

The Bridger

V.C.B.S. Inc.
Vermont Covered Bridge Society
PO Box 97, Jeffersonville, VT 05464-0097
A Non-Profit Organization

The Vermont Covered Bridge Society Newsletter - Fall 2001

VCBS 2ND ALL MEMBER MEETING AND LAMOILLE COUNTY TOUR

by Bill McKone

On Saturday, July 14, the second annual all member meeting of the VCBS was held at the Cambridge Historical Society building in Jeffersonville. Prior to the meeting, those attending had the opportunity to tour some of the 13 historic covered bridges in Lamoille County, the largest concentration in any Vermont County.

The 11 members who gathered in the morning organized car pools in order to keep the number of vehicles to a minimum. The tour started with two bridges close to Jeffersonville. The first stop was at the Canyon/Grist Mill bridge over the Brewster River, still a functioning part of the road system even though in need of some repair. Next the group visited the Cambridge Junction/Poland bridge over the Lamoille River. This structure is undergoing significant repairs which have been funded through Senator Jeffords' Historic Covered Bridge Preservation Act. Our group included the project engineer from VT Agency of Transportation for the repair of the bridge, Mike Fowler, and a useful exchange of ideas of information took place.

Following lunch, the bridgers proceeded North up Route 109 to the Waterville/Belvidere area and, guided by Joe Nelson, spent time at the Church Street, Montgomery, Jaynes, Lumber Mill, and Morgan Bridges. From there, the party visited Johnson's Scribner Bridge and the site of the lost Power House Bridge.

On returning to the meeting place, members were afforded a chance to socialize before the two slide shows presented by Roberta Marsh, a new VCBS member, and Wendell Wells, both key members in the Cambridge Historical Society. Roberta's exposition on the history of Cambridge Junction gave the 14 members attended an understanding of the economic importance of this rail junction and an explanation for why the Cambridge Junction Covered Bridge was built. Wendell showed slides of each of the 13 covered bridges that once existed in the town of Cambridge; sadly, only three of these remain.

A brief business meeting was conducted by Joe Nelson, President of the VCBS to inform members of events attended, as well as upcoming bridge-related meetings and events. A treasurer's report showed the VCBS comfortably in the black, but with a declining membership as many have not yet renewed. Of 153 members enrolled, 43 have not renewed since their memberships expired on Dec 31, 2000.

The meeting concluded with a sit-down dinner catered by Dinner's Dunn, conveniently just around the corner from the old Masonic Hall where we met. We were joined by additional VCBS and CHS members and twenty satisfied diners departed the meeting place in the early evening hours. □

HAMDEN COVERED BRIDGE DEDICATION HELD

Hamden, NY - July 28, 2001 - The celebration began at 10 a.m. with music by Robert Sprague, country songwriter and performer followed by the grand reopening ceremony. The day was filled with music by the Sidney Community Band, children's games, horse and wagon rides, antique cars, chicken BBQ, raffles, balloons and free ice cream. Featured was a performance of the Spoon River Anthology by the Little Victory Players

Covered bridge enthusiasts [had] the opportunity to learn more (Hamden continued on page 2)

ANNUAL BUSINESS MEETING IN PLANNING

The VCBS Annual Business meeting is in planning for the month of October. Tentatively, it will be held in Montpelier, Vermont's most central location. All members will be notified of time and place by e-mail or by US Mail. The agenda and the ballots will be distributed by US Mail. Bill McKone, VCBS Vice President, is in charge meeting place arrangements. Members who would like to help him make the event a success are invited to contact him at 802.644.2126 or wmckone@mail.sover.net.

Irene Barna, John Weaver, and Ron Bechard have agreed to serve on the Nominations Committee this year. They will be looking for candidates to run for all offices and for volunteers to fill key posts.

Anyone who would like to help on the Nominations Committee, run for office or volunteer for a post please contact Ruth Nelson, VCBS Secretary, at 802.899.2093 or at jcnelson@together.net.

Offices open to candidates are: President, Vice President, Secretary, and Treasurer. Posts that need filling are Membership Committee, Events Committee, Newsletter Editor, Staff Writer, and Reporter/Correspondent. □



Some of the All-member Meeting at the Canyon Bridge.
From left to right: Bob Moore, Kathy Ramsey, Bill McKone, Marion Davis, Irene Odell, and Mike Fowler.

