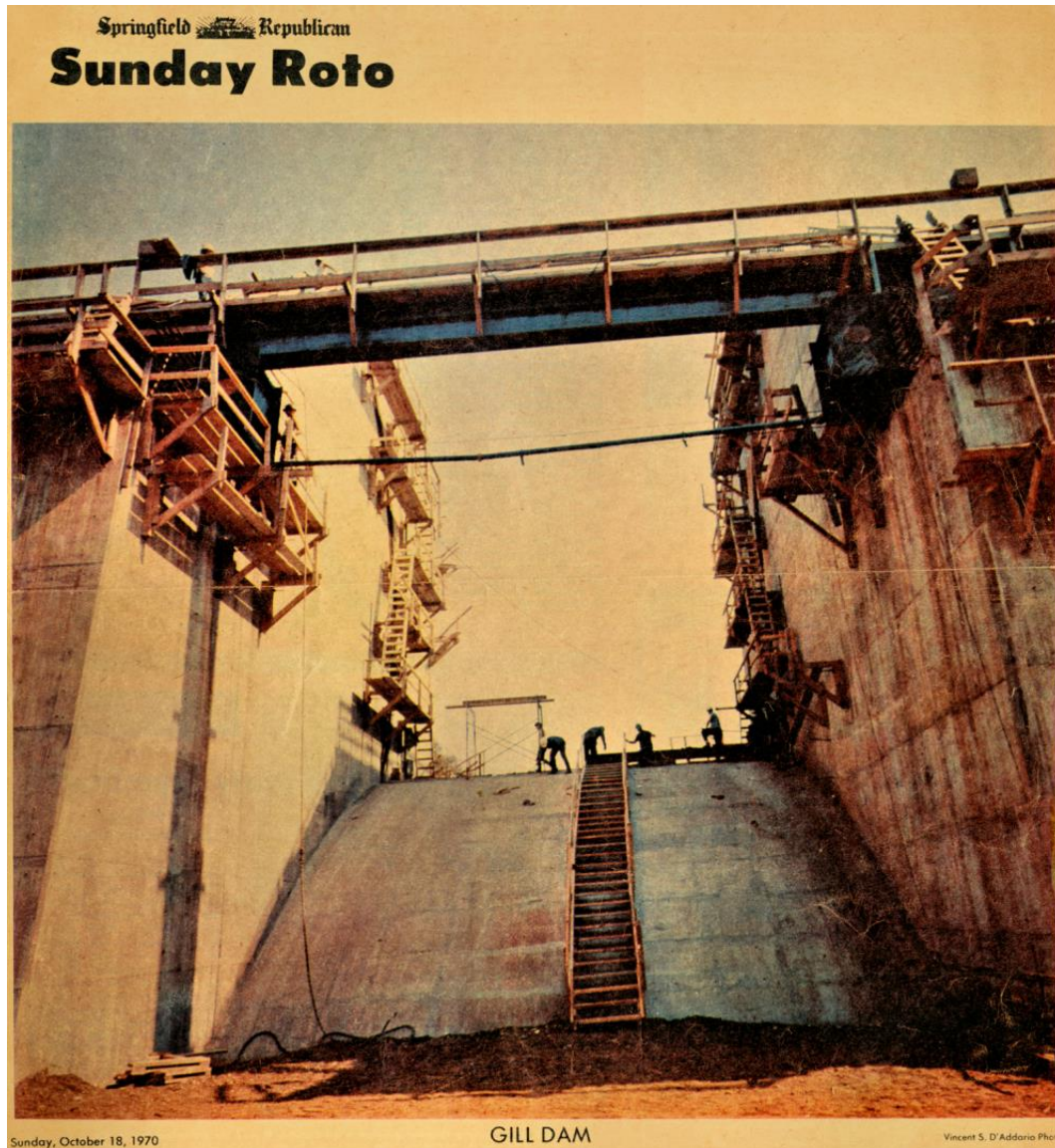


The NEW  
TURNERS FALLS Dam

As reported in the  
Springfield Republican Sunday Roto(gravure)  
for the date given

Prepared by Ed Gregory February, 2021  
Springfield Republican courtesy John Mackin.

