

HISTORIC STRUCTURES REPORT
CONOCOCHEAGUE AQUEDUCT
CHESAPEAKE AND OHIO CANAL

PART I

Historic Data Section

by

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For electronic publication

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Purpose of the Report

The purpose of this report is to present the results of the documentary research into the physical history of the Conococheague Aqueduct (identified as Aqueduct No. 5 in C & O Canal Co. Records).

Note on This Edition of the HSR

The original Historic Structure Report by John F. Luzader was transcribed by volunteers and then edited and reformatted with some additions in November 2011 by library volunteer Karen M. Gray, Ph.D. Additions included a newspaper report of the Irish riots placed in an appendix and extensive illustrations.

I. The Function, Specifications, and Construction Of the Conococheague Aqueduct

The Potomac River is fed by many tributary streams between the District of Columbia and Cumberland. The right-of-way surveyed along the Maryland shore of the river had to cross a number of these as it ascended the valley. In the case of the smaller streams, the canal was carried across them by culverts of varying dimensions. The larger tributaries posed more difficult problems. Longer spans and the support of the weight of the Canal trunk, water, and traffic presented structural demands that challenged the skill of the Canal Company's engineers.

By the time the Canal was ready to cross Conococheague Creek, at Williamsport, the Company had built four aqueducts: Seneca, Monocacy, Catoctin, and Antietam. Each had presented its peculiar problems; and Conococheague's construction was to do the same. Experience had shown the need for careful planning; and the Company had learned, through painful and embarrassing trials, that masonry aqueducts were expensive under the best of circumstances.

Williamsport was an important place on the Canal line. It was a market town for a large area; stage connections linked it with the eastern towns and the trans-mountain region, as well as the pikes extending southward into Virginia and northward into Pennsylvania. The line of the Baltimore and Ohio Railroad did not touch the town; and interest in and support for the Canal was strong. The major Canal feature at Williamsport would need to be useful and attractive. The result was a relatively elaborate structure.

When Captain William Gibbs McNeill made his inspection of the C & O Canal in 1833, work on the aqueduct had only been started, but Engineer Thomas Purcell described how it would be built. The Captain wrote:

Aqueduct No. 5, by which the canal is to be passed over the Conococheague, which enters the Potomac at Williamsport, about one hundred miles from Georgetown, will, from the excellent quality of the material and the care and skillfulness with which it was being built, be an admirable structure, and in keeping with the best specimens elsewhere to be met with on this canal. Its abutments and piers (the dimensions of which, as well as other parts of the work, will be found minutely detailed in the accompanying specification furnished me by Mr. Purcell the resident engineer above Shepherdstown,) are founded on solid rock which fortunately forms the bed of the creek; and from these, spring the three arches of sixty feet span each, the versed sine of which is fifteen feet. The masonry, of which the aqueduct will include 4,900 perches, is of the character denominated "rock work," excepting the pilasters, ring stones, sheeting, water table and inside of the parapets, which will be of cut stone, (the whole of which will be laid in cement mortar, or grouted, or both, as may be directed by the engineer,) will cost \$8 per perch. It will be built of a compact blue lime stone, of excellent quality,

transported from almost exhaustless quarries within three miles of the site, and may doubtless be entirely completed by the coming spring. Its total cost, it is estimated, will be \$40,260.¹

Engineer Purcell prepared the following specifications for the aqueduct:

Specifications of the manner of constructing Aqueduct No. 5, designed to convey the water of the Chesapeake & Ohio Canal over Conococheague Creek.

This aqueduct will be formed with three arched water ways of 60 feet width each.

There will be two piers and two abutments, the piers will be 12 feet at the bottom, and eight feet at the top, or skewback; the abutments will be each 12 feet thick, with a buttress projecting 5 feet from the centre as represented on the attached plan. (The plan is missing from Canal Company records) The piers, abutment, & wing walls shall be founded on the solid rock that forms the bed of the creek.

The piers will be 32 feet long, exclusive of the dome at either end thereof, & these domes will be quarter spheres of 8 feet diameter; the piers & abutments will be carried up until within 18 feet (measured vertically) of the bottom of the canal.

On these piers and abutments will then be erected three arches 32 feet wide, 60 feet span and 15 feet rise, or versed sine; the arch stone, or voussoirs must be of hard durable stone, and fashioned so that the first or skewback [sic] course, composed of them, shall be three feet, and the crown, or key course two & a half feet deep; and these arch stones shall not be less than three feet long on its face. The spandrels shall be laid of good large flat stone; and the arches & spandrels shall be grouted in the manner here in after mentioned.

On the arches & spandrels shall be erected the parapet walls as follows: the parapet on the towpath side to be 7 feet thick at the bottom and 6 ½ at the top; that on the berm side to be 5 feet thick at the bottom & 4 ½ at the top, and both walls to be raised 7 feet above the bottom of the canal. On the exterior sides of the Aqueduct & between the top of the arches & the parapets will be inserted a water table or string course 8 inches thick in the main, beveled to 6 inches on the face of the whole to be two feet broad & project 6 inches beyond the face of the parapet.

The parapets & wing walls will be covered with a coping of stone 10 inches thick and projecting over the exterior surface of the wall six inches.

The wing walls shall be built of the form & thickness shown on the annexed plan and the manner of building them shall be similar to that prescribed for the parapets.

The stone for the arches, the ends of the piers and abutments, the skewback, the water table, the domes, & coping of the parapets & wings, shall be well and smoothly cut; and all the re-

¹ *Records of the War Department, Topographical Bureau*, National Archives letter, Captain Wm. G. McNeill to Lt. Col. J. J. Abert, Dec. 1, 1833.

maining face stone, both for the water way & exterior faces shall be of good hammer dressed range work.

No course of stone will be permitted to enter either the abutments or piers that shall be less than fourteen inches thick, with a bed two feet broad; nor will any course be permitted to enter any part of the work that shall be less than 10 inches thick, and have a bed less than 18 inches broad. There must be a header or bond stone at each 10 feet in length of any course, and each header must be at least two feet long on the face, and run back into the wall no less than four feet; every stretcher must be at least three feet long on the face.