BRIDGERS AT TROY FESTIVAL

The SummerFest held at North Troy August 11 has gone down as a resounding success. We bridgers were represented there by Don and Pauline Prideaux. The couple had done so well, we have all been invited back to next year's event. The date has already been set for August 9 through August 11, 2002! So, Bridgers, mark your calendars.

Last July the VCBS had been invited to set up a special booth at the Montgomery Covered Bridge Tour, but the event was canceled. The sponsors, the Jay Peak Association, asked us to set up the booth instead at the Troy event. Unfortunately, the new date conflicted with summer plans. So the call went out to the NYSCBS, the NSPCB, and the VCBS looking for someone to represent we bridgers at the event. (Troy continued on page 2)

(**Hamden** continued from page 1)

about the Hamden Covered Bridge from the Hamden Community and Historical Association and to purchase covered bridge items from the many covered bridge organizations and crafters attending.

The bridge reopening ceremony began with a welcome by Wayne Marshfield, Town of Hamden Supervisor followed by an invocation by Rev. Bert Moore. The national anthem was sung by Ann Moody a covered bridge song by Robert Sprague. Master of Ceremonies, Robert Cairns introduced the speakers:

The speakers were Jim Eisel, Chairman of Delaware County Board of Supervisors; Wayne Reynolds, Delaware County Commissioner of Public Works; Congressman Sherwood Boehlert, 23rd Congressional District; Senator John Bonacic, 40th Senatorial District; Assemblyman Cliff Crouch, 122nd Assembly District; Richard Wilson, New York State Covered Bridge Society; and Wilmer Murray, Great Grandson of Robert Murray, all mercifully brief.

The speeches were followed by congratulatory Remarks by Richard Roy, National Society for the Preservation of Covered Bridges; Joseph Nelson, Vermont Covered Bridge Society; and Thomas Walczak, The Theodore Burr Covered Bridge Society of Pennsylvania.

Special Presentations were made: by Trish Kane - State and National Register of Historic Places Certificate; by the Murray Family and Town of Hamden - Donation of Covered Bridge Sign; by the Town of Hamden - Donation of Land by William Sunkenberg and family; by the Town of Hamden - Donation of Land by Canton Wheat and family; by Canton Wheat - Donation of Covered Bridge replica to Town of Hamden: by the Hamden Quilters - Donation of Quilt to Town of Hamden. □

MARK YOUR CALENDAR

October 6, Celebrate Grand Opening of the Slate Bridge in Swanzey, NH - The grand opening of the new Slate Covered Bridge in Swanzey, NH has been scheduled for Covered Bridge Day, Saturday, October 6th, 2001 from 11am to 2 p.m. On Sunday, October 7 there is also a fundraiser bike race. For information on the bike race, sponsored by the Slate Covered Bridge Fund-Raising Committee, go to: <http://www.town.swanzey.nh.us/>.

September 29, Dedication of Browns River Bridge in Westford, VT - The completion of the preservation of the Browns River Bridge and its return to the river will be celebrated in Westford, VT on Saturday, September 29. Additional information about the celebration will appear here when it becomes available, so watch this space! □

THIRD CANADIAN COVERED BRIDGE LOST TO FIRE!

Reported by Dick Roy (NSPCB)

I just received the following note from Gerald Arbour that the St. Isidore Bridge 61-18-09, Compton county was destroyed by fire this past Sunday, July 8th 2001:

To Whom it may concern: This is to confirm that the Wellis-Leggett bridge (61-18-09) has been completely destroyed by fire in the night between Sunday and Monday. No call done to the fire station. The bridge was in a remote area and the disaster has been seen in the morning. Arson expected. This left 90 historic covered bridges in Quebec. -- Gerald Arbour (garbour@dsuper.net)

[Editors note: The Wells-Leggett Bridge is the third Canadian covered bridge to be lost to fire recently. There was the 86-foot Keenan Bridge which spanned the Monquart River in Carlton County New Brunswick (can someone supply the date of this tragedy?). Built in 1927 it used the (**Canadian** continued on page 3)

(**Troy** continued from page 1)

Pauline and Don, with memberships in all three societies, stepped forward and the day was saved.

Said Pauline: "Going to Troy was a lot of fun and we met some interesting people. We arrived Friday night to two very friendly B & B owners, Jim and Paul. We had a great room for the night and raspberry pancakes for breakfast.

"We set up the booth with VCBS items and National Society postcards. We had a nice tent under a tree with a great view of all the happenings. A perfect day for the festival goes. They enjoyed craft booths, fiddlers, Vermont Choir, wagon rides, and a balladeer.