Springfield Republican  
Sunday Roto  
Sunday, October 18, 1970



### On the Cover

Work proceeds on one of three gate sections of the Gill Dam in Turners Falls.<sup>1</sup> The dam is being renovated by Northeast Utilities at a cost of \$3.5 million and will serve the Northfield Mountain hydroelectric pumped storage plant.

## Gill Dam

Vincent S. D'Addario Photos

A 3.5 million renovation of Gill Dam in Turners Falls by Northeast Utilities is going ahead without delay, much to the relief of company officials.

The work will raise the level of water in the Connecticut River between Turners Falls and Northfield enough to permit operation of Northeast Utilities' huge hydroelectric pumped storage project on Northfield Mountain.

Last September a cofferdam guarding the Gill Dam construction site was partially washed away by an overflow of water.

This spring, however, the freshets<sup>i</sup> that accompany the spring thaw came in two phases, not one. And the utilities company heaved a sigh of relief.

To guard the construction site from rising water, flashboards were removed from the nearby Montague Dam at the end of February.

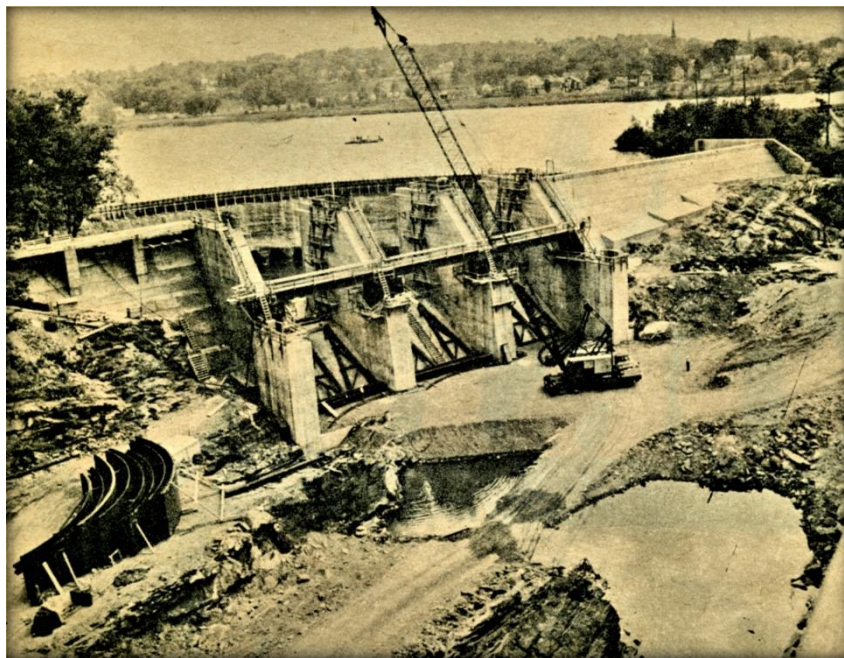
When the water rose as expected in March, it flowed over the Montague Dam<sup>iii</sup> and left the Gill Dam unaffected. A second thaw, in April, also did not affect construction.

Had too much water flowed over the Montague Dam, its floodgates would not have been able to handle it and the flashboards atop the Gill Dam would have been toppled.

