

AMERICAN CANALS

BULLETIN OF
THE AMERICAN CANAL SOCIETY

BULLETIN NUMBER 38

Editorial Address — Box 310, Shepherdstown, W.Va. 25443

AUGUST 1981

PRESIDENT'S MESSAGE

My message will be brief, as I seem to have written several lengthy articles already for this issue. Ruth and I have enjoyed a "bus-man's holiday" for the past few months — with visits to meetings and tours held by the Virginia Canals and Navigations Society; the Pennsylvania and New Jersey Canal Societies; and the Canal Society of Ohio; not to mention our trip on the New Shoreham II into the northern inland waterways; and two conducted tours along the Susquehanna and Tidewater Canal — one for our "Young at Heart" Church Group, and the other for the Smithsonian Associates, out of Washington. We also are hoping to take in the Whitewater Tour in Indiana in October. Everywhere we go, we find increasing interest in the historic canals of the USA and Canada, and we do our share to fan the flames!

Right now I am having my final negotiations with the printer for the completion of the "150th Anniversary Issue of the Amazing Pennsylvania Canals", which has proven to be a major undertaking, but hopefully a useful one! Perhaps, after I have recovered from the exertions of the summer, I'll have another look at our ACS Project "CANAL ENGINEERS OF THE 1800's" — for which bushels of material have already accumulated!

Bill Shank

CANAL CALENDAR

September 26, 1981 — Bus Tour of the Susquehanna and Tidewater Canal conducted by Bill Shank. Contact Karen Gray, Smithsonian Associates, Washington, D.C. 20560

September 26-27, 1981 — Fall Meeting of the Steamship Historical Society of America, Shelburne, Vermont, including "Ticonderoga" visit. Contact John Breynaert, 8 Regatta Rd., N. Weymouth, MA 02191.

October 3, 1981 — Seminar on North American Waterways, Sutton College of Liberal Arts, Sutton, Surrey, England. Contact Dr. Roger Squires, 4 Manor Way, Beckenham, Kent BR3 3LJ, England.

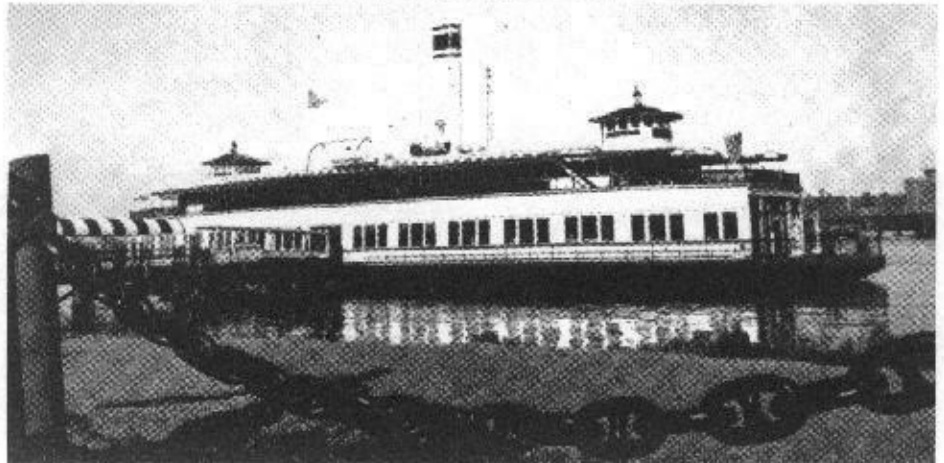
October 16-17, 1981 — Whitewater Canal Tour, by rail, sponsored by ACS and the Canal Society of Ohio. Contact John W. Droege, 2937 Neil Avenue, Columbus, OH 43202

October 23-25, 1981 — Pennsylvania Canal Society tour of the Union Canal. Contact Earl Leiby, 7th & Guilford Streets, Lebanon, PA 17402.

October 31, 1981 — Meeting to form an Ontario Canal Society (See page 2)

November 29, 1981 — Presentation of a paper: "The Sons of William Hamilton Merritt" (builder of the first Welland Canal) Contact St. Catharines Historical Museum, 343 Merritt Street, St. Catharines, Ontario L2T 1K7.

NEW YORK HARBOR TOUR



The Canal Society of New Jersey's July 4th tour of New York Harbor was a soggy experience due to the near-continuous rain the entire day and evening. Spirits of the 67 participants were only slightly dampened. Along the route of Delaware & Raritan canalboats — Arthur Kill and Kill Van Kull — many abandoned and historic vessels were viewed, especially at Witte's Marine Salvage yard. After lunch at South Street Seaport the Morris Canal basins were inspected and the concrete hull of an abandoned canal boat was seen, and a close up view of 6 visiting NATO warships was provided. The highlight of

the day was dinner aboard the floating restaurant, Binghamton's at Edgewater, N.J. (The ferry boat Binghamton (shown above) was built for the Lackawanna Railroad in 1905 and ran between Hoboken, N.J. and Barclay Street in Manhattan until 1967)

Bill McKelvey, Jr.

DESJARDINS CANAL

Desjardins Canal bisects Cootes Paradise at the base of the Niagara Escarpment; it was dredged and its pilings driven during the mid-1800's.

Pleasure steamers and 21-metre long Durham boats (boats which were either sailed or poled) used the canal to travel from Dundas to Hamilton Harbour, or as it was then called Burlington Bay.

The canal was the work of an enterprising settler from France, Pierre Desjardins, who formed a company in 1826 to construct a canal through the marsh between Burlington Heights and Dundas.

Desjardins died before the canal was ready to accommodate commercial shipping. His work was continued by his brother-in-law, Alexis Begue. On August 16, 1837, the Desjardins Canal was officially opened and became instrumental in the sustained growth of the Town of Dundas.

The Desjardins Canal Company located its offices on the Main Street in the Town of Dundas which continued to flourish in the growing shadow of the larger City of Hamilton.

The Great Western Railroad Company, one of Sir Allan Napier MacNab's great achievements for Hamilton, struck a death blow to the canal as freight by rail to Hamilton and Toronto surpassed water as a major mode of transportation.

The disused pilings are still visible from the Niagara Escarpment and a plaque has been erected in Dundas to recognize the importance of the Desjardins Canal to the growth of that town.

(St. Catharines Historical Museum from Cuesta, Spring 1981.)

C. & D. ENLARGED

The widening and deepening of the 46-mile-long Chesapeake and Delaware Canal has been completed, opening the channel to deep draft ship traffic, the Maryland Port Administration announced. The canal, now 35-feet deep, provides a direct link between the Chesapeake Bay and the Delaware River, eliminating the need for larger vessels to sail around the Virginia Capes.

The canal also provides a shorter, direct link between the ports of Baltimore and Philadelphia. The waterway is operated and maintained by the U.S. Army Corps of Engineers.