"Many people stopped by our booth and enjoyed the covered bridge pictures. They walked away with an application and the knowledge that the VCBS exists, and its purpose.

"Jim and Paul estimated 500 to 700 people attended. It was a very neighborly experience."

Said Jim McKimm, B & B owner and member of the Jay Peak Chamber of Commerce: "Our first SummerFest in the Jay Peak Area was a rousing success with many rave reviews. We are already preparing for SummerFest II to be held Friday evening, August 9th, Saturday, the 10th, 10-5 and Sunday the 11th, 10-4 and held again at the Riverbend Bed and Breakfast property on Rte 100 in Troy, VT.

Visit www.jaypeakvermont.com/summerfest.html to learn about the festival, fill out the sign-up sheet, and enjoy a photo of Pauline "manning" the covered bridge booth. □

RANDOLPH REFURBISHES GIFFORD COVERED BRIDGE

Randolph, VT - June, 2001 - The buzz around the VCBS booth at the Tunbridge fairgrounds during the Vermont Historical Society Expo 2001 was that the Gifford Covered Bridge over in Randolph was a "must-see." The town had just completed repairs and the ramshackle old span was bright and shiny in its new siding and roof. Considerable work had also been done inside with bracing and tie-beams. The big "I - beams" bracing the roadway are still in place.



Gifford Bridge in Town of Randolph. Photo by Joe Nelson, August 15, 2001

NORTH HARTLAND COVERED BRIDGE

Special Notice to Bridgers - Most of us who have been aware of the progress of the construction of the new bridge know it will be ready to be moved onto the causeway this fall. Many of us are eager to be there when the move is made, camera in hand.

(**Special Notice** continued on page 3)

(**Canadian** continued from page 2)

Howe Truss. It is listed in the World Guide as 55-02-08. Then the St. Nicholas River Bridge, WG 55-05-08, in Kent County, New Brunswick was lost to fire in the morning of February 26, 2001. The 504-foot Howe Truss span was built in 1919, the second longest bridge in Canada.]

□ □ □



North Hartland Bridge under construction by Jan Lewandoski.
Photo by Joe Nelson, August 15, 2001

A COMMUNITY COVERED BRIDGE RAISING PARTY!

Johnson, VT, July 16, 2001 - The Monday evening Selectboard meeting determined that there was enough community support for contributing to the re-construction of the Power House Covered Bridge lost to snow-load last winter.

Over 30 people were present to support of the idea and project. After questions and answers the Board voted to establish a committee with at least three board members to take over the project and move forward.

The Bridge committee with three board members and five community members was given the authority to lead the project; to include setting the time table, select the construction firm, determine what amount of contribution the citizens will be able to make. Board member Daryl West was named the Chair.

At the last Selectboard meeting, June 18, Mike Patch gave a convincing proposal, to have the Townspeople come together to reconstruct the Power House covered bridge. The work would be accomplished on weekends under the supervision of a covered bridge craftsman.

Mr. Patch's argument was for a community heritage linkage to the bridge, for community spirit revival, positive Town publicity, and the possibility of dollar savings. Pictures would be taken with the townspeople working on the project for future generations to see, A "Barn raising concept for the Power House Covered Bridge."

An additional argument, was to log some Town-owned land for timbers for the new bridge.

The Selectboard had agreed at the last meeting to post a notice in the paper for all persons interested in going forward with such a project, to attend this meeting.

[The text for this article is based on articles written by Eric T. Osgood, Selectboard Chair for the Town of Johnson website.]

(**Special Notice** continued from page 2)

However, the VTrans resident engineer on the North Hartland covered bridge project has requested that the move date not be publicized. If it appears to have attracted too many people, access to the site will be closed because the extremely limited room for spectators will make for a dangerous situation due to moving heavy equipment and two operating cranes overhead.

It is felt that it would be best if spectators wait for the official ribbon cutting ceremony to be held later this fall. The date will be announced when it becomes available. □

NEW NORTH HARTLAND COVERED BRIDGE SOON TO REPLACE CONCRETE SPAN

Man bites dog! A steel and concrete bridge is being replaced by a wooden covered bridge instead of the other way around! Jan Lewandoski of Restoration and Traditional Building is the contractor.

Two bridges crossed the Ottauquechee River at the North Hartland Dam, mainland to island, island to mainland. The concrete bridge has failed, but the Willard Covered Bridge is in great shape, said Lewandoski. "The Willard Bridge, better than most, it's taller, 16 feet from the bottom of the bottom to the top of the top, it has positive camber, it's about 118 feet long."