The bottom of the trunk (or water way) between the parapet walls shall be laid with approved hard burned brick, laid on the edge and bedded in a good bed of cement mortar one inch deep and the grout made to fill between the bricks & $\frac{1}{2}$ an inch above their upper side. This floor of brick to extend entirely between the parapets and from outside to outside of the abutments.

The whole of the masonry shall be laid in cement mortar, or grouted, or both, as may be directed by the Engineer; the grout and mortar shall be composed of equal parts of clean sharp sand and approved hydraulic lime, except the wings in which the grout may be composed of two parts sand to one of water-lime. The grouting shall be done at each course in heights as the walls progress. . . Iron rods, & clamps to connect the arch & other stones, shall be inserted when required by the Engineer, & every part of the work shall be done under his inspection and any part thereof taken down & rebuilt that he shall not approve.²

Specifications were also prepared for the installation of a railing for the aqueduct. These read:

Specification of the Manner of constructing the Railing on Aqueduct No. 5

The material of which the railing shall be composed must be wrought iron of approved quality—

The upright bars must [be] 4 $\frac{1}{2}$ feet long each, & $\frac{7}{8}$ ths of an inch diameter—each bar will be sunk four inches into the stone coping.

At each 8 feet in length of the railing there will be a square bar 1 $\frac{1}{2}$ inches square and to be supported on the outside by a brace one inch square, as shown in the accompanying plan—The rail will be 3 $\frac{1}{2}$ broad & $\frac{5}{8}$ ^{ths} of an inch thick—the laps for this rail must always be made [illegible] one of the square bars above mentioned—cast iron heads must be secured on each of the said square bars—The uprights must be fastened to the coping either by running Lead, or a mixture of Sulphur & sand into the holes.

The whole to be executed in a substantial & workmanlike manner to the satisfaction of the Engineer.³

² *Records of the C & O Canal Co.*, National Archives.

³ *Ibid.*

Attached to the original of the specification is the cryptic note: “afterwards altered by the board”. Extant records do not reveal the nature of the changes made by the Board of Directors.

The contract for the erection of Conococheague Aqueduct was awarded to Michael Byrne & Co.⁴

Byrne had other contracts with the Canal Company, and he enjoyed a good reputation as a capable and responsible builder. It is interesting to note that while many of the other contractors were recipients of letters concerning tardiness of work or failure to adhere to terms and specifications, Byrnes received no such admonitions; and his relations with both the engineers and Company officials were unusually amicable. It is also worth noting that he did not go bankrupt.

The quantities and prices, as recorded by Engineer Purcell, were:

Item	Unit Cost	Quantity	Total
Bailing Water & Coffers Dams			\$ 315.00
Centering			1500.00
Cubic Yards Excavation for Foundation	.20	1250	250.00
Sup'1 Feet Rough Ashlar delivered	.30	1041	312.00
Sup'1 feet Cut Ashlar delivered	.50	1041	520.50
Sup'1 feet Scabbled Ashlar delivered	.40	11461	4584.40
Sup'1 feet Rough Sheeting	.60	7861	4710.60
Sup'1 feet Cut Sheeting	1.00	7861	7861.00
Sup'1 feet Rough Coping	.30	4381	1314.30
Sup'1 feet Cut Coping	.55	4381	2409.55
Sup'1 feet Stone in Domes & Ends of Piers	1.25	376	470.00
Perches Packing	1.40	3487	4881.80
Bushels of Cement delivered	.36	15276	5499.36
Bushels of Sand delivered	.04	15276	611.04
Ft B M Scantling & plank p m	18.00	14128	254.30
Perches Masonry laid at	1.00	5092	5092.00
Sq. Ft Cut Stone in Pilaster Capitals	.37	2220	1221.20
Sq. Ft. Cut Stone in Parapets			
changed from Scabbled to cut	.16	3256	520.96
Iron in Clamps and Wedges p lb	.10	2012	201.20
Pointing & laying Plank &c	\$10. p.c.	14128	141.28
Perches of Masonry laid at	8.00	5101.50	40812.00
Ft hammer dressed stone changed			
to cut work on inside of Parapets *	.16	3358	537.28
Sq. Ft. cut work on Pilasters	.65	2352	1528.80
Lbs Iron for Clamps & Dowels	.10	2462	246.20
For Cutting holes for Dowels &c			108.00
Timber und in Wings for Sheet-piling			19.50
Extra Labor in sinking Puddle ditches for Pilasters			32.00

⁴ *Ibid.*, Proceedings, President and Directors,

Total for Construction \$65,960.37

*The original specification called for hammered stone on the interior of the parapets. This was changed, by the order of the Engineer, to dressed stone (ltrs., Ingle to Purcell, Nov. 22, 429, 1833)

For the Railing Lbs Iron in Railing	.07 ½	8909	667.80
Llbs Lead for fastening	.08	359 ¾	28.78
Holes drilled in coping	.06	464	27.84
For passing the rails (while hot) through oil to prevent oxidation			25.00
			\$749.42

Total Cost of Aqueduct: \$66,759.79⁵

Work on the aqueduct was commenced early in 1833 and completed about mid-summer of 1834.⁶

The railing was installed in the spring of 1835, and the assessment was made May 7, 1835.⁷

⁵ *Ibid.*, Estimate Book, Fourth Residency, p.p. 396.401

⁶ *Ibid.*, The first assessment was made March 1, 1833; the final August 14, 1834.

⁷ *Ibid*

II. Irish Riots and the Conococheague Aqueduct

The construction of the aqueduct occurred during a period when labor conditions, endemically bad on the Canal line, were aggravated by two factors: the cholera epidemic of 1834 and the “Irish riots” of 1834 and 1835.

