

(continued from page 1)

from the western Maryland mines became the most important commodity to be shipped via the canals to the Potomac River wharves in Alexandria. Other typical products shipped by canal to Alexandria were wheat, corn, whiskey, corn meal, and flour; products shipped from Alexandria by canal included fish, salt, plaster, and lumber.

The shipments continued until the abandonment of the canal in 1886, which had been interrupted only by the Civil War because of the need to use the aqueduct for a bridge over which to transfer Federal troops and supplies. A break in the aqueduct in 1886 coincided with the demand for a toll-free bridge across the Potomac River. Thus the operation of the Alexandria Canal came to an end.

Other Potomac River Canals

In October 1784, George Washington sent a bill to Governor Harrison of Virginia proposing the Potomac Company and the James River Company to open navigation of the Potomac and James Rivers to the Ohio River. Out of the James River Company grew the James River and Kanawha Canal; out of the Potomac Company eventually grew the Chesapeake and Ohio Canal. These routes of navigation represented two of the four major efforts to connect the Atlantic Seaboard with the Ohio River System and the Great Lakes, the other routes being in New York and Pennsylvania.

After a joint act of incorporation by the States of Virginia and Maryland, George Washington became the first president of the Potomac Company when it was formally organized on May 17, 1785. At completion in 1802, the Potomac River was open to navigation in the high water season to the Savage River above Cumberland and on the Shenandoah a distance of 200 miles above

Harpers Ferry to Port Republic. The major works were four locks at Little Falls, Maryland and five locks at Great Falls, Virginia. However, the Potomac Company was unable to cope with the difficulties of river navigation and was unable to provide a dependable route to the west at a time when the Erie Canal in New York was well underway. Consequently, Congress chartered the Chesapeake and Ohio Canal Company in 1825.

The company was empowered to construct a mainly cut canal along the Potomac River shore from tide water near the District of Columbia 341 miles to the Ohio River near Pittsburgh. When it was estimated that a 341 mile long canal would cost \$22 million, some three or four times the cost expected, a compromise was struck. A 185 mile canal would be constructed from Georgetown to Cumberland at a cost of \$4.5 million.

Because the C & O Canal was to commence near the head of tide water of the Potomac River about five miles above Georgetown and about twelve miles above Alexandria, residents of the latter city thought that they would have comparable access to the new canal as Georgetown and Washington. Alexandrians were naturally concerned shortly after the work of construction of the C & O Canal began in 1828, when businessmen of the City of Washington exerted their influence to have the C & O Canal extended through Georgetown to that city.

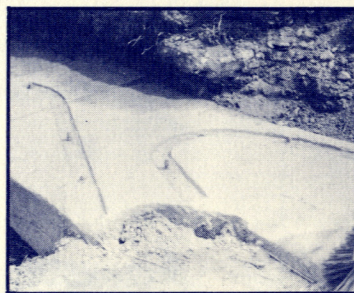
Since canal boats could not safely traverse the river from the terminus of the C & O Canal at Georgetown to Alexandria, Alexandrians had a valid reason to petition to build their own canal from the C & O Canal to Alexandria. Merchants and shipowners saw lost opportunities in the future shipment of coal and other products that would in time descend the C & O Canal, and in the manufactured products and other items that could be shipped up the canal from Alexandria.

Excavation of Lift Lock and Pool No. 1

After more than 50 years of concealment, Alexandria Archaeology rediscovered the Lock in 1979 and nominated it to the National Register of Historic Places. This initial investigation demonstrated that one side of the eastern (River) end of Lift Lock No. 1 was in an excellent state of preservation.

The National Trust for Historic Preservation, Maritime Preservation Program, funded the 1982 phase of the Alexandria Canal Project. Working with Dr. Thomas Hahn, Alexandria Archaeology and the Department of Planning and Community Development set about to locate the rest of the Lock and Pool. The aim was to follow the River edge of Lift Lock No. 1 (often referred to as the Tidal Lock) to the west into the remnant of Pool (or, Tidal Basin) No. 1 while assessing the practicality of their restoration.