Two covered bridges served the causeway until a hurricane took one of the bridges out in 1938. "They replaced it with a concrete bridge," said covered bridge restorer Lewandoski.

"The town has decided they want to put a wooden bridge back in there, and the State went along with that. And because one wooden bridge already exists, there is no point in making the other wooden bridge any wider or taller than that one, so I didn't have to build 24 feet of roadway or something like that, just 17 feet of roadway like the existing one has. It does you no good to get into the one bridge if you can't get through the other one."

Asked for the name of the new bridge, Lewandoski replied: "The bridge has no particular name although they were known as the twin bridges. The existing bridge is sometimes called the Willard Bridge after a prominent family in North Hartland." □

POLAND BRIDGE ACCESS DISCUSSED AT SELECTBOARD MEETING

by Bill McKone

Cambridge - August 27 - We had a good discussion of about 45 minutes with the three selectmen, the town clerk taking notes. Dave Hoyne and Mike Fowler from VAOT, and ,Joe Nelson, Ron Bechard, Zeke Zucker, and myself from VCBS. The main points made were:

1. Limited sight distance on bridge requires one-way flow of traffic.
2. One-way traffic will allow us to have only one lane on the approaches and this will permit some physical restrictions on the size of vehicles coming through the approaches.

Joe Nelson passed out photos of a traffic slowing device used at covered bridges in Delaware County, N.Y. It consists of guardrails that narrow the entry to the bridge with the dual purpose of limiting the size and therefore the weight of the vehicle using the bridge. The Board kept the photos for study.

Peripheral items discussed were seasonal use of the road (close it in winter), use by snowmobiles in winter, lanes for pedestrians/bicycles, recreational possibilities (in-line skating on unused portion of roadway).

The select board will be warning a public meeting to get input on these matters. They were non-committal as to what their views were on any of these.

(**Poland** continued on page 4)

(Poland continued from page 3)

Dave Hoyne said that the state should let the contract for bridge repair and approach work by the end of September, but that the contract schedule should not stop the town from going through the process of local input and that the contract schedule could slip some. The money available would allow for either the current plan or some modifications on the approaches.

[Hoyne and Fowler stated they plan to restore the bridge keeping as much of the original fabric as possible. To do this and to restore the camber from negative 18 inches to positive 12 inches they believe it is necessary to remove the bridge from the river and disassemble and reassemble the structure. The alternative would be to build cribbing beneath the bridge. The method used will be up to the winner of the contract, Hoyne said.]

The bridge rehabilitation will include replacing the siding, the existing deck with glulam, and the roof with standing-seam steel. Only damaged or deteriorated truss members will be replaced—all joinery will be tightened and the shear blocks in the scarf joints in the bottom chords will be replaced. In addition, the abutment wingwalls will be reconstructed with stone laid up dry, the original lateral bracing in the floor system will be reinstalled, the phase-one lattice bracing removed, and the approaches reconstructed.- Ed.]

PRESSURE IS ON TO REPAIR BRANDON COVERED BRIDGE!

By Ed Barna, Rutland Herald Correspondent

Brandon, June 19, 2001 - The threat of losing federal funds has increased the pressure to quickly repair the Sanderson Covered Bridge, which has been closed for 14 years due to serious deterioration of its wooden timbers.

According to Bruce Rounds, Brandon's public works director, there is an Oct. 1 deadline for getting a long-anticipated renovation project into the state Agency of Transportation's contract administration program.

A contract does not have to be awarded by that date, he said, but it's possible that someone will be chosen and that the first work will begin in the fall. Rounds said he had learned that the state's bridge design and right-of-way acquisition departments were now pushing to get the Sanderson work done.

No one wants to lose \$450,000 promised through the \$15 million federal covered bridge program initiated by Sen. James Jeffords, I-Vt., he said. The program has set the Oct. 1 deadline.

Roger Whitcomb, the AOT design engineer for the bridge, confirmed Rounds' information.

The repair work itself will cost about \$800,000, Rounds said. But with previous archaeological work related to the project and other costs, the final tab will be about \$1 million, he said.

Since Brandon must pay 5 percent, he said, there is \$25,000 in this year's budget, with another \$25,000 coming in the 2001-2002 budget.

