

The Bridger



The Vermont Covered Bridge Society Newsletter - Spring 2007

COVERED BRIDGE PROJECT UPDATES

by Sean James, PE - Project Manager, Hoyle-Tanner

January 24, 2007 - This is a very busy time for Hoyle, Tanner & Associates, Inc. as we are working on a total of six different covered bridge projects in NH and VT. A few just starting:



East Fairfield Bridge, WGN VT-06-03
Photo by Hoyle-Tanner & Associates, INC, 1/24/07

East Fairfield (VT) Covered Bridge - [VT-06-03]

This Queenspost Truss bridge has been closed since 1991, with a full rehabilitation scheduled starting in the fall of 2007. The project includes repairs to the east abutment and wingwall and a complete rehabilitation of the bridge. Upon completion of repairs, the bridge will be opened to traffic with a six-ton load limit. We are working with the Vermont Agency of Transportation on this project.

Haverhill-Bath Covered Bridge - [NH-05-04]

The Towns of Haverhill and Bath have signed an agreement with Wright Construction for the rehabilitation of this bridge, the oldest covered bridge in New Hampshire. The bridge utilizes Town Lattice trusses with added arches and a unique sidewalk on the upstream face. HTA will be providing construction phase services for this project. Construction is expected to begin in late spring/early summer with a one year construction duration.

(Hoyle-Tanner Update continued on page 2)

SPECIAL DAY FOR SALMOND BRIDGE

A Look Back....

by Charles W. Elflein

On Sunday, October 26, 1986, a truly special event took place in the covered bridge world. For the first time, a discarded historic structure was brought back to life as a functional, public highway covered span. Here in the town of Weathersfield, Vermont, folks gathered for "A Celebration of the Relocation and Restoration of the Salmond Bridge." The weather was typical for a Vermont autumn day, being cool, damp and rather rainy, but it certainly did not dampen the hearts of those who came and paid tribute to this beautifully restored landmark.

Arriving at the bridge around 1:00 p.m., I had the opportunity to photograph and examine the structure before all the people arrived for the dedication ceremony, scheduled for 2:00 p.m. What really impressed me was how lovely its new location is, being 2 miles east of Amsden and just north of State Route 131 on Henry Gould Road.. With a picturesque dirt road, surrounding trees and meadows, rolling hills and the towering profile of Mt. Ascutney to the north, this is certainly an extraordinary "new home" for the covered bridge.

Walking through the structure, I noticed this to be a 12-panel multiple-kingpost. According to my recent count, there are approximately 100 multiple-kingpost truss covered bridges remaining in the United States, with over half of them in Ohio. New England possesses only 15 MKPs (11 in VT and 4 in NH), so this is becoming a rare truss-type, indeed.

Unlike the majority of MKPs in other parts of the country, Salmond Bridge has its panels closer together than we normally see. This variation was devised by James F. Tasker of Cornish, New Hampshire. He not only constructed Salmond, but built many other bridges of similar design in Windsor County, Vermont and Sullivan County, New Hampshire. So in Salmond Bridge we find a very unique form of construction: a Tasker-type multiple-kingpost.

Examining the landmark further, I found it to be 53 feet in length (from end panel to end panel), and 18 feet wide. Salmond even contains some old signs still clinging to its weathered timbers, which advertise products of days-gone-by.

Peeking underneath the span, I was pleased to see the bridge restored authentically. It is still a genuine all-wooden bridge without the ugliness of steel I-beams and steel bolts. In true Vermont fashion, it is unpainted, also.