On a blustery March afternoon the archaeological team, planners, and City crew assembled with shovels, rubber boots, and a backhoe to begin unearthing more of the Lock's eastern end. The first cut made by the backhoe



2. Recesses in the Lock Wall for iron straps which held a Lock gate.



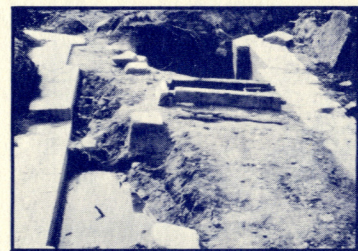
3. Thomas Hahn descending into the Lock to measure depth. Note excellent state of preservation of wall stones.

through water-soaked soil exposed perfectly preserved coping stones. Following the stones in a westerly direction, the Lock's entire length (90 feet) and width (16 feet, 8 inches) were outlined.

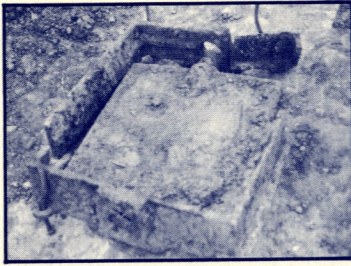
Constructed of Aquia Freestone quarried above Key Bridge, the Lock's walls were 15½



4. Uncovering the Pool No. 1 south wall which is composed of large, dry laid stones.



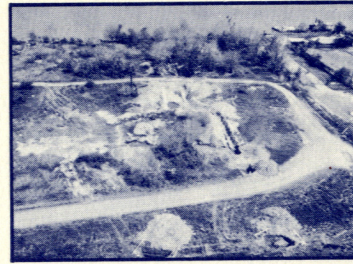
1. Lift Lock No. 1 after archaeological excavation in 1982 to determine its location and state of preservation.



5. Iron wicket gate which regulated water flow through the lock gates was recovered during excavation of Lock No. 1.

feet deep. Descending into the Lock, Dr. Hahn determined that its floor was lined with wood planking. Environmental conditions provided by the high water table preserved several parts of the Lock gate which lay within the soil filling the Lock after its use.

Some of one gate's horizontal cut timbers as well as two iron wicket gates which fit within the Lock gate and regulated the water flow



6. View of Lock and Pool No. 1 site looking toward the Potomac River from the Ramada Inn. Montgomery Street is on the right.

of Pool No. 1 were located as they extended to the railroad tracks.

were found. The fill also contained a large amount of glass debris produced at the Old Dominion Glass Factory (ca. 1898-1927) once located where the Ramada Inn now stands.

By following the stones which flared out at the western edge of the Lock, the contours

How the Lock Worked

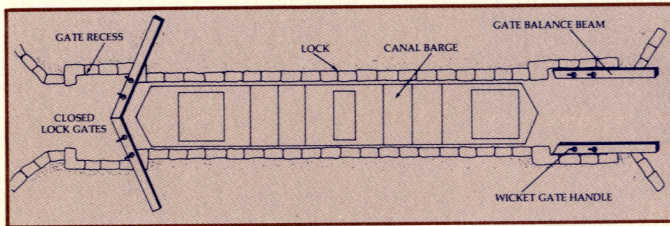
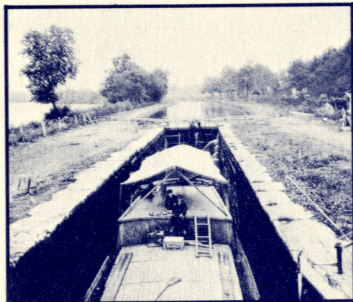


Diagram of typical Alexandria Canal Lock showing gates both open and closed.

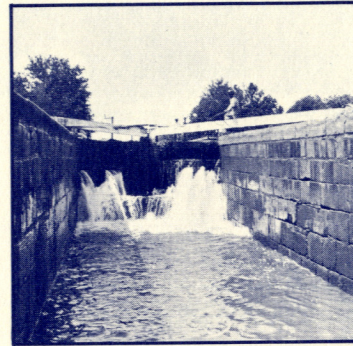
Lift Lock and Pool No. 1 were part of a system of four locks at Alexandria's northern city limits which lifted canal boats 38 feet from the level of the Potomac River to that of the Canal. Lock No. 1 was the one from which barges entered and left the River. A boat entered the Lock from either end, passing the open gates, at one end of the lock. The barge probably was poled or towed by hand into the Lock, since no evidence of a mule towpath was