The Sanderson Covered Bridge crosses Otter Creek on Pearl Street Extension. A temporary bridge was built next to it when it was closed in 1987. © 2000 Rutland Herald and Times Argus

[This article reprinted here with the kind permission of Ed Barna]

CAMBRIDGE GRIST MILL (CANYON) BRIDGE

by Sue Scribner, VTrans*

Jeffersonville- May 6 - Met with representatives from the Town of Cambridge, [Bill McKone] of the Vermont Covered Bridge Society and Tim Grant of McFarland-Johnson, Inc., consultant for VTrans. Committee members in attendance were: Bob McCullough, Sue Scribner, Nancy Boone, Eric Gilbertson and Scott Gurley (for Scott Newman). Also in attendance was Gary Rogers, Structures Project Manager.

The Town's concerns focused on the need to safely transport cars and light trucks; they indicated they would be willing to post the bridge for 6,000 lbs.

Mr. Grant provided a "List of Damaged Items" with recommended actions and plan views of the structure. In general, it was recommended that members either be repaired or replaced in kind. He also provided a "tour" of the bridge, pointing out many of the damaged items.

In addition to the list provided, Mr. Grant recommended that the deck be replaced and the approaches paved. Mr. Grant's structural analysis led him to conclude that the bridge is only capable of carrying 5,000 lbs., controlled by the bottom chord.

The Town requested the anticipated time frame for rehabilitation; Mr. Rogers indicated that current plans are for the project to be bid for the 2003-construction season. The Town expressed concern that some interim repairs might be needed. It was agreed that Mr. Grant would prepare a listing of the items that he feels are necessary to be repaired in the interim.

Overall, the committee was impressed with the current condition of the structure. . . . Several committee members expressed skepticism with the results of the structural analysis; the bridge has been carrying higher loads and shows very little evidence of distress. There was agreement that the "List of Damaged Items" and recommended actions appear reasonable with the exception that [some] did not feel that the east abutment requires addition of mortar, rather it was recommended that a stone mason re-chink the abutment.

Mr. Rogers requested that Mr. Grant reevaluate the lower inside (downstream) bottom chord at its mid-span (5'° vertical). Some committee members also indicated that they did not feel it would be necessary to pave the approaches as it was felt that a substantial distance would need to be paved to be effective and prevent debris from being tracked onto the structure. . . .

*Historic Covered Bridge Committee Notes of Field Assessment on May 6, 2001. □

SMITH BRIDGE IN POMFRET SERVES PRIVATE DRIVE.

Devotees of historic bridges planning to explore the Smith Covered Bridge may find themselves unwelcome. In South Pomfret, the Smith Bridge off Stage Road near the Suicide Six resort has been clearly marked "PRIVATE DRIVE" and the property posted.

The forty-foot span was assembled here in 1973 by the Cummings Construction Company from plank-lattice trusses salvaged from the one-hundred-foot Garfield Bridge. The Garfield Bridge, built in the 1870s, crossed the Green River in Garfield Village in Hyde Park.

A real estate development company bought the Garfield Bridge to provide access to two of the corporation's properties, one in Pomfret, the other in West Windsor. The trusses were taken down, cut in half, and trucked to the building sites. The two bridges were never formally named, but the developer referred to them as the Pomfret Bridge and the Ascutney Bridge. The development project planned for Pomfret was never completed. □

WEATHERSFIELD PLANS UPPER FALLS COVERED BRIDGE RESTORATION

August 9, 2001 - Daniels, member of the Weathersfield Transportation Advisory Committee and chairman of the Weathersfield Chapter of the Vermont Covered Bridge Society met with Wade Kline, transport planner, C. Peter Cole, town select board chairman, and Larry Melon, town manager, to discuss restoration plans for the Upper Falls Covered Bridge.

The town has raised approximately \$40,000 over the past eight years for their share of the program. The Vermont Agency of Transportation has the project in their capital program for fiscal year 2004 for an estimated total cost of \$303,000. The meeting decided that the "town will proceed with the VAOT to move forward, possibly applying for federal funds," Daniels said.

The Upper Falls Covered Bridge, also known as Downers Bridge, crosses the Black River near the historic site of Downers Inn. The bridge is located off Route 131 near the junction of Route 106.