(Special Day continued on page 2)

(Hoyle-Tanner Update continued from page 1)

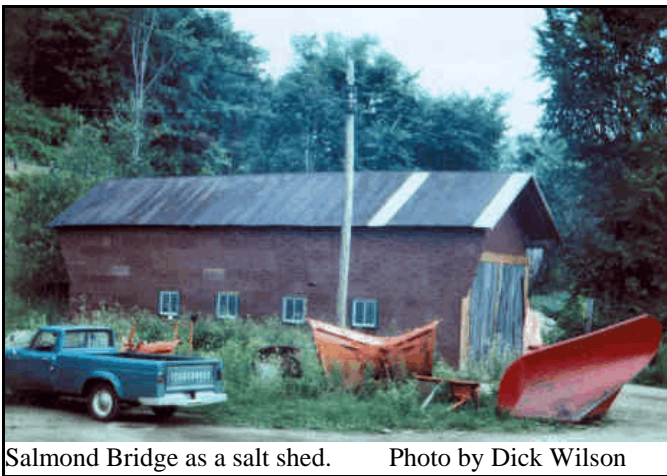
Hutchins Covered Bridge - [VT-06-07]

Rot damage through a leaking roof. Steel beams were added and the roof repaired as temporary measures until permanent repairs can be made. The project involves repairing the trusses, approach improvements and replacement of the existing floor beams and decking so that the bridge can be posted for a higher, 10 ton live load limit. This is our second covered bridge in the Town of Montgomery, with the first being the rehabilitation of the Comstock Covered Bridge that was completed in 2003. Both bridges were built by the Jewett brothers with the Hutchins Bridge being 10 feet longer.

□□□

(Special Day continued from page 1)

Dorothy Grover arrived for the ceremony. Many, many people worked to have Salmond Bridge moved from Amsden, where it served as a storage and salt shed for 27 years, but the one individual who acted as "spark plug" for the project was Dorothy. She felt that Salmond Bridge was an irreplaceable part of Weathersfield's heritage, and wanted to have this treasure saved for today's and future generations to enjoy and cherish. Thanks to Dorothy and the Save Our Salmond Covered Bridge Committee, the bridge has been given new life.



Salmond Bridge as a salt shed. Photo by Dick Wilson

Karl Stevens, Weathersfield's first town manager and master of ceremonies, began the dedication by introducing the committee that had engineered, despite strong opposition from a majority of the select men, the bridge's transformation from a town salt shed to a usable bridge. On the Save Our Salmond Covered Bridge Committee were Dorothy Grover, Kenneth Blum, Neil Daniels, Esther Kelty, Elizabeth Murray, Joseph Stoughton, Andrew Titcomb and Willis Wood. These people worked many hours to make Salmond a functional covered bridge again.

Dorothy Grover, the chairman of the bridge committee, thanked her fellow committee members in a brief, but emotional speech. She also commended Armstrong and Edith Hunter, publishers of the former *Weathersfield Weekly* newspaper. "I don't believe it ever would have flown without them," she said of the bridge restoration and relocation effort.

Others that were publicly thanked included Vie Jarvis of Ascutney, the excavating contractor of the bridge site; Wright Construction of Mount Holly, the major contractor of the job who moved the bridge to its new location on October 15th; the Weathersfield Historical Society; Weathersfield town officials and the town's public works employees who had the Henry Gould Road graded after the bridge was moved; and the Mack Molding Company of Cavendish for a "generous donation."

In her long list of thanks, she mentioned the generous donations made by the Connecticut River Valley, National, and New York State covered bridge societies. These three organizations are to be highly commended for not only making a contribution once, but time and time again.

Also speaking was Andrew Titcomb, who gave a brief history of the structure. Being an architect, Titcomb drew up plans for the Salmond Bridge restoration, and he even owns a covered bridge in Perkinsville, the Stoughton span. According to his research, Salmond was constructed about 1875. That makes it a little older than the Stoughton Bridge, which was erected in 1880.

Other people taking part in the program were Donald King of the Weathersfield Historical Society; and Rieman Christian, the 93-year-old "Mayor of Ascutneyville," who wrote a lovely poem to honor the bridge.

Next was the highlight, as the committee members all lined up at the west portal to see Dorothy Grover cut the ceremonial red ribbon. The ribbon was cut, and Vermont now had another functional highway covered bridge open for public use. Windsor County now possessed 13 covered spans, and moved into "first place" with Lamoille, as the Vermont county with the largest number of covered bridges within its boundaries.