7. Lowering of a barge (Chesapeake and Ohio Canal).

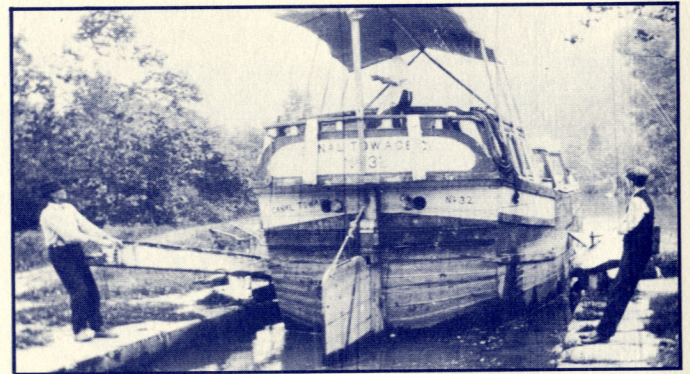
revealed from the excavation. Each gate was then swung closed with a long beam attached to the top of the gate and serving as a handle. With both sets of gates closed, the Lock containing the barge was now ready for its water level to be adjusted. The water was raised or

lowered by opening the wicket gates at the bottom of the gates at one end of the Lock to let water in or out. When



8. Water entering lock through wicket gates (Chesapeake and Ohio Canal).

the Lock's water level was equal to the water in the direction of travel the Lock gates were opened and the barge proceeded. This process was replicated four times in order to move one barge the distance from the Potomac River to Washington Street.



9. Boatmen opening lock gates as barge leaves lock (Chesapeake and Ohio Canal.)

Next Steps for Restoration

The Alexandria Tide Lock is located on waterfront property involved in a title dispute between private claimants and the United States Government. The court case was brought in 1973 by the U.S. Justice Department claiming U.S. Government ownership of all fill on the Alexandria Waterfront since 1791. Because of Lift Lock No. 1's historical importance, the court-approved settlement for this portion of the Alexandria Waterfront includes the stipulation that Lift Lock No. 1 and a portion of the adjacent pool will be restored as a focus for a waterfront historical park. A maritime museum is also expected to be located near the restored lock.

Two grants from the Maritime Preservation Program, National Trust for Historic Preservation allowed the City to undertake the excavation of the Tidal Lock and Basin, as well as produce this brochure. The Alexandria Archaeological Commission was instrumental in launching this project, while the Department of Transportation and Environmental Services and Archaeology Program volunteers helped see it through. Thanks also go to Thomas Hahn, Vivienne Mitchell, and Frederick Tilp for contributing photos and text for this brochure. Photo credits: Numbers 1-6, Alexandria Archaeology; Numbers 7-9, E.B. Thompson collection; National Park Service.



Alexandria Canal Lift Lock and Pool No. 1 on the Potomac River, ca. 1861-1865. Courtesy of National Archives.

HUNTING CREEK

ALEXANDRIA CANAL

Towpath along the Chesapeake and Ohio Canal depicts a scene similar to that which v Alexandria Canal in the 19th Century. Courtesy of the National Park Service. E.B. Thomp

Chart of the head of navigation of the Potomac River prepared in 1838 by Lieutenant Maskell C. Ewing, the supervising engineer. The Alexandria Canal and Chesapeake and Ohio Canal, as of 1845, are shown in blue.





The Aqueduct Bridge was constructed (1833-1843) at the cost of \$6,000,000 and was considered a "remarkable engineering feat of the time".