The Upper Falls Bridge has rot in the lower chords not removed in the 1976 rebuild. Instead, a fifth lower chord member was added (a town lattice truss normally uses four chords; upper and lower chords, and upper and lower secondary chords). The south abutment, where the dry laid stone can still be seen, needs attention. The north abutment concrete facing is severely eroded. The exterior of the bridge needs cosmetic attention that could extend to a new roof, Daniels said. □

VCBS Officers

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\$7.00 per column inch, \$15.00 per quarter page

\$25.00 per half page, \$45.00 per full page

Advertisers contact Joe Nelson, 2 Sugar Hill Rd., Underhill, VT 05489 or jcnelson@together.net

Newsletter deadline

Winter Issue - November 30

WILLIAMSVILLE COVERED BRIDGE PLANS*

Newfane - July 18 - The VTrans Historic Covered Bridge Committee met with the

Newfane Selectboard in a follow-up to the meeting held on June 28. Committee members attending were: David Hoyne, Warren Tripp, Eric Gilbertson, Scott Gurley and Sue Scribner. Project Manager Roger Whitcomb and Project Engineer Todd Sumner were also in attendance. John Weaver represented the Vermont Covered Bridge Society.

The Town's position was that they were looking for either a rehabilitation of the historic covered bridge or a new covered bridge, but they were not interested in any rehabilitation that kept the glulam beams currently in place.

Three different options were discussed;

- 1) Remove the 8' high glulam beams currently in place, perform necessary repairs of members, and then use glulam beams underneath the structure as a supplemental system.
- 2) Repair the historic bridge, recognizing that a large percentage of the members will need to be replaced.
- 3) Construct a new covered bridge on the same location.

The town will support any of the options as long as the finished product is aesthetically pleasing. In discussing on the present condition of the bridge, all agreed it is in very poor condition. All the lattices have been spliced. It was questioned whether the dead load can be reduced enough to allow some members to either be saved or replaced with same size members.

Because of the present condition of the bridge and the traffic it carries, this may be a good place to experiment with an Fiber Reinforced Plastic (FRP) floor system. This may allow the top chord and some other members to be retained and repaired and any replacement of members to be of the same size as the originals.

The committee is in favor of the second option. Project Manager Whitcomb will investigate the use of an experimental floor system with the goal being to retain as many members as possible and replace any necessary ones with members of the same size.

*This article is based on Historic Covered Bridge Committee Notes from the meeting of July 18, 2001 for the Williamsville Covered Bridge, Newfane. □

Items for sale

HAMDEN COVERED BRIDGE DEDICATION VIDEO

For anyone who is interested, you can purchase a video of the Hamden Covered Bridge Dedication from: John Esposito, 1795 Bobs Brook, Walton, NY 13856

The Price is \$16.50 which includes postage. Make checks payable to John Esposito.

SPECIAL BOOK OFFER: 30% OFF "SPANNING TIME: VERMONT'S COVERED BRIDGES," by Joseph C. Nelson, features 102 color photographs of Vermont's covered bridges in fifteen chapters, each a guided tour. The tours are complete with maps, commentary on the uniqueness of each bridge, and historic highlights about the towns and villages in which the bridges are found.

Send a check for \$40 payable to Joe Nelson, 2 Sugar Hill Road, Underhill, VT 05489, and you will receive your signed copy by Media Mail, no charge for shipping.

Spanning Time: Vermont's Covered Bridges: 7" x 10", 288 pages, ISBN 1-881535-25-8. The publisher is New England Press Shelburne, VT

Bridge Talk

CONTEMPORARY REPAIR AND STRENGTHENING OF WOOD TRUSS BRIDGES

by Jan Lewandoski

I have been the framing contractor for the restoration or rehabilitation of eleven wood truss bridges (as well as the construction of two new ones based upon historic models), and a consultant on the repair of seven others.

Since each of these bridges was considered to be of historic import by their state and locality, we began each project with the presumption that we would keep the maximum amount of original material in place, retain the historic structural system of the bridge as the only structural system, and restore rather than rehabilitate.

At the same time, these bridges were all in daily use by increasing quantities and weights of motor vehicles on public highways, and no one, including state historic preservation officers wanted to see them demoted from their historic function to become, as is usually suggested, foot bridges. Consequently, the presumption of restoration in each case was modified by considerations of traffic flow, the practicality and enforceability of posted weight limits, and the proximity of alternative crossings.

In addition, the condition of each bridge was examined, and in some cases they were subjected to engineering analysis, to determine how successfully they had been carrying their own dead load and historic live loads, independent of any projections for future heavier traffic. The following are a number of case studies, starting with the most conservative solutions, that illustrate how the decisions to repair and strengthen emerge from the interaction of contractor, historic preservation officer, and engineer. The engineer is usually in the employ of the state.