Cholera has struck the valley in 1832, depleting and scattering the labor force to an extent that construction came to a virtual standstill. In the summer of 1833, a less violent, but still serious, outbreak appeared near Williamsport. The panic that attended the new epidemic resulted in a loss of construction time. Wakes and funerals, observed with a mixture of solemnity and revelry, resulted in additional time lost from work. The “sickly season”, wretched living conditions, and bad working conditions cooperated in making for unrest and violence among the laborers.⁹

One of the major sources of manpower was the Irish immigrant laborers. The introduction of these people—Roman Catholic, depended upon industrial wages, and frequently unruly—made an important impact upon the predominantly agricultural society of a region populated by a people of predominantly German and Anglo-Saxon origin and militantly Protestant in religion. That impact was heightened by the so-called “Irish riots” that took place on and near the Canal.

Ill-feeling had run high, for some time, between the two major factions among the Irish workers, the Corkonians and Longfords (Fardowners). During the first three or four years of Canal construction, this animosity had been expressed in frequent but isolated fist fights and Saturday night Donnebrooks, sometimes more amusing than bruising.

In January, 1834, the hostility broke out into open fighting. A preliminary skirmish took place between Longfords, working in the vicinity of Dam No. 4 and Corkonians, from near Dam No. 5 above Williamsport. Several workers were killed before the militia arrived and restored order. During the next several days, the Irishmen recovered from their injuries and collected arms. The Conococheague marked the boundary line between the factions; and Williamsport residents patrolled the unfinished aqueduct in an effort to prevent disorder. Violence broke out again, with the Corkonians the aggressors. The Fardowners retaliated, and on January 24 three hundred of them, armed with guns, clubs, and other miscellaneous weapons, marched on the aqueduct. They represented their demonstration as a mere show of force; and they were permitted to cross. After they reached the other side of the creek, they were joined by some three or four hundred more, who had crossed above the town. Three hundred Corkonians challenged them on the hill near Dam No. 5. The Fardowners attacked, killing at least five men in the field and many more in the woods, to which the Corkonians had fled. Victorious, the Fardowners marched back to Williamsport, disbanded, and then returned to their shanties. The local militia kept order until Feder-

⁹ A future research report will deal with the subject of labor on the Canal. The situations and problems that were associated with this subject were illustrative of labor problems during the middle of the 19th century.

al troops arrived from Fort McHenry. During the next week, the leaders of the factions were brought together and a mutual non-aggression pact was negotiated and signed.¹⁰

The violence and uncertainty that attended the rioting affected the progress of Canal construction, sometimes bringing it to a complete halt. The extent to which the work on the aqueduct was affected is not apparent from materials in the Company's records. In fact, the correspondence on the subject of this structure is so scanty as to suggest that the construction was uneventful. However, it is reasonable to believe that the riots did interfere with the work; and, since the aqueduct figured in the fighting, the interference must have been, for at least a brief period, severe.

While it is not within the scope of this study to go into detail concerning the significance of the "Irish riots," it is worth noting that they probably played a significant role in the development of the nativist movement which later made the Potomac Valley, and more especially Maryland, a strong-hold of the "Know-Nothing Party." The writer believes that this subject should be one of the first explored in connection with the interpretation of the Canal's role in political and social history.

¹⁰ *Niles' Register*, XLV, No. 22 (January 25, 1834), p. 336; No. 23 (Feb. 1, 1834), pp. 382-3; No. 24 9 Feb. 8, 1834), p. 399; Records C & O Canal Co., letter. Purcell to Ingle, Jan. 23, 1834.

III. Post Construction History, Current Condition, and Recommendation

The post-construction history of the Conococheague Aqueduct was fairly eventful, but few of the facts are reflected in documentary sources.

Williamsport was the scene of numerous events of the Civil War. Union troops were posted there during 1861 and crossings on the Potomac were made during the Antietam and Gettysburg campaigns. At various times, Federal troops occupied points in and near the town, guarding the Canal and the river crossing.¹¹ Local tradition records that the aqueduct was damaged by artillery fire during the winter of 1861-2,¹² but no documentary evidence of either damage or repair has been found.

By 1870, the ravages of freshets and a period of neglect in the maintenance of structures had conspired to reduce the aqueduct to a dilapidated condition. During the winter of 1870-1, the berm parapet and spandrels were rebuilt, together with a small portion of the wall on the towpath side.¹³ The quantities for this work have not been preserved in the Company's records, and no information concerning the repairs has been located in other sources.

Incidental, routine maintenance and repairs probably were carried out, but the records record neither their dates nor details.

In 1920, a dramatic event took place. Sometime during that year the berm parapet collapsed while a barge was in the trunk of the aqueduct, carrying the boat, crew, and mules into Conococheague Creek. The crew jumped free of the wreck, and the mules were either released or broke free.¹⁴

At this point, we have something of a mystery. No one has been located who can give the date of the collapse, and local newspapers that have been examined contain no references to the event.¹⁵ Company records do not mention the incident. All that we have to go on are the memories of older residents, whose accounts are fragmentary and at mutually contradictory and photographic evidence, which has been included in this report.

¹¹ The subject of the C & O Canal during the Civil War will be the subject of future detailed documentary research reports.

¹² Conversation with W. H. Wolfe, July 16, 1962.

¹³ W. R. Hutton, *Report of W. R. Hutton, Chief Engineer, as to the Condition of Chesapeake and Ohio Canal with Estimate of Cost of Extraordinary Repairs Required During the Current Year*, August 14, 1872,

¹⁴ Conversations with "Captain" Raleigh Bender, Sharpsburg, Md., and W. H. "Hooper" Wolfe, Williamsport, Md.

¹⁵ "The Morning Herald" and "The Daily Mail," Hagerstown, Md., 1920. The Williamsport newspaper is defunct, and only a few copies exist in private possession.

The berm parapet was replaced by a wooden wall, which remained in place until after the cessation of operations in 1924, after which it was destroyed, possibly by fire. Here again, Company records¹⁶ and news accounts seem to be silent.