CANAL MANUSCRIPT MISSING

An 1825 manuscript has been missing since the 1940's and may have found its way by now into a library or collection. The 430-page work, never published, is by Hugh Paul Taylor, entitled HISTORICAL SKETCHES OF THE INTERNAL IMPROVEMENTS OF VIRGINIA, and was apparently last seen in the Second Auditor's Office in Richmond, Virginia. This is obviously an important early document worth looking for. (From Dr. P.M. Rice's Ph.D. Thesis, "Internal Improvements in Virginia, 1775-1860," University of North Carolina, Chapel Hill, 1948, p.119n.)

American Canals

BULLETIN OF THE AMERICAN CANAL SOCIETY

"DEDICATED TO HISTORIC CANAL RESEARCH, PRESERVATION AND PARKS"

AMERICAN CANALS is issued quarterly by the American Canal Society, Incorporated. Objectives of the Society are to encourage the preservation, restoration, interpretation and use of the historic navigational canals of the Americas; to save threatened canals; and to provide an exchange of canal information.

Annual subscription to "AMERICAN CANALS" is automatic with a minimum ACS dues payment of \$8.00 Individual copies may be purchased at \$2.00

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ONTARIO CANAL SOCIETY

Louis J. Cahill, Canadian Director for the American Canal Society, has spearheaded further action to form an ONTARIO CANAL SOCIETY, as mentioned briefly in the May 1981 issue of AMERICAN CANALS. A meeting was called by Lou, to discuss the matter, June 17, 1981 at the St. Catharines Museum. The meeting was attended by John Seymour, of the Welland Canal Preservation Association (initiator of the idea); Dr. John Burtniak, Colin Duquemin and Arden Phair of the St. Catharines Museum. Dr. Wes Turner (of the Museum) and Ald. Denise Taylor, President of the Welland Canals Preservation Assn. were both in accord with the idea, but unable to attend.

Another meeting is now set for October 31, 1981, with a mailing to interested parties throughout the Province as soon as the mail situation in Canada returns to normal. It was agreed that the letter would be sent on Welland Canals Foundation letterhead, as the appropriate body to initiate action on the undertaking, without financial responsibility. Interested parties in Canada (and the USA) are urged to contact Lou Cahill, or other members of the above committee, via Welland Canals Foundation, Inc., P.O. Box 745, St. Catharines, Ontario L2R 6Y3.

IWA RALLY CLOSES ACS STUDY-TOUR IN ENGLAND



Dr. Roger Squires (center) presents John Heap and Sir Geoffrey de Fretas (left and right) with ACS Shoulder Patches.

Dr. Roger Squires, ACS Director for the United Kingdom, reports a most successful English Canals Study-Tour, culminating with an informal reception at the Inland Waterways Association National Festival and Rally at Leeds, England, August 16th, 1981. The accompanying photos were made at the reception during which John Heap, Chairman of the Inland Waterways Association, and his wife, Joan Heap, hosted the ACS U.K. Tour Members.

The Rt. Hon. Sir Geoffrey de Fretas, President of the IWA, presented Dr. Albert Celley, (representing ACS members present), with an IWA pennant for transmission to the ACS President, as a sign of the common bond between the two organizations.

ACS members present were: Dr. & Mrs. Albert Celley, Dolly and Bev Morant, Bill Gerber, Jr., and ACS Director Dr. Roger Squires, who organized the ACS 1981 Study-Tour. Other guests included: Charles Quant of Rainbow Boats Trust; Ted Edwards, canals consultant; and members of the Leeds City Council and the West Yorkshire Council.



Dr. Albert Celley (left) accepts the IWA Pennant from Sir Geoffrey de Fretas, on behalf of ACS, while John Heap (right) looks on.

MYSTERY PHOTOGRAPH

The "Mystery Photograph" in the February issue of *American Canals* was of the High Street (now Wisconsin Avenue) Bridge in Georgetown, District of Columbia on the Chesapeake and Ohio Canal in the early 1900's. A C & O Canal freight boat can be seen downstream of the bridge. It is likely that the boat captain is preparing to take on wooden cement barrels from the building to the right of it to be taken to the cement plant at Shepherdstown, West Virginia.

CANAL MUSICALE

Canal enthusiasts and music lovers alike have a treat in store for them in coming months with the preparation of the canal musicale, "Towpath to the Stars." The setting is the Chesapeake and Ohio Canal in the 1850's at Shepherdstown Lock (Lock 38). Plans are currently underway to show the production at towns and cities in the Potomac Valley. Watch your area newspapers and the November issue of *American Canals* for further details. Music by Richard Scott Russell, lyrics for the production are by Jack Zierold (noted for his production of "Belle.") Dr. Tom Hahn is the technical consultant.

MAYO HONORED



Robert S. Mayo, P.E., (left) an ardent canal buff member of both PCS and ACS, is shown here being honored by the Pennsylvania Society of Professional Engineers as the State's Senior "Engineer of the Year" for 1981. The presentation was made by State President John Logan (right) at a recent PSPE convention in Hershey, PA. Bob is presently touring China, looking for old canals over there!

CHAMPLAIN CANAL

Readers of AMERICAN CANALS may recall the article by Bill Shank in A.C. #34, August 1980, telling of his experiences on the Champlain Canal, aboard the *Emita II*. One of Bill's fellow passengers was Carla Davidson, Picture Editor for AMERICAN HERITAGE MAGAZINE. Carla has written the woman's version of this same trip in an interesting, five-page, color-photo-illustrated article, which appears in the July/August 1981 issue of "AMERICANA." The article even includes a lock-diagram map of the entire Champlain Route. Get a copy at any newsstand; it's good!

THE MUSKINGUM – "JEWEL" OF SOUTHEAST OHIO



"Y-Bridge" of the Old National Road in Zanesville, where our tour began.

June 5th and 6th, 1981 approximately sixty members of the Canal Society of Ohio gathered at the Quality Inn in Zanesville for their Spring Tour. Their objective was the Muskingum navigation system. Oddly enough, very few canal buffs in Northeastern USA are aware of this beautiful, nearly 100-mile long, canalized river with its eleven fully-operative locks between Ellis and Marietta, on the Ohio River.

Ted Kasper, Tour Conductor and Author of the history of the Muskingum Waterway (to be published in the next issue of AMERICAN CANALS) made sure that all present for the week-end meeting and tour became fully aware of the colorful past of the Muskingum and its present adaptation as a vital part of the State-owned and operated Muskingum River Parkway.