First to cross the bridge was Karl Stevens with his brothers, Everett and Richard - all third generation Weathersfield residents - driving a team of oxen. The team was followed by Allan Johnson with his horse and cart, and Harry Olney of Springfield driving his rebuilt 1931 Plymouth Phaeton.

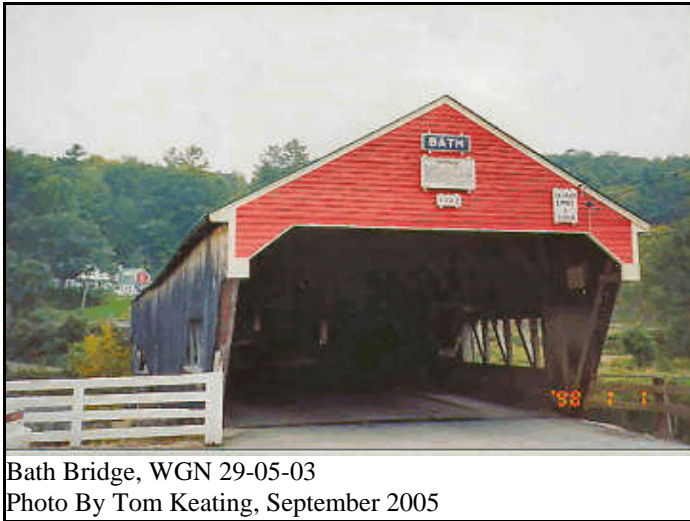
With the project completed and paid for (the final cost totaled \$34,389) the bridge is the property of the town and will serve as a historic landmark and recreational area. Former town clerk Elizabeth Murray has donated a parcel of land near the bridge, asking that it be used to establish a picnic area.

To me, it just seems fitting to conclude with a passage from Rieman Christian's poem: "The old covered bridge is standing by the brookside, we have put it where it should be for all people to view with pride."

[This article first appeared in the March 1987 issue of the NYSCBS *Courier*, republished here with the assistance and blessing of Dick Wilson - Ed.]

Covered Bridge Community News Notes

Bath Bridge Reopened



Bath Bridge, WGN 29-05-03
Photo By Tom Keating, September 2005

Bath, NH, January 8, 2007 - The Bath Covered Bridge, WGN 29-05-03, was reopened after being closed for three weeks for repairs. The bridge is posted for 3-tons allowing only pedestrians and light traffic. The bridge is closed to truck traffic, including emergency vehicles and school buses.

The bridge was closed December 16 when DOT inspectors found three floor joists severely cracked and support blocks out of position. The bridge was reopened when temporary repairs were completed.

The town had sought bids for a \$90,000 repair project, but there were no bidders. Meanwhile, the bridge is on DOT's funding list for restoration in 2009 for an estimated \$1.6 million in state money, the town to pay 20 percent.

The restored bridge will be posted for 6-tons for light traffic only. Emergency vehicles will continue to be banned.

Bath Bridge was built in 1832 in four spans using the Burr Truss. It is 374-feet, six inches long with spans measuring 117'6", 66'6", 62'6", and 80' in a single lane. It is posted for six tons, no trucks

The current span is the fifth on this site. The first, built in 1794, was lost to a flood and replaced in 1806. The second and third bridges were also lost to floods and replaced in 1820 and 1824. The fourth bridge was burned in 1830. The last bridge was completed in 1832 at a cost of \$2,900.

[Our thanks to VCBS life member Ann Ovit for forwarding the Caledonia Record clippings used to compile this report -Ed.]

Decision Nears On Cold River Bridge

Walpole, NH, January 25, 2007 - A new bridge will replace the double arched bridge built in 1907 and lost to the October, 2005 flood.

At the New Hampshire Department of Transportation hearing held January 24, residents of Walpole and the surrounding towns of Langdon, Alstead, and Actworth favored a hybrid timber, steel and concrete design proposed by Benson Woodworking over an originally favored "buted box" design.