Current Condition

The present condition of the aqueduct can best be described as a ruin. The brick floor has been removed; the berm parapet and much of its supporting structure have fallen into Conococheague Creek. Other portions of the abutments and railing have collapsed or been removed.

During 1962, the ruins of the structure have been stabilized by pressure grouting. The current condition and the stabilization will be described in more detail in the Engineering Data Section of this report.

Recommendation

The writer recommends that the Conococheague Aqueduct be restored to its historic condition, prior to 1920. The materials are immediately available in the bed of the creek. The attractive masonry, unusually ornate for a structure of this type, and the location of the aqueduct in an area visited by a large number of people justify a comprehensive restoration.

¹⁶ The records of the C & O Company vary in usefulness and for the final years of operation they are very limited value, insofar as construction are concerned.

APPENDIX¹⁷

New York Weekly Messenger and Young Men's Advocate,
Devoted to the Interests of Religion, Literature, Science,
Agriculture, Commerce and Public Occurrences.

B. Badger, Editor
By Burnett & Smith, 17 Ann-Street
New York,

Wednesday Morning, February 5, 1834
Vol. III. No. 29
Whole No. 133

Riots on the Line of the Canal.—We regret to have to inform our readers that the account of the pacification of the riot among the laborers upon the Chesapeake and Ohio Canal, above and below Williamsport (in Washington county, Md.) turns out to be premature. Since the return of the Hagerstown volunteers, with a number of men under arrest, fresh and fatal hostilities have broken out, in the course of which, as appears by the following account, a number of lives have been lost.—*National Intelligencer.*

Since the foregoing event, great commotion has existed among the hands. Very little work has been done, and a state of alarm and warlike preparation has taken place. On Thursday last,¹⁸ we are informed that a party of *Corkonians* committed excesses along the line above this place. Yesterday morning a small party were seen approaching this place from above and were met on the Aqueduct and driven back by an opposing party of their countrymen in the town. In this affray one man was very seriously beaten and wounded. The citizens of the town, with commendable alacrity, soon put themselves in military order, under arms for the protection of the peace, and remained under arms for the balance of the day, and the greater part of the night.

This scene was soon followed by another which resulted in a disastrous battle and several deaths. A party of Fardouns or Longfords, consisting of about three hundred men, headed by intrepid leaders, were announced as approaching from below. Their design, they stated to be, to pass up the line of the canal to the upper dam, for the purpose of exhibiting their strength, and not to commit a breach of the peace unless attacked. They were armed in part with guns, but principally with helms, clubs, &c. They passed up quietly over the aqueduct, and on their way, as we learn, three or four hundred more of the same party fell into their ranks. At the upper dam, in a field on the other side of Middlekauff's, they met the enemy in battle array, drawn up on the top of a hill, about three hundred in number, and armed, in part, with military weapons.

The information we have is, that the attack or at least a challenge to the combat, was made by the latter party. Volleys of shot were exchanged; some men were seen to fall, and the party above began to fall back and disperse before the superior forces of their enemy. A pursuit ensued through the woods where frequent firing was heard, and no doubt many lives were taken. *Per-*

¹⁷ On p. 115 of Vol. 3, No. 29; but on p. 4 of this issue of the paper.

¹⁸ This would be January 30th. However, the series of violent activities culminating in the battle on the hillside was between about the 18th and 24th of January. The "peace treaty" was signed January 27th.

sons who traversed the field after the battle was over, observed five men in the agonies of death who had been shot through the head; several dead bodies were seen in the woods, and a number of wounded in every direction. Those who observed the battle describe it as one of great rage and most deadly violence. All the deaths and wounded are reported to have been of the *Corkonians*.

About ten o'clock last night the victorious party returned, and passed quietly through this place, after halting a few moments in one of the public streets, to their respective sections and shanties below the town. Quiet was restored for the balance of the night.

We have thus attempted merely a sketch of the horrid barbarities committed in this neighborhood through the past week. The public peace has been outraged, and the civil authorities contemned. It remains for the officers of justice to take the necessary steps to repair these gross violations of the law.

Postscript.—Since writing the above, a principal leader of one of the parties has been arrested for examination. The volunteer companies have arrived from Hagerstown, commanded by Col. Wm. H. Fitzhugh, who is also Sheriff of the county, and are now in readiness to aid the civil authority. An express has been dispatched to the Seat of Government for a sufficient regular force, to be sent on and stationed here, or at other suitable points along the line of the Canal, to preserve order among the laborers, and for purposes of general protection.