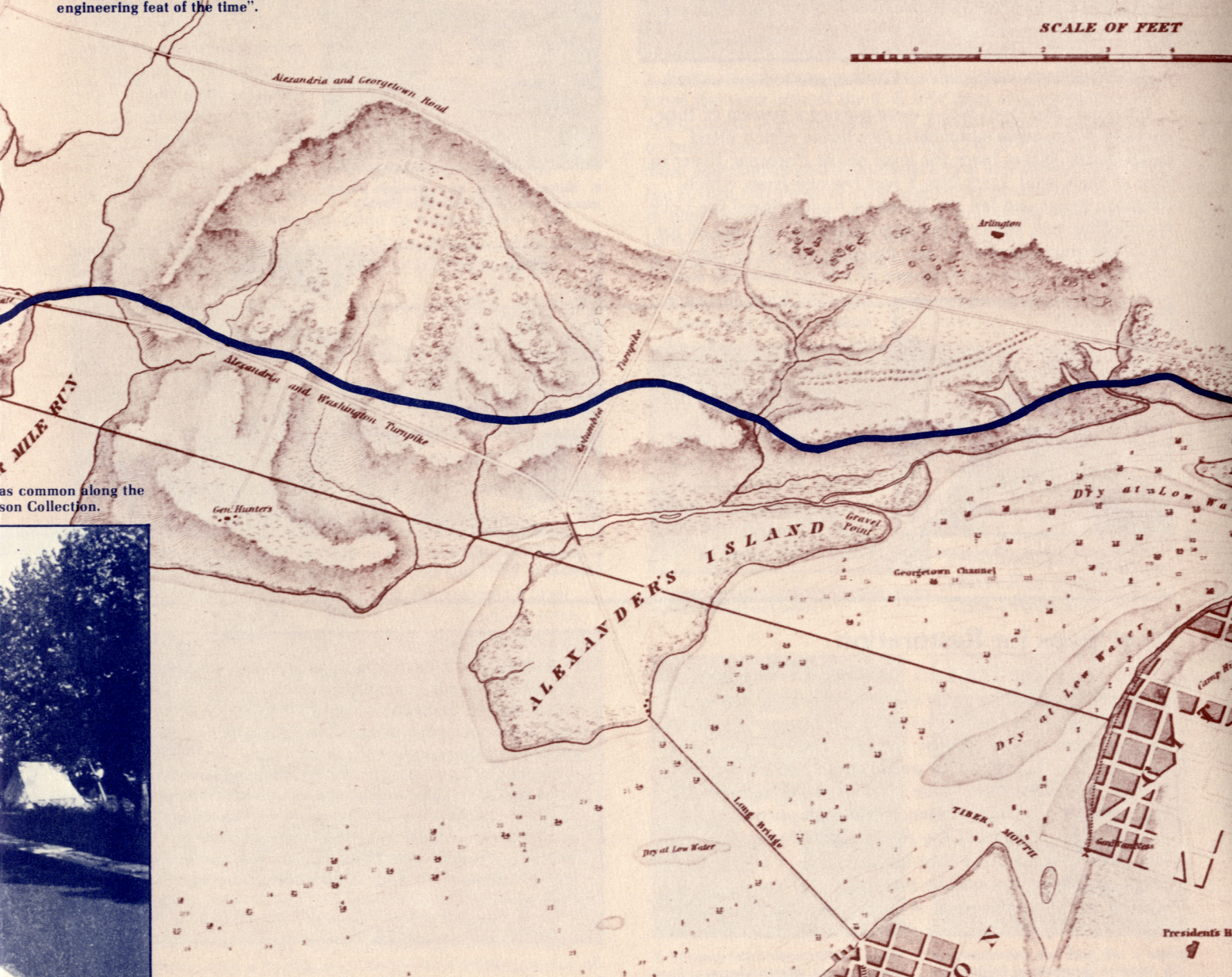
CHART OF THE HEAD OF NAVIGATION OF THE POTOMAC RIVER SHEWING THE ROUTE OF THE ALEXANDRIA CANAL

MADE IN PURSUANCE OF A RESOLUTION
ALEXANDRIA CANAL COMPANY OCT. 1833

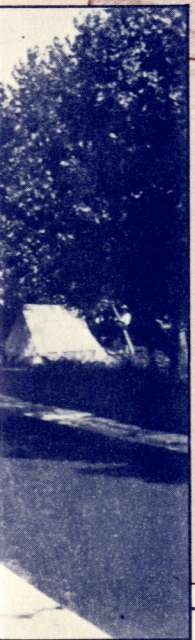
Compiled from the surveys of Lt. Col. Kearney, Major
W.M.C. Fairfax M.C. Ewing Civ. Eng'g

W.J. Stone Sec. Wash. D.C.

