Shober's Run flood plain
- Rebuild, reinforce and stabilize a 50-foot section of the 430-foot retaining wall according to historical preservation standards
- Eliminate dangerous curves which had resulted in several accidents and were in the path of the historic Nawgel's Mill and Miller's House
- Add a new retaining wall near Nawgel's Mill and Miller's House to reduce the amount of required fill
- Construct a new access point for hotel traffic

With input from PennDOT, the State Historic Preservation Office, the National Park Service, the developer and other partners, the plan was adopted and work began immediately. In addition to the feasibility study, L.R. Kimball services included:

- Environmental clearance document (Categorical Exclusion Evaluation) preparation
- It was the first Net Benefit evaluation in the State, but not the first Individual Section 4(f) Evaluation. Normally Individual 4(f) s are not completed when a Net Benefit Programmatic can be used, but this project was complicated by the NHL designation.
- Geotechnical engineering
- Alternatives analysis
- Preliminary design plans
- Permit acquisition
- Final construction plans and bid documents
- Final right-of-way plans
- Construction consultation, including shop drawing review

The team completed the final design within one month and construction was completed within nine months. In addition, the 4(f) approval process, which can often stretch on for more than a year, was completed within a few months. This was due, in large part, to L.R. Kimball's proactive and collaborative approach with PennDOT and the Federal Highway Administration to achieve review and approval of environmental documents in a timely manner.

Paving the Way for Historic District Redevelopment

Bedford Springs Transportation Improvement Project SR 4009 (Business Route 220)

THE RESULTS

This project addressed design, safety and traffic concerns associated with the original roadway. In addition, it provided a needed connection between elements of the HD/NHL and removed the potential for further damage to several structures located within the Bedford Springs HD/NHL. The end results included:

- Relocating the heavily traveled roadway behind the hotel for through-traffic and hotel deliveries, reducing traffic and noise in front of the hotel
- Reducing the size of the cut required for the relocated roadway through the use of steeper slopes
- Overall improvements to the deteriorated HD/ NHL by connecting the historic Nawgel's Mill with the Miller's House, and linking the main hotel complex with the golf course within the District
- Eliminating the dangerous curves adjacent to Nawgel's Mill and the Miller's House, removing the possibility of further accidental damage to these historic structures
- Full compliance with National Register HD/ NHL regulations

The project's success can be attributed, in large part, to L.R. Kimball's detailed attention to the project schedule and its coordination efforts, as well as its successful submission of the Nationwide/ Programmatic Section 4(f) Evaluation for Transportation Projects That Have Net Benefit. By successfully completing the project, L.R. Kimball enabled the Bedford Springs Resort to maintain its widely publicized grand opening schedule and take its place as one of America's premiere resort destinations.



ARCHITECTURE • ENGINEERING • COMMUNICATIONS TECHNOLOGY

AVIATION | CIVIL | CONSTRUCTION SERVICES | DATA SYSTEMS | ENVIRONMENTAL
FACILITIES ENGINEERING | GEOSPATIAL | NETWORKS | PUBLIC SAFETY | TRANSPORTATION

L.R. Kimball

Established in 1953, L.R. Kimball is among the nation's leading professional service companies offering its clients architectural and structural design services, civil and environmental engineering expertise, communications technology solutions and consulting. With a focus on targeted results, expertly managed, L.R. Kimball is committed to offering its diverse public and private-sector clients a tailored approach designed to meet their needs and budget requirements. Headquartered in Ebensburg, Pa., the company employs 600 people at 12 locations in Pennsylvania, New Jersey, Texas, Florida, and Virginia.

www.lrkimball.com
866.375.6812
info@lrkimball.com

L.R. KimballSM
TARGETED RESULTS. EXPERTLY MANAGED.
WE STAKE OUR REPUTATION ON IT.

A CDI Company