—*Banner.*

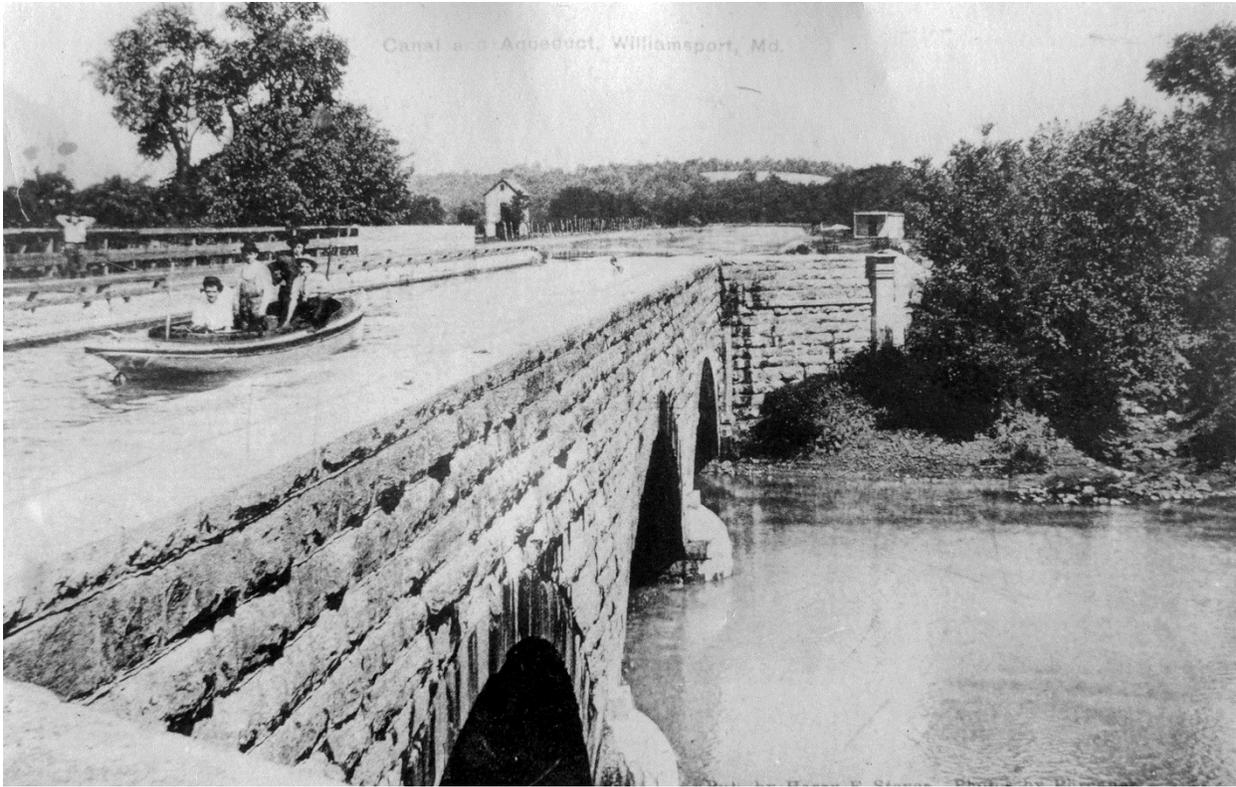
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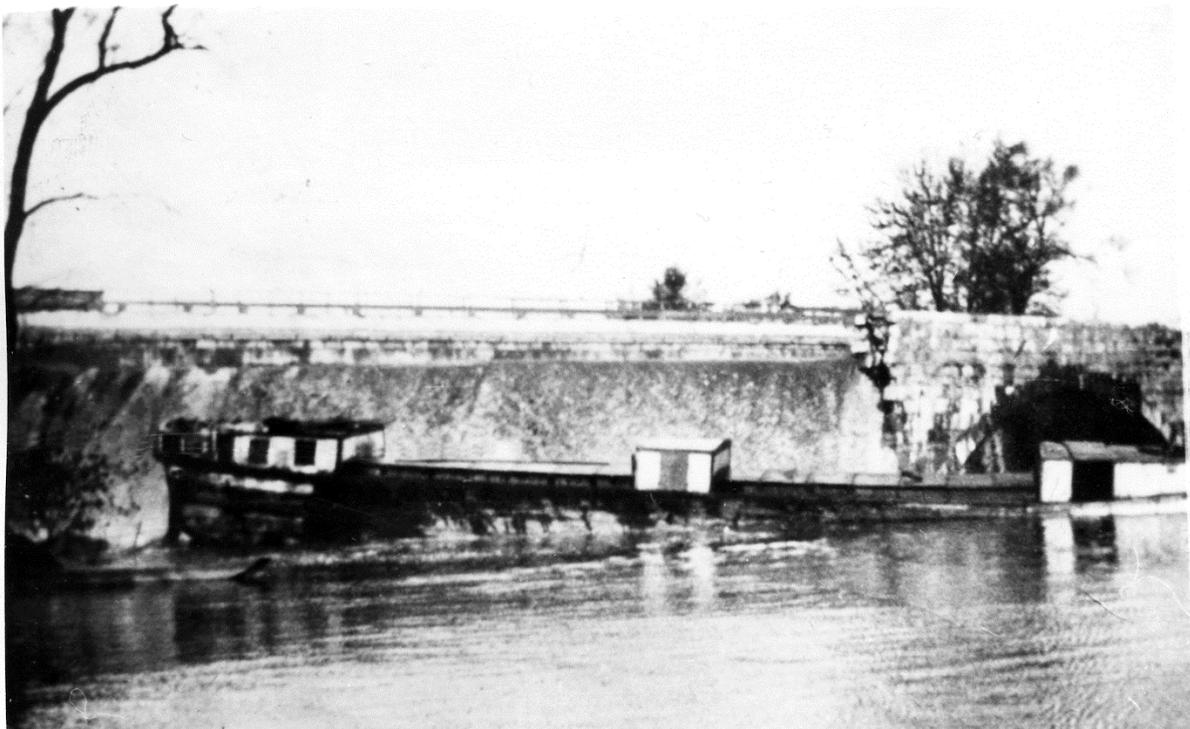


1. The aqueduct before the collapse of the upstream parapet in 1920.

Note the boat entering the aqueduct and that all four mules are on the towpath. When the boats were loaded or unloaded, no mules would be left in the stable on the boat and would be taken off the boat before it was taken to the wharf.