SCALE OF FEET



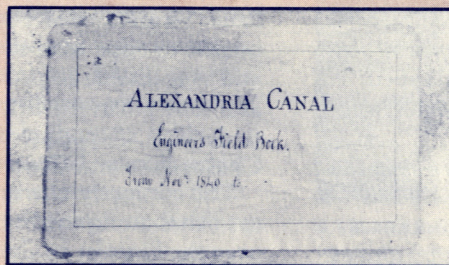
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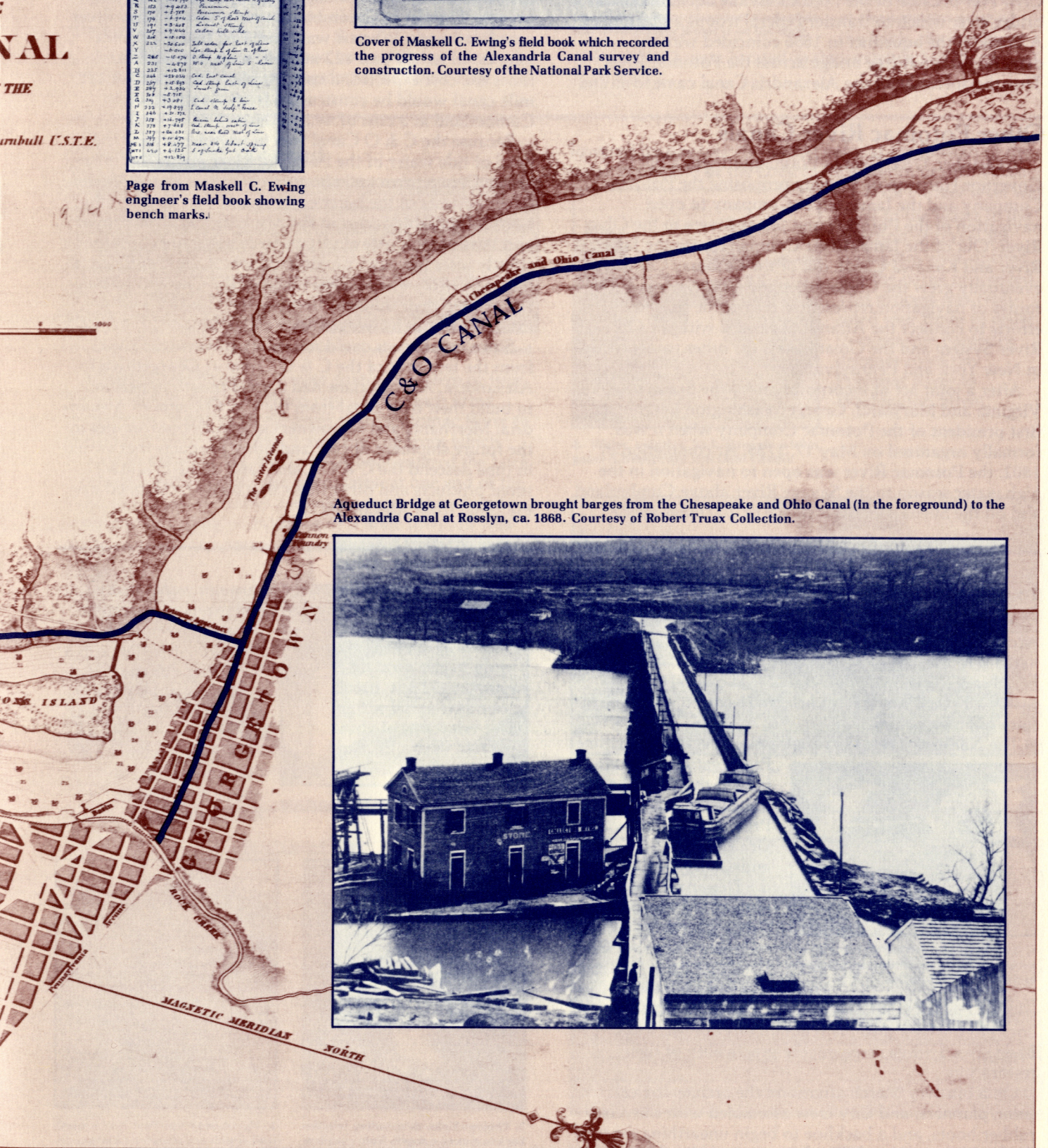
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Bench Marks			
Sta.	Point	Height	Remarks
1	10	+1.050	West end of Canal
2	10	+0.857	12 corner near N. Canal
3	10	+0.867	West end of Canal
4	10	+0.870	West end of Canal
5	10	+0.874	West end of Canal
6	10	+0.878	West end of Canal
7	10	+0.882	West end of Canal
8	10	+0.886	West end of Canal
9	10	+0.890	West end of Canal
10	10	+0.894	West end of Canal
11	10	+0.898	West end of Canal
12	10	+0.902	West end of Canal
13	10	+0.906	West end of Canal
14	10	+0.910	West end of Canal
15	10	+0.914	West end of Canal
16	10	+0.918	West end of Canal
17	10	+0.922	West end of Canal
18	10	+0.926	West end of Canal
19	10	+0.930	West end of Canal
20	10	+0.934	West end of Canal
21	10	+0.938	West end of Canal
22	10	+0.942	West end of Canal
23	10	+0.946	West end of Canal
24	10	+0.950	West end of Canal
25	10	+0.954	West end of Canal
26	10	+0.958	West end of Canal
27	10	+0.962	West end of Canal
28	10	+0.966	West end of Canal
29	10	+0.970	West end of Canal
30	10	+0.974	West end of Canal
31	10	+0.978	West end of Canal
32	10	+0.982	West end of Canal
33	10	+0.986	West end of Canal
34	10	+0.990	West end of Canal
35	10	+0.994	West end of Canal
36	10	+0.998	West end of Canal
37	10	+1.002	West end of Canal
38	10	+1.006	West end of Canal
39	10	+1.010	West end of Canal
40	10	+1.014	West end of Canal
41	10	+1.018	West end of Canal
42	10	+1.022	West end of Canal
43	10	+1.026	West end of Canal
44	10	+1.030	West end of Canal
45	10	+1.034	West end of Canal
46	10	+1.038	West end of Canal
47	10	+1.042	West end of Canal
48	10	+1.046	West end of Canal
49	10	+1.050	West end of Canal
50	10	+1.054	West end of Canal
51	10	+1.058	West end of Canal
52	10	+1.062	West end of Canal
53	10	+1.066	West end of Canal