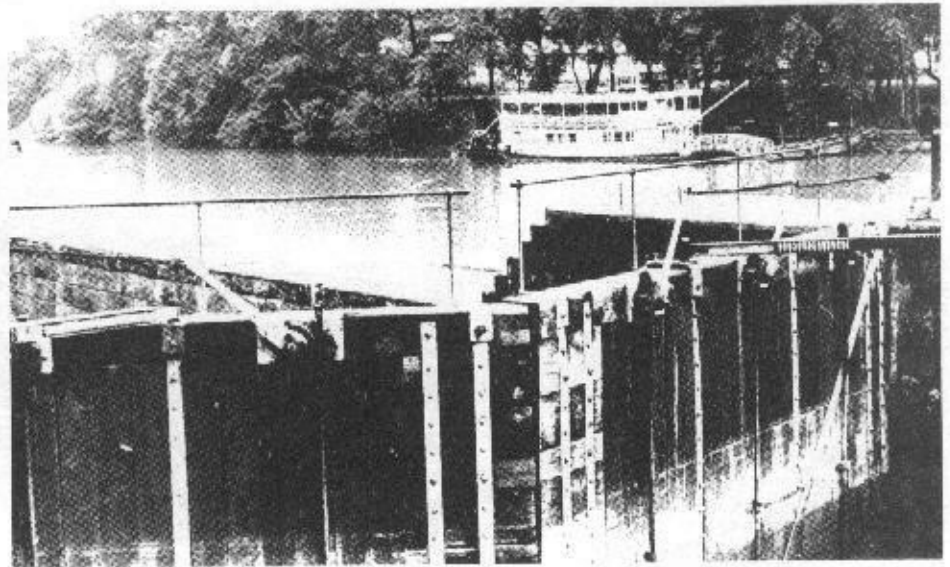
Larry Bail was Tour Secretary, with CSO President Gale Hartel presiding at the meetings. Friday evening, June 5th, Ted Kasper treated us to a delightful slide-show and lecture with humorous overtones, preparing us for what we would see the next day. Maps and literature were on display, featuring the various canals of Ohio. Saturday we were split in two groups, one led by Ted Kasper and the other by Gale Hartel, traveling on two separate buses, visiting most of the major dams, operating locks and parks along the route of the Muskingum navigation, from the "Y Bridge" in Zanesville to Lock Two Park, north of Marietta, a 150-mile round trip.

Back at the Quality Inn at Zanesville Saturday evening we enjoyed the sociability of the CSO assemblage at their evening banquet, plus a lecture on the 1913 flood and how it affected the Muskingum River.

Bill Shank



The Lock Tender (in full uniform) at Philo Lock #9 answers questions.



Looking across the lower gates of Lock #10 in South Zanesville. In the background is the "Lorena", a restored stern-wheeler, brought in from Arkansas for chartered tours of the upper Muskingum. (Operated by the Zanesville Area Chamber of Commerce.)

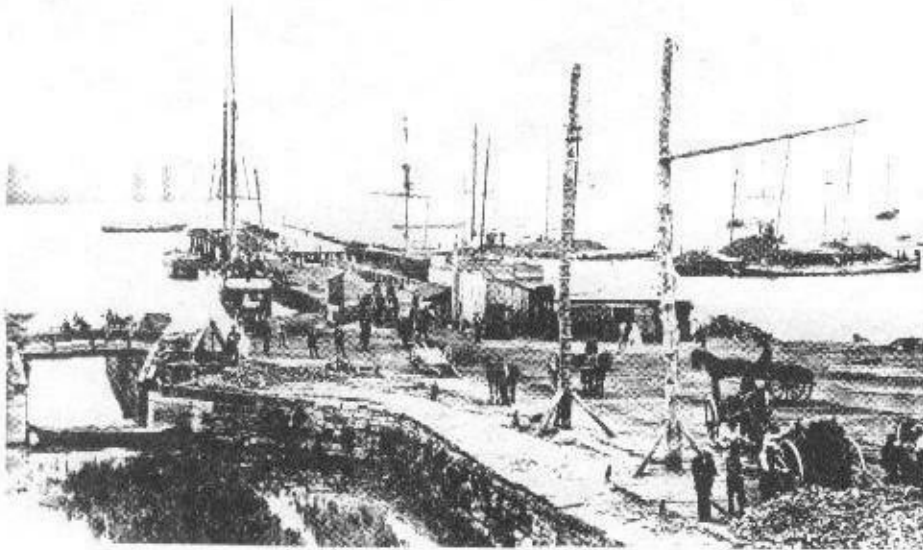


Lock Number 4 and Park on the Muskingum at Beverly, 25 miles from the Ohio.



One of the two CSO Tour Groups inspects Muskingum Lock Number 9 at Philo, 68 miles from the junction with the Ohio River.

THE ALEXANDRIA CANAL



Tidewater-Lock and basin of the Alexandria Canal, at Alexandria Virginia, with Potomac River docks in the background (Library of Congress photo).

by
Vivienne Mitchell

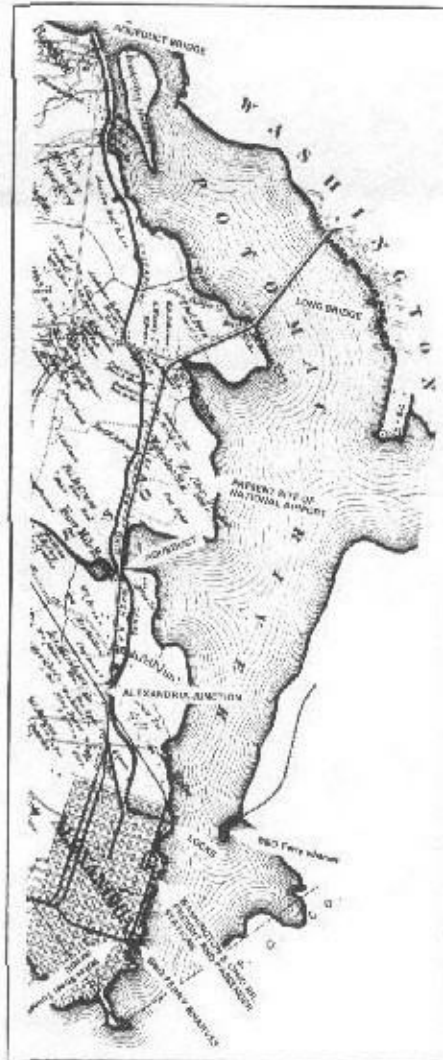
The Alexandria-Georgetown Canal, more commonly known as the Alexandria Canal, played a short, but important, part in the history of commercial navigation on the Potomac River. The Potomac Company was organized in 1785, with George Washington as president. His dream since the late 1760's, and the primary objective of the company, was to bypass the falls of the Potomac River above Georgetown by means of canals. In addition, locks were to be built at Great Falls and Little Falls to lift the barges. In the level stretches of the river, navigation was possible by poling the barges.

The Potomac Company went out of business in 1828, and its charter and rights were assumed by the Chesapeake and Ohio Canal Company. The objective of this company was to build a continuous canal instead of a series of canals that merely skirted the falls. It would be entirely on the Maryland side of the Potomac River. By 1850, it extended all the way from Georgetown, D.C. to Cumberland Maryland. Parts of it were navigable from 1831.