2. The aqueduct before the collapse of the upstream parapet in 1920.



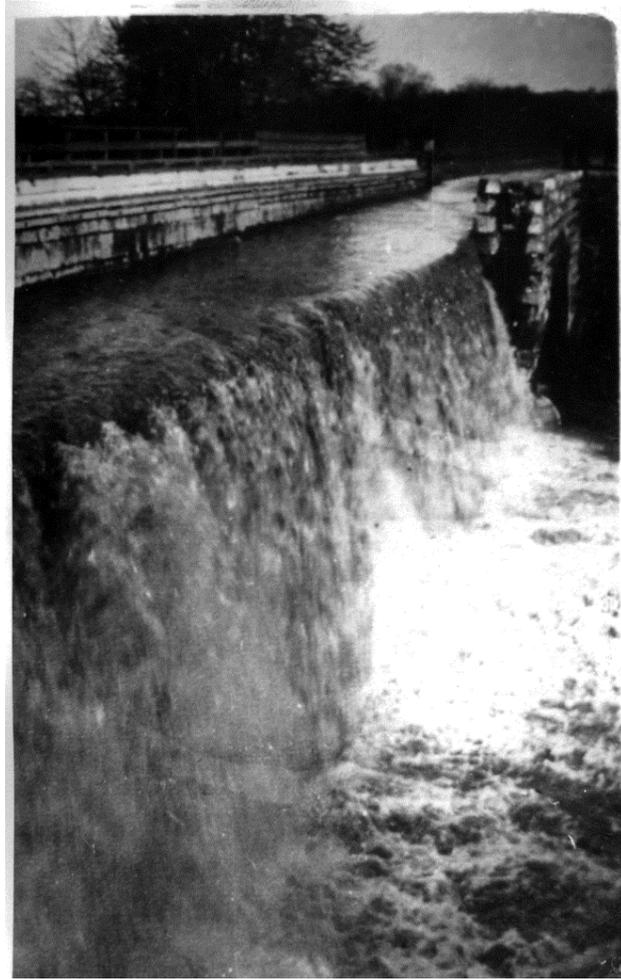
3. The upstream parapet wall collapsed about 5 a.m. on the morning of April 20, 1920.

Collapse of the Berm Parapet Wall

Canal Towage Company Boat No. 73, captained by Frank Myers of big Pool, was passing through the Aqueduct when the wall gave way. Captain Myers later said that he noticed the wall waver and called to his stepson, Joseph Davis, who was walking with the mules, to release them when from the towline, thereby preventing them from being pulled into the canal when the wall collapsed. Captain Myers was able to leap to the aqueduct's downstream wingwall on the berm side before the boat was carried into the Conococheague by the water draining from the canal.



4. Boat and aqueduct with water pouring out.



5. Water draining section between stop gates.



6. Canal Towage Company boat No. 73 in the Conococheague shortly after the collapse of the berm-side (upstream) parapet wall of the aqueduct collapsed into the Conococheague. The boat would remain in this location until the flood of 1936 washed it out into the Potomac, breaking it up and carrying the pieces downriver.



7. Crowd at the aqueduct. The collapse of the aqueduct wall was the subject of great local interest and for several weeks after the collapse many regional residents came to observe the damage and the boat in the Conococheague.



8. A and B — May 2, 1920 crowds visiting the aqueduct site.

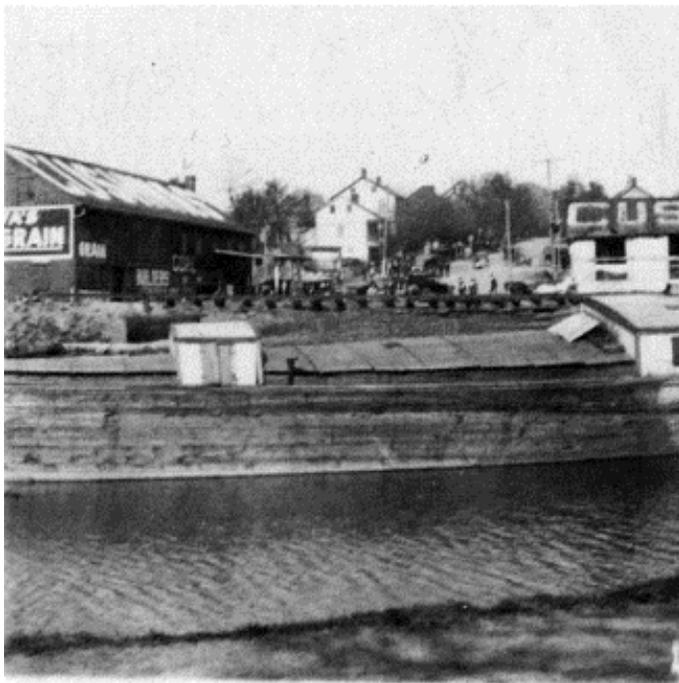


8. C. — May 2, 1920 crowds visiting the Aqueduct

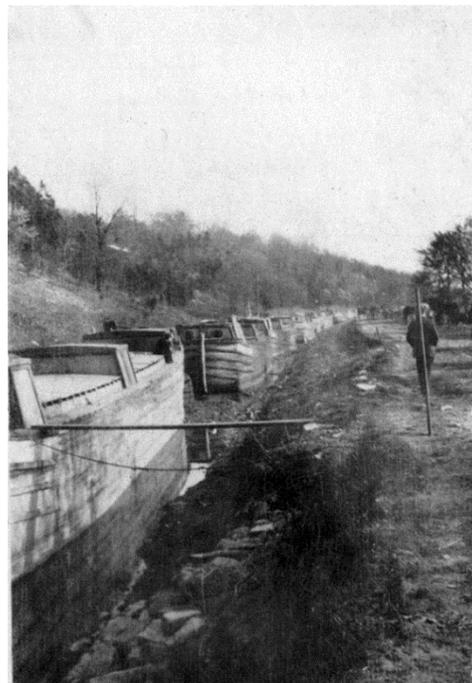
The canal was closed and boats were idled until the aqueduct could be repaired. Along that part of the canal that drained through the aqueduct breach, boats settled onto the bottom and remained there until it was rewatered subsequent to the completion of the wood parapet.