54	10	+1.070	West end of Canal
55	10	+1.074	West end of Canal
56	10	+1.078	West end of Canal
57	10	+1.082	West end of Canal
58	10	+1.086	West end of Canal
59	10	+1.090	West end of Canal
60	10	+1.094	West end of Canal
61	10	+1.098	West end of Canal
62	10	+1.102	West end of Canal
63	10	+1.106	West end of Canal
64	10	+1.110	West end of Canal
65	10	+1.114	West end of Canal
66	10	+1.118	West end of Canal
67	10	+1.122	West end of Canal
68	10	+1.126	West end of Canal
69	10	+1.130	West end of Canal
70	10	+1.134	West end of Canal
71	10	+1.138	West end of Canal
72	10	+1.142	West end of Canal
73	10	+1.146	West end of Canal
74	10	+1.150	West end of Canal
75	10	+1.154	West end of Canal
76	10	+1.158	West end of Canal
77	10	+1.162	West end of Canal
78	10	+1.166	West end of Canal
79	10	+1.170	West end of Canal
80	10	+1.174	West end of Canal
81	10	+1.178	West end of Canal
82	10	+1.182	West end of Canal
83	10	+1.186	West end of Canal
84	10	+1.190	West end of Canal
85	10	+1.194	West end of Canal
86	10	+1.198	West end of Canal
87	10	+1.202	West end of Canal
88	10	+1.206	West end of Canal
89	10	+1.210	West end of Canal
90	10	+1.214	West end of Canal
91	10	+1.218	West end of Canal
92	10	+1.222	West end of Canal
93	10	+1.226	West end of Canal
94	10	+1.230	West end of Canal
95	10	+1.234	West end of Canal
96	10	+1.238	West end of Canal
97	10	+1.242	West end of Canal
98	10	+1.246	West end of Canal
99	10	+1.250	West end of Canal
100	10	+1.254	West end of Canal

Page from Maskell C. Ewing engineer's field book showing bench marks.



Cover of Maskell C. Ewing's field book which recorded the progress of the Alexandria Canal survey and construction. Courtesy of the National Park Service.



Aqueduct Bridge at Georgetown brought barges from the Chesapeake and Ohio Canal (in the foreground) to the Alexandria Canal at Rosslyn, ca. 1868. Courtesy of Robert Truax Collection.