Merchants and shipowners of Alexandria were envious of the vast number of cargo ships sailing past their town to Georgetown, which had become the prosperous port for the nation's capital. They envisioned these ships stopping at the wharves of Alexandria to unload their cargoes and to pick up products for export. They also hoped to ship their goods westward on the new Chesapeake and Ohio Canal and to tap the coalfields of western Maryland.

Alexandria was a part of the District of Columbia from 1791 to 1846, at which time the Act of Retrocession was approved and Alexandria again became part of Virginia. Therefore it took an Act of Congress, dated May 26, 1830, to grant a charter to the Alexandria Canal Company "for the purpose of building a canal from the terminus or other point on the C & O Canal to such a place in the Town of Alexandria as the Board of Directors shall appoint." The act further stipulated that the canal was to be forty feet wide at the water surface and twenty-eight feet wide at the bottom. There was to be sufficient width along the entire length for a towpath to accommodate horses or mules to pull the barges.

The Alexandria Canal, when completed in 1843, was approximately seven miles long. It crossed the Potomac on an aqueduct bridge over 1,000 feet long between Georgetown, D.C. and



Old map showing the Alexandria Canal, from Hopkins Atlas of 1871, in which it is mistakenly identified as the Chesapeake and Ohio Canal.

Rosslyn, Virginia, then ran on level land to Alexandria, crossing Four Mile Run on a smaller aqueduct bridge, and reaching the Potomac River in Alexandria by means of four locks.

The Potomac Aqueduct Bridge, built under the direction of the Army Engineers, was supported by eight solid masonry piers. It was considered a great engineering feat of its time, and it stayed in operation as an important river crossing long after it ceased to be used to carry the canal across the Potomac. It finally went out of operation with the construction of the present-day Key Bridge in 1923.

From its beginning the canal imposed a financial burden on the citizens of Alexandria. On July 23, 1830, the Common Council of Alexandria passed an act "to subscribe 500 shares of one hundred dollars each to the capital stock of the Alexandria Canal Company."

Other acts were passed by the Common Council authorizing further subscriptions, one on May 2, 1835, for five hundred additional shares.

On July 9, 1836, an act was passed to authorize the Common Council's subscription to 2,500 additional shares of stock. Another subscription was authorized on May 3, 1843 and again on February 4, 1845.

Construction of the Potomac Aqueduct Bridge began in 1833 and was completed ten years later. The first canal boat reached Alexandria on December 2, 1843, and the December 4 issue of the *Alexandria Gazette* describes the celebration:

"On Saturday last, the Alexandria Canal, connecting this town with the Chesapeake and Ohio Canal, was officially opened for trade and navigation.

"After all the trials and difficulties that have accompanied the work, the day, at last, arrived when the Canal boats could float across the Potomac, over a splendid and permanent aqueduct, and be brought to the town of Alexandria, along a Canal seven miles long, without a single lock or other interruption.

"The President and Directors of the Canal Co., the Mayor, and a large number of our fellow citizens went up to the Potomac aqueduct in the morning, and there with the Engineers and other officers of the Company, embarked in the Canal Boat *Pioneer*, and after a pleasant and short passage of a little upwards of an hour, down the Canal, reached its terminus at the Corner of Washington and Montgomery streets. The boat stopped amidst the cheers and congratulations of a large crowd assembled to witness the interesting sight, and the heartiest tokens of satisfaction were given on the ground and throughout the whole town.

"In honor of the event a salute was fired, the national flag was hoisted at the Public Square, and the vessels in port were decorated with flags.

"We repeat, now at the completion what we said at the commencement of the Canal. — May this important work succeed and prosper — may it more than realize our warmest hopes — and may it RESTORE and PERPETUATE the TRADE and PROSPERITY of ALEXANDRIA."

Business flourished for a while on the two canals, and, in 1850, the C & O Canal was completed to Cumberland. From then on, coal from the Western Maryland mines became the most important commodity to be shipped via the canals to the Potomac River wharves in Alexandria. These coal shipments continued until the abandonment of the canal, interrupted only by the Civil War. Other typical products shipped by canal were reported in the *Alexandria Gazette* of July 2, 1847. Shipments included: wheat, corn, whiskey, corn meal, and flour



Potomac Aqueduct of the Alexandria Canal sometime after 1867, when a highway toll bridge had been constructed above the canal trough, making it a two-tier structure. View from the Virginia side of the river, with the Georgetown University campus in the background. (Library of Congress photo.)

(downstream); and fish, salt, plaster and lumber (upstream).

However, financial difficulties continued because of the frequent need for repairs on the canal.

During the Civil War, the canal was forced to cease operations. The occupation of the Virginia side of the Potomac River by Federal troops was essential for the defense of Washington and for the movement of men and supplies. The canal's Potomac aqueduct bridge played its part in effecting this Federal occupation. Colonel (later Major General) J.G. Barnard of the U.S. Army Engineers reported in 1871: "The crossing of the Potomac took place on the night of the 23rd of May, 1861, in three columns — one under command of Major Wood, by the Georgetown Aqueduct; another under Major (now General) Heintzelman, by the Long Bridge; and another under Colonel Ellsworth by water to Alexandria. . ."

Major Wood's troops marched across the aqueduct bridge along the towpath of the canal, obviously an inefficient passageway, as Colonel Barnard said in his report:

"Two bridges were necessary, even if the liabilities to destruction of one by accident or the incendiary had not been, in itself, a decisive motive. The towpath of the aqueduct would indeed furnish a narrow passageway, to horsemen and footmen, but this was far from adequate to the military exigencies. Accordingly, early in the winter of 1861-62, the water was shut off from the aqueduct, its trough converted into a double-track wagon road, the floor being overlaid with 4-inch planks and long inclines, or trestles, forming connections with the roads on either side."

Traffic on the canal resumed after the Civil War, as Alexandria's economy slowly revived. Shipments of fish, oysters, ice, millwork, groceries, plaster, and other items were carried northward on the canal. The foreword of the *City Atlas of Alexandria, Va.* of 1877 describes a flourishing coal trade, with shipments going from Alexandria directly to Aspinwall (now Colon in the Republic of Panama) and San Francisco, for the use of the steamship lines operating in the China and Japan Seas. The atlas reports "the fine facilities afforded at Alexandria for its storage and shipment."

The Alexandria Canal Company continued to be plagued by financial difficulties. During harsh winters the canal often froze over and became impassable for long periods of time. The *Gazette* repeatedly reported repair problems. Whenever repairs were needed, canal traffic would be stopped, and financial losses would be suffered by shippers and merchants.

In 1846, when Alexandria was ceded back to the Commonwealth of Virginia, the Federal Government had refused to assume the debt of the canal company. The Virginia General Assembly, however, purchased a large block of stock and guaranteed some of the company's bonds. In 1866 the canal was leased to Messrs. Henry H. Wells, William W. Dungan, and Philip Quigley, under the name of the Alexandria Railroad and Bridge Co., for 99 years at \$1,000 a year. In 1867, the lessees were authorized to construct a highway toll bridge above the canal trough on the Potomac Aqueduct Bridge, making it a two-tiered structure. Although traffic continued on the canal and toll bridge under the administration of the lessees, the operation was never lucrative.