9. The aqueduct showing some of the first work being done.



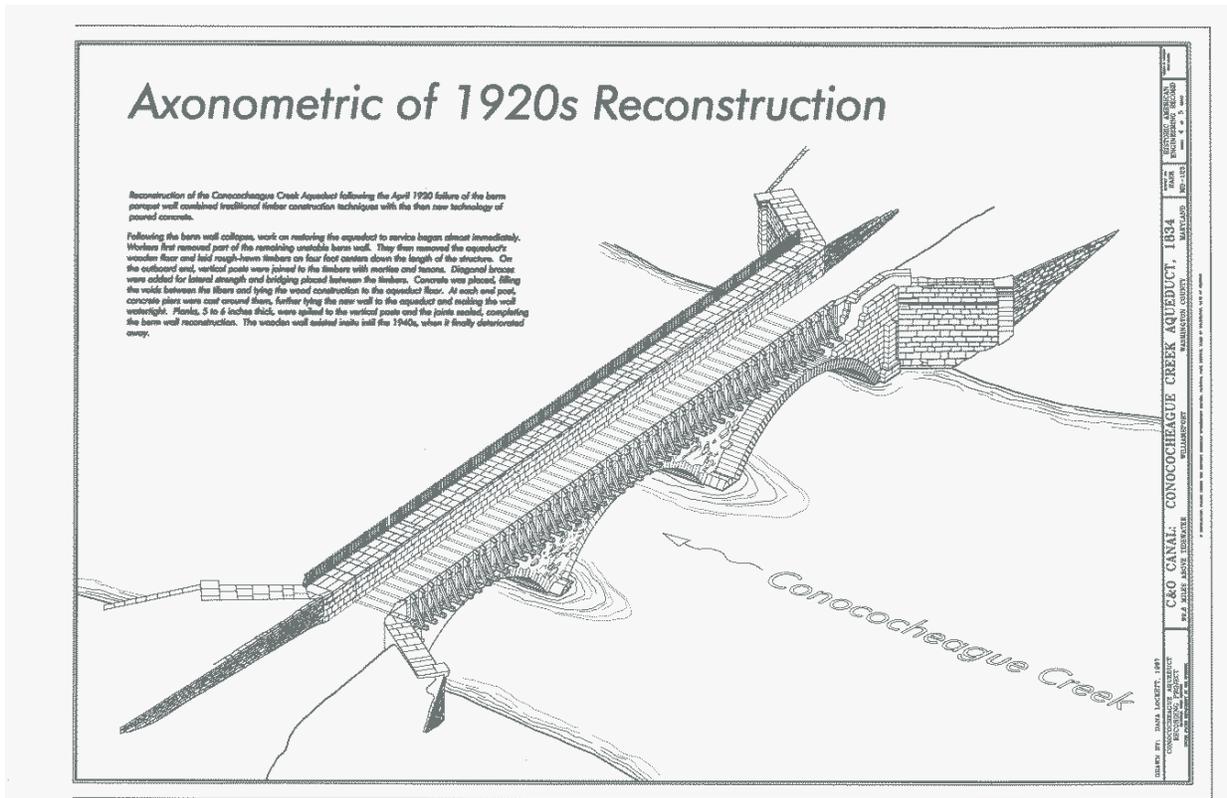
10. A boat in the Cushwa Basin.



11. Boats awaiting rewatering.



12. Workmen rebuilding the trunk and parapet wall with wood.



13. Historic American Engineering Record (HAER) Axonometric drawing. This HAER project done in 1997 documented the aqueduct and the wooden parapet that replaced the original masonry wall after the 1920 collapse. See: www.loc.gov/pictures/item/MD1492/



14. The aqueduct after the 1924 closure of the canal with the wooden parapet.



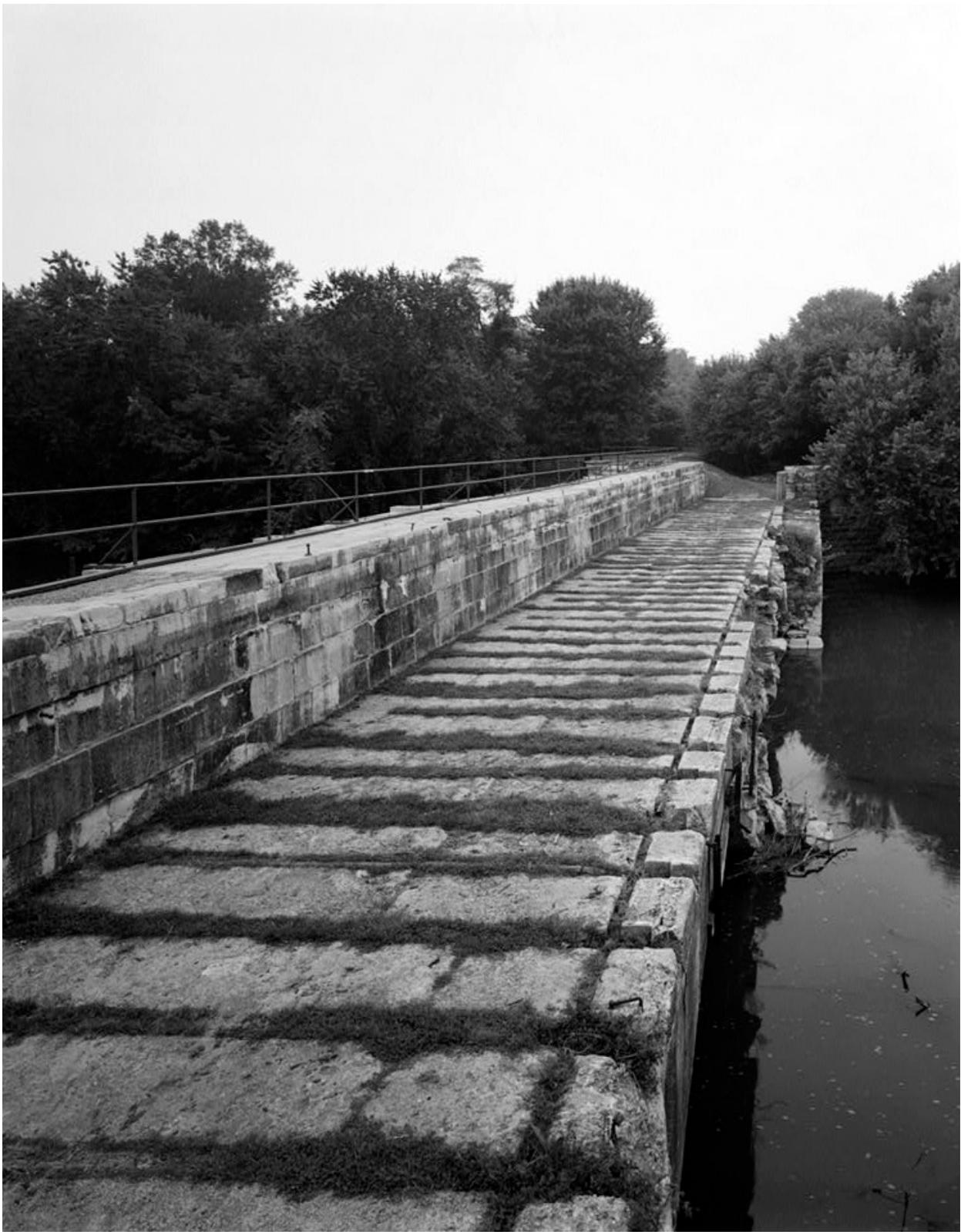
15. The aqueduct after the closure of the canal and with the parapet gone. The date is unknown but this photo appears to have been taken from the period prior to the canal becoming a National Historical Park in 1971.