Residents are invited to submit further comments on the design choices or other aspects of the project through Feb. 3 to Mr. Joel McCarty, chairman of the commission, C/O James Moore, director of project development, New Hampshire DOT, P.O. Box 483, Concord, NH 03302-0483 for inclusion in the official record.

DOT project manager Robert Landry said that a decision on the design would be made a week or so after the conclusion of the comment period.

[Thanks to Tom Keating for sending this news item to us. To read the full story, go to:

<http://www.eagletimes.com/main.asp?SectionID=1&SubSectionID=4&ArticleID=2335&TM=233.277> - Ed.]

2007 New Hampshire Young Engineer of the Year

Hoyle, Tanner & Associates are pleased to announce that Sean James, P.E., SECB has been selected as the recipient of the 2007 New Hampshire Young Engineer-of-the-Year Award as presented by the New Hampshire Joint Engineering Societies.

Sean has been with HTA since graduating with BSCE and MSCE degrees in 1995. He has steadily gained experience and responsibility progressing from a Project Engineer to his current position of Project Manager and Associate of the firm. His background in bridge and structural engineering includes specific expertise in historic covered bridge rehabilitative design where he has become regionally known as an expert in the field of covered bridge design.

This is a very prestigious honor, as Sean was nominated and selected anonymously by his peers in the industry.

Sean is a graduate of the University of Maine having completed both his Master and Bachelor of Science degrees focusing on structural engineering. Sean is a NH-licensed Professional Engineer and has demonstrated his commitment to the profession as an active member of the Structural Engineers of New Hampshire and the National Society for the Preservation of Covered Bridges. Sean is also a member of the Vermont Covered Bridge Society



Covered Bridge Fiction or Fact

Question # 2 in a series - Camber in a Bridge. Is it necessary? What is its function?

Joseph Conwill, ME

On camber, its main function is to prevent sag. You don't want sag, because not only does it look stupid, but also it causes irregular loading stresses. High speed loads shoot onto the bridge and come down with a slam some twenty or thirty feet in, causing extreme stress at those locations. The ideal is a perfectly level floor, but you will always have some settling due to creep of the timber. Camber prevents sag. Camber, in a small degree, is also aesthetically graceful. It is not desirable in a high degree in multi-span bridges because high speed loads will then plop down with a slam at every pier. You hope the loads won't be traveling fast over a covered bridge, but some of them always will.

Leola Pierce, P.E. - Va

Yes, camber is necessary. To compensate for the live load it would carry and to bring the bridge to the required grade.

Phil Pierce, P.E. - NY

As to camber - from an engineering perspective, it is an intentional upward curvature of the superstructure to offset the downward deflection of it due to loads so that the net result avoids the appearance of sag. A sag in a bridge, while of no consequence in and of itself, implies poor capacity. Camber is discussed often with respect to trusses since the lack of it guides one to examine the condition of the bottom chord splices - locations that tell a lot about the condition of a truss. As the splices open up, camber is lost, and the truss begins to sag. Or, as in the case of the replaced Paper Mill CB in Bennington, VT, the crushing of the top chord due to rot, caused the bridge to sag as well as the enlarging of the bottom chord joints. So, keep in mind that camber is not related to stress or strength, it is simply a geometric characteristic of the superstructure of the bridge.

Dick Wilson, NY

To me, the purpose of the camber is: After the bridge is built or repaired, and it is left to stand on its own, it will settle a little and still be straight or have a slight positive arch to it. Without the camber built in, after it settles, it would have a sag, and this would not be a good thing.

Robert Durfee, P.E. - NH

What is its function? When a covered bridge is constructed, the main structural elements (trusses, floorbeams and decking) will sag or deflect downward under its own weight. This is known as the dead load deflection. For a Covered Bridge 100 feet in length, this dead load deflection can be quite large and noticeable, about 4 to 5 inches. To the public, a bridge with its trusses and floor decking deflecting or sagging that amount gives the appearance that the bridge is failing or in distress. The public may not be comfortable crossing this bridge, even though the bridge is quite sound, and capable of supporting the loads with this sag in it.