On September 21, 1886, the *Alexandria Gazette* reported: "A serious break in the Aqueduct bridge occurred yesterday afternoon which will probably cause a suspension of traffic over the canal for a week at least. . ."

A week later, on September 27, the *Gazette* stated: "Since the fall of a portion of the Alexandria canal aqueduct trunk there has been considerable anxiety as to the safety of the bridge. . . They say that in the present condition of the woodwork the weight of water in the aqueduct cannot safely be added to the weight of the bridge. . ."

There is no evidence that barges used the canal after the September 1886 break. At that time there was also a great deal of pressure from the citizens of Georgetown for a free bridge across the Potomac in place of the aqueduct toll bridge. Accordingly, the bridge was sold to the Federal Government and from then on became toll free. The wooden structure was removed and an iron truss bridge was built upon the old stone piers.

On October 22, 1886, the *Alexandria Gazette* printed this item entitled "Last of the Canal," by the Washington Correspondent of the *Baltimore Sun*:

"The creation of a free bridge at the Georgetown Aqueduct, under the plan now agreed upon destroys the Alexandria Canal as a waterway. . . It seems, however, to be agreed on by all hands that the conditions of modern transportation are such that the Alexandria Canal. . . has outlived its usefulness. . ."

"It was to substitute horsepower for pole pushing that the aqueduct and the Alexandria canal were made. But the modern expedient of steam tugboats on the river has rendered the canal unnecessary for several years. Many canal boats have passed the outlet lock and gone to Alexandria by river. . . It is said by Cumberland shippers that it costs only 28 cents more per boat to go from Georgetown to Alexandria behind a

tug than to be dragged by mules along the canal and pay toll. . ."

Thus the operation of the Alexandria Canal came to an end. For a short time it played an important role in the history of commercial navigation, but competition from railroads and steam-propelled vessels, as well as the high cost of repairs, contributed to its failure. During its short existence, the canal satisfied a need in the transportation picture of the region, but it became obsolete as more efficient means of transport supplanted it.

In November, 1978, a team supervised by Alexandria City Archaeologist Pamela Cressy, cut a trench through the dirt and rubble covering the outlet lock of the old Alexandria-Georgetown Canal. The trench exposed the large, granite stones of the lock which had been covered over many years ago. This excavation was done at the instruction of the Alexandria Archaeological Commission to confirm that material evidence of the outlet lock still exists. Confirmation of this fact was necessary in order to meet the requirements of the Virginia Landmarks Commission and thus nominate this important archaeological site to the National Register of Historic Places.

The lock is on the river side of the Ramada Inn, between First and Montgomery Streets in Alexandria. It is the last of four locks built between Pitt Street and the Potomac to lower barges to the river and raise them from the river on their return trip northward.

Because of the rise and fall of the tides in the river, it was necessary to have an outlet lock which would enable barges to be lowered from high tide level in the lock basin to low tide level. The other locks were actually lift locks, and each lifted or lowered barges approximately ten to twelve feet. The remains of these other locks are now buried under filled-in land and buildings.

In February, 1981, a grant proposal was submitted to the National Trust for Historic Preservation Maritime Preservation Grants Program, and was awarded to the City of Alexandria's Department of Planning and Community Development and the Alexandria Archaeological Research Center in April, 1981.

The purpose of this project is to identify, evaluate, record, document, and plan for the restoration and interpretation of the Alexandria Canal Park. Documentary research will identify the occupants, structures, buildings and land uses of the Canal tide lock and contiguous areas. At the end of the one-year grant period, a report of these findings will be published and a blueprint for the entire park will be made. (Tom Hahn has been retained as a consultant on the project.)

WHITewater CANAL TOUR

Members of the American Canal Society in Indiana, Ohio and nearby states are reminded of the jointly sponsored tour by ACS and CSO of the Whitewater Canal October 16-17, 1981. John W. Dronge, Tour Chairman, (2937 Neil Avenue, Columbus, Ohio, 43202) tells us that the headquarters for the Tour will be the Holiday Inn at Connersville, Indiana. There will be an informal gathering on Friday evening October 16th for a review of the Whitewater's history and a preview of the Tour. Saturday's activities will feature a ride on the Whitewater Valley Railroad, whose tracks are laid directly on the old towpath — stopping at points of interest along the way. At the end of the line is Metamora, preserved canal town. A re-watered section of Whitewater Canal here includes two locks, a working mill and a covered wooden aqueduct, with an operating canal-boat replica — the "Ben Franklin." Plans will be discussed at a Saturday evening banquet for the formation of an Indiana Canal Society.

NORTHEASTERN INLAND WATERWAYS TOUR



Bill and Ruth Shank pose for their photo on the deck of the New Shoreham II.

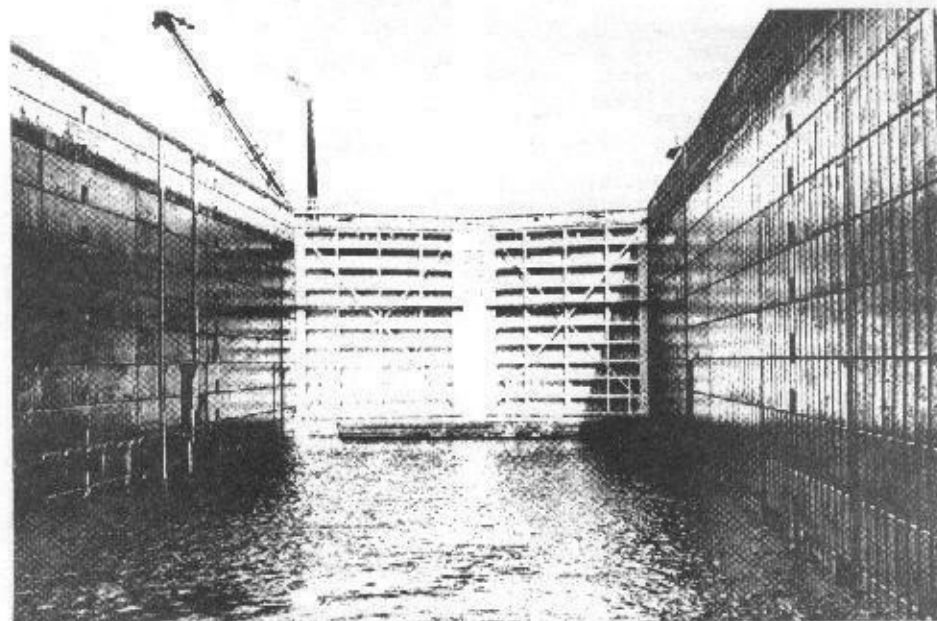
At the urging of several of our friends who have done it, including the Charles Hadfields of England, Ruth and I finally took the Saguenay River Cruise on the New Shoreham II, out of Warren, Rhode Island. We had found out, in the Spring of 1980, that it pays to "sign up" nearly a year in advance. (The Saguenay Tour is an extremely popular one.) We met George and Jeanne Irwin (from Camp Hill, Pa.) at Warren (just southeast of Providence) on June 28th and returned to Warren on July 10th, after having traveled approximately 1200 miles by water and 350 miles by land.