16. Looking downstream through the trunk of the aqueduct toward the Cushwa Basin. Note the missing parapet on the left and towpath wall on the right. HAER MD-22, WILPO.3-3 1997.



17. Looking downstream and showing short section of the masonry base for the upstream parapet in the foreground. HAER MD-22, WILPO.3-4 1997.



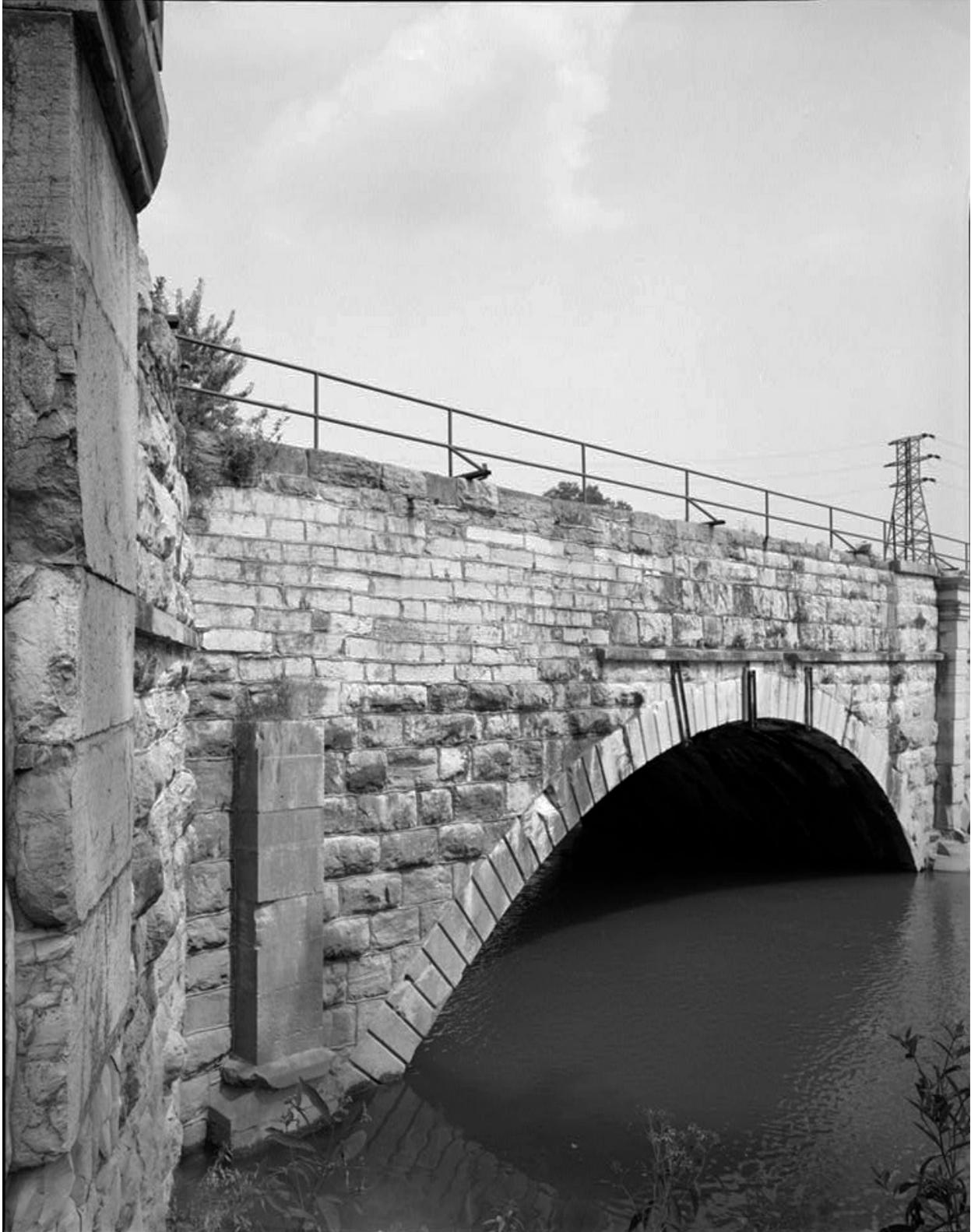
18. Looking upstream with the towpath parapet on the left and missing parapet on the right.
HAER MD-22, WILPO 3-5 1997.



19. Downstream side of the Conococheague Aqueduct, 1997. HAER MD-22, WILPO 3-1, 1997.



20. Looking northwest at the wingwall and downstream arch at the east end of the aqueduct. HAER MD-22, WILPO 3-10, 1997.



24. Upstream arch and wingwall (leftside) on the downstream side of the aqueduct. Note the repaired area above the incomplete pilaster, representing the repair done following after the damage done by a Confederate raid in August 1864. HAER MD-22, WILPO 3-11, 1997.