The Waitsfield Village Bridge, Waitsfield, Vermont

The Waitsfield Village Bridge is a 108 ft. single span Burr Arch built in 1834, making it the oldest surviving bridge of any material, in the state of Vermont. The trusses are in very good and almost entirely original condition, even retaining 1 to 2 inches of positive camber. In the middle of a busy tourist town, and posted for 16,000 lbs., it is crossed by an average of 1000 vehicles per day, mostly cars and light to medium weight trucks. The height of this bridge's opening, and its prominent mid-town location, precludes its use by tractor trailers, log trucks, concrete trucks, or mobile cranes, which are the usual sources of overloading in this locality. A modern bridge with a higher weight limit exists 2 miles downstream.

Repairs were necessitated by the appearance of bending at the lower shoulders on three of the four most heavily loaded posts on the bridge, i.e., those immediately at the edge of the abutment. The bending occurred because the spruce posts were inadequately resisting the horizontal component of the compressive load delivered by the braces, a load thought to be increasing due to 20th century truck traffic. A careful examination of the bridge discovered that each bent post was missing a key original element of the truss, variously called the chalk, check, or kicker brace, specifically designed to aid the post in resisting this particular thrust (see Fig. 1). The check brace from one post had been removed to make room for a walkway joist added during this century. The other two were removed in recent years during chord

repairs at the end of the truss.

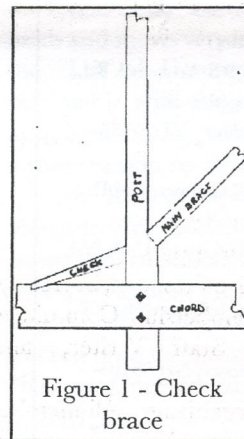
Restoration, in this case removing the effects of previous abusive repairs, was the appropriate course for strengthening the Waitsfield Bridge. The bridge was supported on cribbing from the river, the truss dismantled at three of its ends, three vertical posts replaced, and check braces installed. The replacement posts were identical in size to the spruce (*Picea* var.) originals, but were made of white oak (*Quercus Alba*), a species stronger in bending, horizontal shear and compression perpendicular to the grain.

It was believed that this change of species would help upgrade the truss against heavier traffic loads while staying within the historic form of the bridge. White oak is also among the most naturally rot resistant species, a consideration for truss members near the abutment and the drainage of the road. The work was completed in 1992, with the bridge appearing no different than in 1834, other than a species change in three pieces of timber.

The Mill Brook Bridge, Fairfax, Vermont

The 60 ft. lattice truss in Fairfax was sagging noticeably. It had extensive areas of rotten chord and lattice due to poor approach drainage and roof leakage. Many lattice bottoms had been broken by ice and debris during floods. In addition, repairs, even to the bottommost tension chord, had been made by bolting in short, 4 to 8 ft. pieces of plank, producing a multiplicity of joints where the bridge could least afford it.

Restoring the bridge would have resulted in the replacement of a large number of lattice (3"x 11" x 22' plank), merely because of damage to a few inches of their lower ends. Rather, sistering, or slipping in and pinning new lattice next to the damaged lattice, was chosen as a means of both repair and of adding rigidity to the truss by increasing the number of double pinned lattice to lattice and lattice to chord crossings. Rotted or poorly repaired chords were repaired by adding new chord material that spanned several joints. The original chord material in the bridge varied in length from 12 ft. to 24 ft., while the new chord planks varied from 16 ft. to 41 ft. The final appearance of the bridge was slightly changed by the presence of several lattice sisters, but the repairs were carried out within the structural system and types of



materials that the bridge was originally built with. The Vermont Division for Historic Preservation felt that the sistering alternative allowed the maximum amount of historic material to remain in the bridge, while satisfying the Agency of Transportation's desire for increased strength. This work was completed in 1990.

Next time: Contemporary Repair and Strengthening Of Wood Truss Bridges at the Windsor-Cornish Bridge. This article was taken from a paper given by Jan Lewandoski at the proceedings of the Fifth National Conference on Structural Faults and Repair, held June 29, 1993 at the University of Edinburgh, Scotland.



PRESIDENT'S COLUMN

Greetings, Bridgers: When this was written, the Vermont Covered Bridge Society was just one year, seven months, and nine days old. It's not the anniversary of anything, but it is as good a time as any to contemplate what we have accomplished in this short time.