Since covered bridges are constructed with timber, they tend over a long period of time to deflect or sag as a result of creep as well. Creep is the tendency of the timber members and connections to permanently deform as the structure tries to move and relieve stresses in its members. It takes a long period of time (sometimes 30 to 50 years or more) for creep to develop in a covered bridge. Many a covered bridge that has a sag in the floor deck is a result of creep over a long time. Although a bridge may sag as a result of creep in the members, it is still sound and capable of supporting loads.

To counteract these deflections or sags, and to give a bridge the appearance of being sound, bridge designers and builders construct bridges with upward or positive camber in the structural elements to counteract the dead load deflections. Thus, if a covered bridge is expected to have a total deflection of 5 inches, positive camber is built into the bridge of between 6 to 7 inches, so the net result is 1 to 2 inches of upward camber after the bridge is erected.

Is it Necessary? Camber is necessary in a bridge for aesthetic purposes only. Camber is designed and built into covered bridges to counteract the immediate deflection (dead load deflection) and the long term deflection (creep), and give the bridge the appearance of being sound and functional.

Sylvain Raymond (ATAWALK) Canada

Camber on a bridge, why? I asked that question many times and got the same answer every time!

It simply allows the structure to bend, absorb and distribute the weight. It more or less acts like the leaf-springs on a truck, but in reverse or with the weight below the curve, or IN the truss. Without proper camber, the life span of a busy covered bridge would be greatly reduced for it would have nowhere to go but down from the straight position.

John Weaver, VT

Camber for timber structures: This is specified by design code and quite essential for good long term performance - to counteract creep and permanent (sag) deflections.

Membership

by Trish Kane

Bob and I are members of numerous Covered Bridge Societies and when we look at their membership rosters, it is always fascinating to see how many states are represented in their membership. Since I am the Membership Coordinator for the Vermont Covered Bridge Society, I thought it would be interesting to see how many states are represented in our society. Out of 150 members, I think you'll find it interesting.

Here they are: AR – 1, CA – 3, CT – 8, DC – 1, FL – 3, IL – 1, IN – 2, MA – 7, ME – 1, MI – 4, MN – 1, MO – 1, NC – 1, NH – 11, NJ – 3, NY – 13, OH – 8, Ontario, Canada – 2, OR – 1, PA – 6, SC – 1, VA – 1, VT – 70.

Please join me in welcoming the following new members to our group. **Robert Durfee** from Laconia NH; **Richard Hart** and **Warren Tripp** both from Groton, VT; and **Kerry Potts** from Sandusky, OH. A warm Vermont welcome to each of you!

And now...the winners of our Early Renewal Contest. But first, let me mention that 34 of you folks missed out on a great opportunity to win some neat prizes. Were you one of them? Why not mark your calendars now to pay your membership dues by December 31 so you don't miss out next year. Thanks to each of you who mailed your membership dues on time. It saves the Vermont Covered Bridge Society time and money. Money better used to help preserve our bridges. And a special thanks to those of you who paid your membership dues for *two* years. Not only does it save the Society time and money, but *you* as well.

Now the lucky winners: First Place – **Bill & Beverly DeLancy** from Cleveland Heights, OH who will receive a one year free membership to the VCBS. Second Place – **Carolyn Clapper** of West Charleston, VT who will receive a lovely covered bridge welcome sign. Third Place – **Robert & Barbara McPherson** from Akron, OH who will receive a bag of covered bridge goodies. Congratulations to our winners and thanks again for paying your membership dues *before* December 31st.