The New Shoreham II accommodates 72 passengers, and crew, and is a modern and well-equipped vessel with air-conditioned living and dining facilities, as well as a large and comfortable lounge. The crew did everything possible to make our cruise an enjoyable one. The young Chef served us an excellent variety of (not-too-heavy) meals, with lots of fruits and vegetables. (coffee and tea were available 24 hours a day!)

Our cruise included a night tour of Long Island Sound, an early-morning look at Man-



An array of draw-bridges greeted us at Lock #1 on the Oswego canal at Phoenix, N.Y. View into the lock chamber as we departed, downstream. Lock Lift: 10.2 ft.



Interior of the Eisenhower Lock from the stern of the New Shoreham II, looking toward the up-stream gates. Lock dimensions: 80 feet wide by 850 long, with 42' lift.

hattan Island; a day-long trip on the Hudson River; passage through the 23 locks on the eastern half of the Erie Canal; the seven locks of the Oswego Canal; and the seven locks of the St. Lawrence River; not to mention visits to Waterford and Oswego, New York; Alexandria Bay (in the Thousand Island section); Montreal, Quebec, and the beautiful Saguenay River where the tides run 22 feet in height and the White Whales play at its junction with the St. Lawrence! For a canal and bridge buff (like me) it was a highly enjoyable and educational experience. I made literally hundreds of photos, in black and white and color, of the many interesting bridges crossing the Hudson and St. Lawrence, and of course interior shots of most of the canal locks. Some of the best of my photos are reproduced here.

Ruth and I had traveled the Eastern Section of the Erie Canal a few years ago on the *Emita II*, so my camera was idle during this part of the cruise, except to get a few more photos of the Little Falls Lock, with its lower Guillotine Gate (the only one like it in North America and its tremendous lift — 40.5 feet. We had never traversed (or even seen) the Oswego Canal before, so I was busy with camera and data sheet at every lock. The highest lift-lock on this system is Lock #3 at Fulton, N. Y., with a "drop" (we were headed downstream) of 27 feet.

I had seen the St. Lawrence locks during construction, prior to their opening in 1959, but had never had the experience of photographing

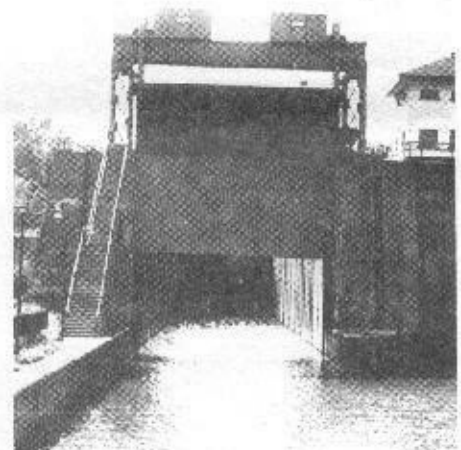


Photo from the bow of the New Shoreham II, as we approached the unusual Guillotine Lift Gate on the lower side of Erie Canal Lock #17, (40.5-foot lift).

them from the "inside". They are tremendous! It was interesting also (though tedious for us, waiting) to watch a large, ocean-going freighter slowly emerging from the Cote St. Catherine Lock, above Montreal, with only inches to spare on each side. It finally cleared the lock, allowing us to proceed to Montreal. A table of data on the St. Lawrence Seaway locks is reproduced on page 8, as published in the English-language guide to the Seaway tossed on board for us at the Massena (New York) headquarters for the Saint Lawrence Seaway Development Corporation, (Eisenhower Lock).

Some of the bridges which I photographed, from the water, included: the Hell-Gate Bridge, the Queensboro (Archie Bunker) Bridge and the 100-year-old Brooklyn Bridge at Manhattan; the George Washington, Tappan Zee, Bear Mountain, Newburgh Beacon and Catskill Bridges on the Hudson; The I-81 International Bridge and the Three-Rivers Bridge on the St. Lawrence; and the world-famous Cantilever Bridge of 1918 above the city of Quebec.

Bill Shank

THE JAMES RIVER AND KANAWHA CANAL (Part III)

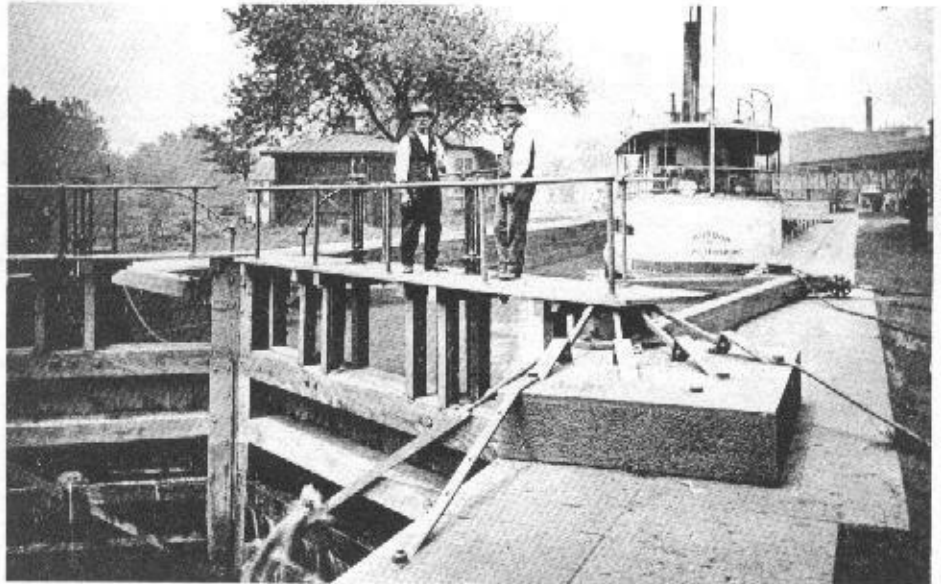
By T. Gibson Hobbs, Jr.

In 1859, a French company approached the canal company on taking over its line, assuming its debts and spending \$20,000,000 to complete the line to the Ohio. This would allow exploitation of the mineral wealth along the route and seemed like the answer to the dreams of the canal advocates. The Virginia Canal Company was chartered by the state, but further consideration was halted by the Civil War. Negotiations were resumed after the war, with Virginia and West Virginia both agreeing. However, arrangements were never completed, and the scheme was dropped.