Your support has enabled the VCBS to make a mark in Vermont and elsewhere in the effort to promote the preservation of our historic covered bridges;

Your support has helped spread the word through the **Bridger Newsletter** which is distributed not only to our membership, but to other covered bridge societies, historical societies, the Vermont Agency of Transportation, and members of the state legislature, the governor, and to congress.

You have helped support the **web page** which promotes historic bridge preservation nationwide and internationally.

Your interest in our covered bridges has earned us a standing invitation to be represented at the meetings of VAOT's **Historic Covered Bridge Committee**, the State of Vermont's commitment to preserve covered bridges. They ask for our opinions and they listen to us.

With all of that accomplished, much more still needs to be done. While the membership dues and contributions are paying the bills, we need a participating membership, active in society activities—a membership that will grow with the VCBS and form the leadership and hard core that will ensure that the society will be active a year from now, ten years from now and growing stronger.

Today there is but a handful of people making the VCBS work, just enough of us to do the minimum part of our mission.

Our Second Annual Meeting is currently being planned. Bill McKone is making arrangements for the meeting. We hope to meet in October and hold elections by mail in November. Anyone who likes to put together social gatherings is invited to contact Bill at 802.644.2126 or wmckone@mail.sover.net.

Irene Barna, John Weaver, and Ron Bechard have agreed to serve on the Nominations Committee this year. They will be looking for candidates to run for all offices and for volunteers to fill key posts.

Anyone who would like to help on the Nominations Committee, run for office or volunteer for a post please contact Ruth Nelson, VCBS Secretary, at 802.899.2093 or at jcnelson@together.net.

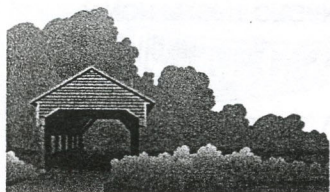
Offices open to candidates are: President, Vice President, Secretary, and Treasurer. Posts that need filling are Membership Committee, Events Committee, Newsletter Editor, Staff Writer, and Reporter/Correspondent.

The Events Committee will be key in organizing All-member Meetings, picnics, dinners, covered bridge excursions, shows and presentations that will attract and educate the public on covered bridge preservation.

A newsletter staff is needed, especially "Bridge-a-spondents," or reporters who will help keep the society informed about the covered bridges all over Vermont. Most of this work, and the work of a Staff Writer, is presently being done by but one person.

There is much to do, most of it "fun" stuff. And remember: "Many hands make light work."

Yours in bridging, Joe Nelson



Please sign me up as a member of the VCBS:
(Business or Society please provide name of contact person)

Name _____

Street _____

City _____

State/Zip _____

My telephone _____

My e-mail _____

Check type of membership:

(Memberships valid to end of current calendar year)

- | | | | |
|-------------------------------------|------|-----------------------------------|-------|
| ☐ Individual | \$10 | ☐ Junior | \$5 |
| ☐ Family | \$15 | ☐ Life | \$100 |
| ☐ Associate | \$8 | ☐ Business | \$25 |

Check type of donation:

- | | | | |
|-------------------------------------|-------|----------------------------------|-------|
| ☐ Palladio | \$2 | ☐ Palmer | \$5 |
| ☐ Hale | \$10 | ☐ Powers | \$50 |
| ☐ Town | \$75 | ☐ Tasker | \$100 |
| ☐ Paddleford | \$200 | ☐ Whipple | \$250 |

(Dues and Donations will be used to promote preservation of Vermont's covered bridges.)

I volunteer to participate in the following preservation program(s):

- | | |
|--|--|
| ☐ Bridge-watch Area Chairperson | |
| ☐ Adopt-a-bridge | ☐ Newsletter staff |
| ☐ Bridge-a-spondent | ☐ Events Committee |
| ☐ Crafts Committee | ☐ Legislation Watch |

Make all checks for dues and donations payable to the Vermont Covered Bridge Society. Mail to:

The V.C.B.S., Inc.

Attn: Treasurer

P.O Box 97

Jeffersonville, VT 05464-0097



Congratulations to Irene Odell and Ed Barna on their August 18, 2001 wedding! Their love of covered bridges is what brought them together.

Ed Barna is a founder of the VCBS and Irene has been a key player in helping the new society to grow. The VCBS Board of Directors extends congratulations and wishes for a long life to the happy couple.

Kathleen Knippler sent the VCBS the note of congratulations and a donation in honor of the Barna union. Many thanks are extended to Kathleen for her gift.