Trish Kane, Membership Coordinator



Upcoming Birthdays and Anniversaries

March

- 2 John Billie
- 2 Gordon O'Reilly
- 8 Neil Daniels
- 16 Bruce Laumeister
- 12 Priscilla Farnham
- 21 Thomas & Lisette Keating
- 23 Steve Miyamoto

April

- 13 Gary Krick
- 22 Anthony Daniels

May

- 3 Tom Davis
- 9 Erwin Eckson
- 10 Charles Lovastik
- 11 Hank & Sally Messing
- 11 Steve Wheaton
- 12 James Crouse
- 12 Jeanette Wilson
- 17 Ron Bechard
- 18 Ruth Nelson
- 19 Mary Ann Waller
- 22 Irene Barna
- 27 June Gendron
- 28 Bill McKone

Oops... Sometimes, in the hustle and bustle of everyday life, we often forget things that are important to us...like renewing our membership with the Vermont Covered Bridge Society. If there is an (06) beside your name on the mailing label of this newsletter, your membership has expired. Help us continue our challenging work by renewing your membership as soon as possible. Please make your check payable to VCBS and mail to:
The V.C.B.S., Inc., Attention Treasurer, PO Box 97,
Jeffersonville, VT 05464-0097.

letters

A Covered Bridge Wedding



Sunday River Covered Bridge Wedding, October 2006
Newery Township, Maine

December 21, 2006 - Joe, While I was on vacation in the White Mountains in early October, I followed signs to the Newry Bridge [Sunday River, ME-09-04]. near Bethel, Maine. I reached the bridge just before the start of the Julie Philbrook/William Dupuis wedding. I had heard of such uses for a covered bridge, but this was my first time to experience one, just by happening to show up at the right time.

Best regards, Lyn Whiston

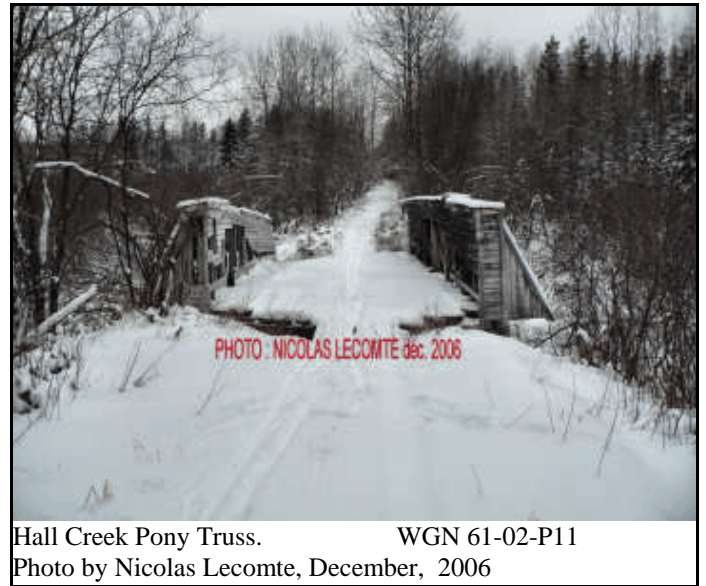
Official State of Indiana web-site

January 19, 2007 - Here is an official State of Indiana web-site which should be of interest. The study is 192 pages, so if you download that, I hope you have a fast connection. It looks to be very interesting:

<http://www.in.gov/dot/programs/bridges/inventory/index.html>

Jim Crouse

Unknown Pony Truss Found in Quebec



Hall Creek Pony Truss. WGN 61-02-P11
Photo by Nicolas Lecomte, December, 2006

January 20, 2007 - Hi everyone, Last December, Mr. Nicolas Lecomte, from Beaucanton, Abitibi has reported the existence of an unknown pony bridge here in Quebec. That bridge is located on Hall Creek on an abandoned road north of Val Paradis, hometown of the Pionniers Bridge (61-02-32). The World Guide number for this new bridge is 61-02-P11.

Gerald Arbour

Events

Vermont History Expo

The VERMONT HISTORY EXPO 2007 will be held the weekend of June 23-24, from 10:00 a.m. to 5:00 p.m., at the Tunbridge World's Fair Grounds. Our set-up date is Friday, June 22.