At the war's end, the board pushed necessary repairs to the line. By the end of 1866, the whole system was in relatively good condition. In the meantime, steps were taken to regain lost trade and meet the increased threat of railroad competition. Arrangements were made with steamship companies to the north for advantageous combined rates. However, in 1866, the proposed merger of the Norfolk and Petersburg, the Southside and the Virginia and Tennessee Railroads, later to become the Norfolk and Western, was vigorously opposed by the company, as it threatened the trade from the west the canal had enjoyed with the latter line. The Orange and Alexandria Railroad, later the Virginia Midland, now the Southern, into Lynchburg was also serious competition.

To make matters worse, in 1866, several conventions were held of the presidents of the Norfolk and Petersburg, the Southside, the Virginia and Tennessee, the East Tennessee and Virginia, the East Tennessee and Georgia, and the Memphis and Charleston Railroads. These resulted in an arrangement with several of the northern steamship companies for combined rates under an arrangement called the "Virginia and Tennessee Air Line Railway."

To combat this, the canal company in May 1866, arranged to purchase ten freight boats and the necessary mules and hired suitable captains at \$400 per year each. This company-owned freight line, with tri-weekly roundtrips to Lynchburg, went into operation in July. By cutting rates and working with other steamship companies, they were able to salvage much business that would otherwise have been lost. Privately-owned freight boats in operation that year totalled 109, with 12 first class averaging 75 tons, 23 second class of 60 tons, 51 third class of 30 tons, and 22 fourth class boats of 15 tons. Three packet boats were in operation. That same year, the canal tonnage totalled 143,000 tons as compared to a combined total



Old Lock on the J. R. & K. in Richmond, built about 1854. (Valentine Museum.)

of 130,000 tons for the four railroads terminating in Richmond.

Business increased through 1869. During that year the company boats were sold to private operators. The company had never given up its vision of a central water route to bring the great western trade from the Ohio River to the Atlantic. In 1867, Edward Lorraine prepared a new summit plan. Reducing the summit level to 1,700 feet, insuring a better water supply and reducing greatly the locks required, would require a tunnel nine miles long. He felt that the tunnel was no problem as vertical shafts would divide it into nine individual tunnels one mile long each. His 95-page descriptive booklet entitled "Central Water Line to the Ohio" attracted wide attention. The western states were very unhappy at the high freight rates of the railroads. Some years half their crops were lost because it was not economical to ship them east.

In 1869, Ohio, Kentucky and Kansas, along with other western interests, and Virginia and West Virginia persuaded Congress to study the feasibility of the plan. The Army Corps of Engineers in 1870 and again in 1872 made surveys and presented a modified version of Lorraine's plan for an enlarged canal to cost \$50,000,000.

However, Congress failed to take any action, though as late as 1876 the Corps of Engineers was still making surveys.

In 1870, one of the greatest floods in Virginia history did extensive damage to the canal. This, and the desperate financial situation of the company, made prospects of continuing poor. Navigation was restored to Lynchburg in 2 1/2 months, but it was nearly a year before rebuilding was complete above Lynchburg. Total cost of repairs was \$376,500.

With no connection for through traffic above Buchanan, the canal was restricted to local freight. Since support for continuing the canal was not forthcoming, an act of the General Assembly was passed in 1876 for the canal company to form the Buchanan and Clifton Forge Railroad to make connection with the C & O. Major Peyton Randolph was engaged to survey the route, which he reported in July, 1876 would cost \$500,000. Minor construction started in late 1876. In June, 1877, the state supplied 325 convicts from Richmond, housed in six hastily erected penitentiaries, to push construction. Work proceeded rapidly until November 23 when a flood equal to that of 1870 again struck the canal.

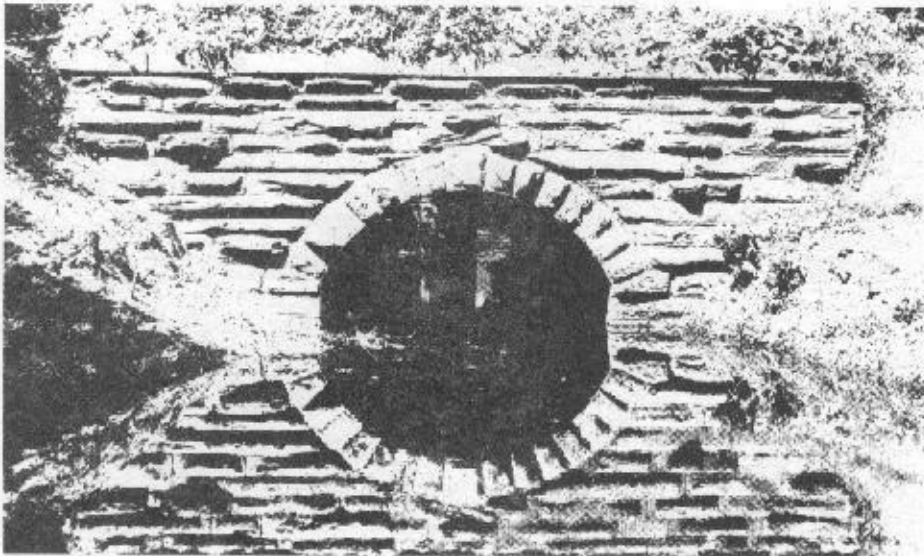
This devastating blow, with repairs estimated at over \$200,000, seemed like the death blow. The board, pleased with the railroad progress, considered a resolution to replace the canal from Buchanan to Richmond with a railroad to be called the Richmond and Clifton Forge Railway Company. However, feeling was strong to continue the canal. As a consequence, the board rushed a bill through the Legislature in a questionable manner, permitting use of the convict force of the railroad to repair the canal. This brought serious repercussions, but service from Richmond to Lynchburg was restored by February, 1878. Repairs were pushed on the line above Lynchburg. In September, still another, though smaller freshet, did much damage to this uncompleted work. With 350 convicts and private contractors, repairs were completed to Buchanan in early 1879.

In late November, 1878, the board, at a special meeting, heard a proposal from the Richmond and Alleghany Railroad Company to take over the canal and replace it with a railroad. On December 2, they voted to present a bill to the Assembly for approval of such an act. There was much dissension, particularly by canal interests, over this; but the bill finally passed



Virginia Canals and Navigations Tour Group inspects Blue Ridge Dam and Guard Lock on the J. R. and K. near Glasgow, Virginia. (Photo by Bill Shank)

(Concluded on Page 8)



Peters Creek Culvert, just above Lock Number 8, and west of the Blue Ridge Parkway.

(Concluded from Page 7)

into law February 27, 1879. The Richmond and Allegheny delayed so long that the canal company advertised for other bidders and resumed work on the Buchanan and Clifton Forge Railway. The situation was finally resolved March 5, 1880 when a deed conveying the canal properties to the railroad was finally signed.

By the agreement, the Richmond and Allegheny was required to maintain navigation on the canal until the railroad was in operation. It also had to maintain water supplies for the mills at Richmond and the waterworks and mills on the Lynchburg level in perpetuity. Construction was soon started from Richmond on the east and Williamson's (Clifton Forge) on the west. About the first of September, 1880, the first train reached Maiden's Adventure, 28 miles above Richmond, and that section of the canal closed. The Lynchburg Virginian noted: "The boatman have said good-bye to their Richmond friends, and hereafter, until another section of the road is finished, they will deliver their freight to the cars at Maiden's Adventure Dam." Nearly a year later, the first train from Richmond arrived at Lynchburg on August 17, 1881 and all canal traffic below Lynchburg ceased. The first train from Williamson's reached Lynchburg on September 11. The Lynchburg paper noted: "It must have been a curious sight to the people living in the valley of the upper James to see the iron horse dashing rapidly along with its rattling noise and shrill whistle; breaking the dull solitude that has echoed only to the plaintive notes of the packet horn." Christian in his history of Lynchburg says: "The dock at the foot of Bridge Street was crowded with freight boats, driven like wild horses into a trap."

Up to this time, packets were still running between Lynchburg and Lexington. In late September, packets were making daily trips on the North River connecting Lexington with freight trains east and west. At Lynchburg, two excursion steamers, the "Clipper" and the "Catamaran," operated by Captain Ballagh, continued making short excursions through the guard lock at the Waterworks Dam, and up river on the pond above the dam.

To handle the water supply for Lynchburg and the mills in the city, the railroad continued the guard lock at the Waterworks Dam with a lockkeeper, who lived in the lockhouse. In 1899, Mr. Matthew Proffitt, a yardman for the C & O Railway, took over this job. He lived and raised his large family in the lockhouse until his death in 1936. His daughter, who had grown up with this operation, was made lockkeeper. She and

her helpers operated the water inlet gates and passed an occasional flat boat of Glamorgan Foundry Company bringing clay from its clay banks above the city to line its furnaces below the dam.

The C & O in 1838, after appealing to the Supreme Court of Virginia, was relieved of its duty to maintain the water rights at Lynchburg, and in 1940, water was drained off the Lynchburg level, and all canal operation ceased, just 100 years after the first boat had reached Lynchburg.

For all its years prior to the Civil War, the company was the largest and most influential corporation in the state. There is little doubt that it was technically feasible to have completed the canal across the mountains as planned. If the state had been willing to finance its completion, as was the case with the Erie Canal, this could have been completed by about 1850. This no doubt would have developed a tremendous western trade prior to the war and, undoubtedly, made the canal profitable. One has to wonder whether the resulting development of Virginia, as first visualized by Washington, would now be considered good or bad.

The only visible remains of the canal today, aside from several restored locks are the many beautiful stone culverts over which the chessee freight trains thunder daily 140 years after they were completed. These fine examples of the stone mason's craft are still perfectly bonded with the natural cement from the company's own mines. (END)

LETTERS...

Jack E. Custer, Steamer SPRAGUE Archives, writes: "The other day I was rolling along in the Winter of 1901 (of the *Memphis Evening Schimitar*, 13. Feb.) and was pleasantly surprised to find something on the Miami (and Erie) Canal that would be worthwhile sharing."

A proposal to replace mules on the Miami Canal is being considered. A few weeks ago, the State Board of Public Works contracted with J. W. Fordyce of Detroit to use electric motors and trolleys on the present towpath instead of mules. Later, however, it was discovered that certain parts of the canal could not accommodate heavy traffic; and certain parts of the towpath could not support a system of rails alongside. Another obstruction was the number of light poles already alongside the canal that would obstruct the proposed

A group in Saltsburg, Pennsylvania is being incorporated as Historic Saltsburg, Incorporated — a non-profit organization — with the goal of preserving the Saltsburg portion of the Pennsylvania Main-Line Canal.

They are currently seeking funding for their project, which is two-fold:

(1) To preserve the site of the canal for potential future development as an historic park. In chronological order, they plan to restore the Hugh Kelly house and grocery store as a visitors' center, conduct an archeological investigation into the boat-basin and lock, excavate a major portion of the canal bed, restore and rewater the boat basin, restore Lock #8 to operating condition, prepare a mock canal for the unexcavated portion of the canal that is within the borough limits, build a replica of a canal packet boat, and finish grade and landscape the area.

(2) To restore the canal period and post-canal period buildings that surround the site of the canal. Many of these buildings and the canal site within the borough limits are already on the Pennsylvania Inventory of Historic Places. Professor George B. Johnson of the Indiana University of Pennsylvania Fine Arts faculty, will conduct and coordinate the research and development of this project.

Canal Day in Saltsburg (flea market, entertainment, stands featuring food, crafts, games, etc., and canal related slides and lectures) was held on Saturday, June 6, 1981.

SEAWAY DATA

There are seven new locks in the St. Lawrence River, five in Canada operated by The St. Lawrence Seaway Authority of Canada, and two in the United States operated by the Saint Lawrence Seaway Development Corporation. All locks are similar in size. The specifications are:

Length, gate to gate.....	860 feet
(Ships may not exceed 730 feet in overall length)	
Width.....	80 feet
Depth over sills.....	30 feet
Lift.....	
Locks:	
St. Lambert.....	13 to 20 feet
Cote St. Catherine.....	33 to 35 feet
Lower Beauharnois.....	38 to 42 feet
Upper Beauharnois.....	38 to 40 feet
Snel.....	45 to 48 feet
Eisenhower.....	38 to 42 feet
Iroquois.....	5 to 6 feet

The locks at the Welland Canal have the same controlling dimensions as those in the new Seaway—Montreal to Lake Ontario.

Locks 1-7 of the Welland Canal are lift locks. Lock #8 is essentially a guard lock. Locks 4, 5, 6 are twinned and in flight.

Welland Canal is 27 miles long, overcomes a difference in level of 326 feet, between Lake Ontario and Lake Erie.

The controlling channel dimensions for the Seaway, Lake Erie to Montreal, are:

Depth to a minimum of 27 feet—to permit transit of vessels drawing 26 feet (fresh water draft).

Width of channel:

(a) When flanked by two embankments.....	200 feet minimum
(b) When flanked by one embankment.....	300 feet minimum
(c) In open reaches.....	450 feet minimum

MAXIMUM SIZE OF SHIP PERMITTED TO TRANSIT THE SEAWAY. Vessels not exceeding 730 feet overall and 76-foot extreme breadth may transit the Seaway. Vessels' masts must not extend more than 117 feet above water level.

system. Despite all the problems, it was expected that the mule on the Miami Canal would be displaced in two years.

May I congratulate you and the editorial staff of *American Canals* for the quality of this publication, it always amazes me how an organization the size of the A.C.S. produces a well-illustrated, interesting, and varied-content newsletter. Keep up the good work! (Arden Phair, Administrator-Curator, St. Catharines Historical Museum)