HELP WILL BE NEEDED BY VCBS MEMBERS. Volunteers please contact Irene Barna at: ibarna@middlebury.edu or 802.388.0247

Prez Sez

The VCBS is anticipating another year of significant events. Our spring meeting at the Bennington Museum in April and our exhibit at the History Expo in June, just to name two. I am looking forward to meeting all of you at these up-coming events.

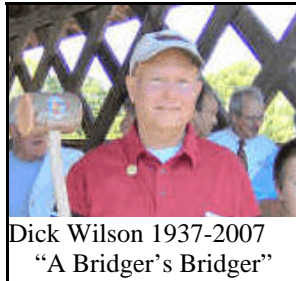
To keep our organization strong we rely on dedicated volunteers. We are still looking for someone to chair the Crafts Committee - purchasing and selling covered bridge merchandise to help fund our mission, as well as archiving covered bridge memorabilia collections are among the duties of the position.

Many thanks to Warren Tripp who has volunteered to cover bridge-watch activities at the Green Banks Hollow Bridge in Danville. However, we still need someone to lead bridge-watch activities in the Lyndon VT area.

A Sad Passing - Dick Wilson.

Sylvain Raymond of Toronto writes:

"It is always sad news about the passing of one who gave so much to a cause that brings us all together in such a fashion that strangers have developed into a strong affiliation over the years.



It is hard indeed, but let's remember Dick for his energy and for his dedication. I myself never met him but his name was everywhere people treat of covered bridges. He was an inspiration and a guide. His name will endure as a pioneer—One who interested many, captivated many more, and shared a passion.

My deepest sympathy to the family, friends and associates. We are all with you. We shared a passion, now together we must be the rocks upon which future bridges will be built."

I couldn't have expressed these thoughts better. Sylvain speaks for us all.

John Weaver, President, Vermont Covered Bridge Society

Please sign me up or renew my membership in the VCBS:

(Business or Society please provide name of contact person)

- New member Renewing member
 Gift Certificate for: _____

Name _____

Street _____

City _____

State/Zip _____

Telephone _____

e-mail _____

Check type of membership:

(Memberships valid to end of current calendar year)

- Individual-\$10 Family-\$15
 Associate/Student-\$8
 Life-single-\$100 Life-couple- \$115
 Business-\$25 Organization/Municipality-\$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 wish to 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 Membership Committee

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

A Covered Bridge Swap-Meet!

This year *Olin's Museum of Covered Bridges* will hold its second annual Covered Bridge Swap Meet. Everything covered bridges, nothing but covered bridges. It's a great opportunity to sell those extras or pick up that unique bridge item you've been searching for! Come and join us for what is sure to be a good time.

DATE: June 23, 2007 Rain or shine.

PLACE: Olin's Museum of Covered Bridges. 1918 Dewey Rd. Ashtabula, Ohio 44004

two drives east of Olin's Covered Bridge.

TIME: 10:00 A.M. - 4:00 P.M.

TABLE SPACE: \$10.00. Reserve by June 16. Call Julie Grandbouche at 440-998-0025.

OUTDOOR ADMISSION: Free

MUSEUM ADMISSION: \$2.00 ages 10 and over.

For questions or directions, check the web site at www.coveredbridgemuseum.org or call Julie Grandbouche at 440-998-0025.

Advertising rates in The Bridger

\$ 5.00 per column inch
 \$10.00 per quarter page
 \$20.00 per half page
 \$40.00 per full page

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

Newsletter deadlines

Spring Issue - February 28

Summer Issue - May 31

Fall Issue - August 31

Winter Issue - November 30

VCBS Officers

- John Weaver, President
- Joseph Nelson, Vice President & Board of Directors contact
- Irene Barna, Secretary
- Neil Daniels, Treasurer

Bridger Newsletter Staff

- Steve Wheaton, Editor
- Joseph Nelson, Staff Writer
802.899.2093 jcnelson@together.net
- Distribution, Kathy Knight