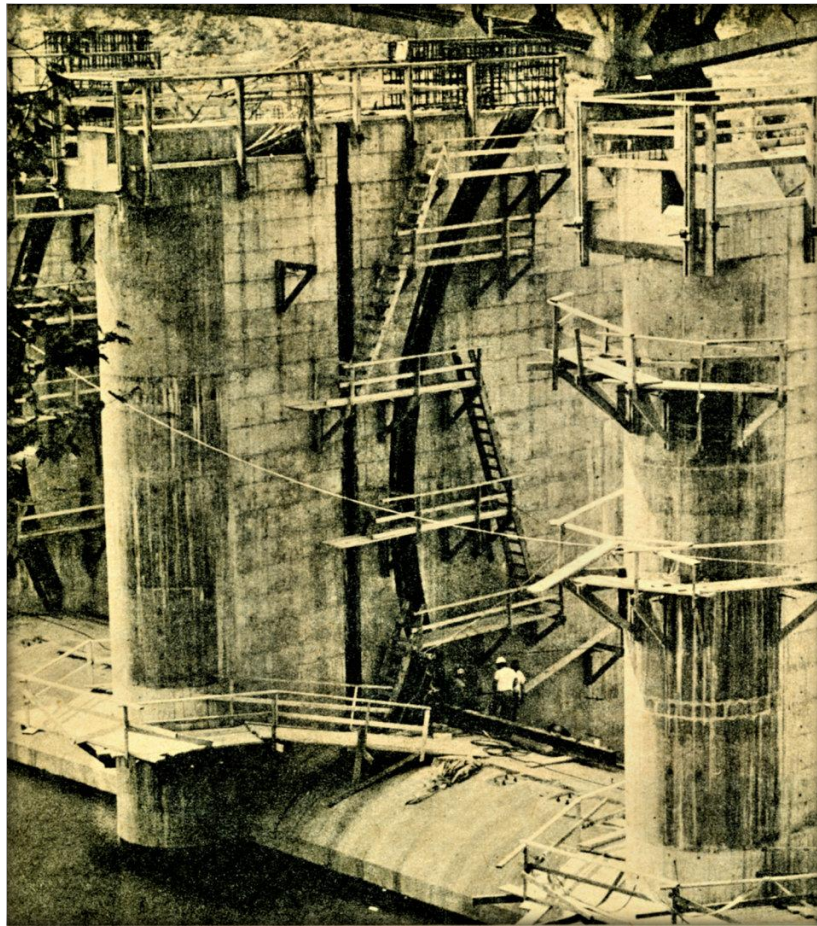
This would have meant a long delay in work inside the dam's dry basin.

Because the spring thaw is finished, flashboards are being replaced atop the Montague Dam and work is continuing on the Gill Dam.

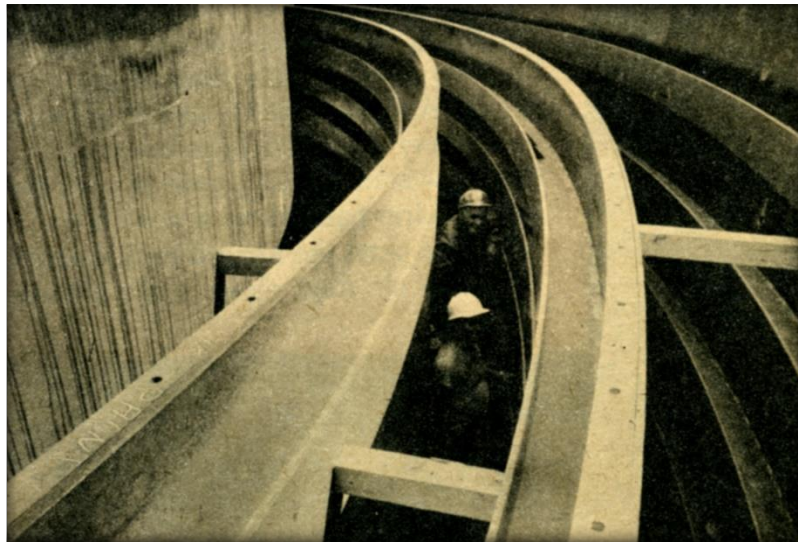
When the renovation is complete, the increased capacity will allow water to be pumped to the reservoir on top of Northfield Mountain for the pumped storage project.



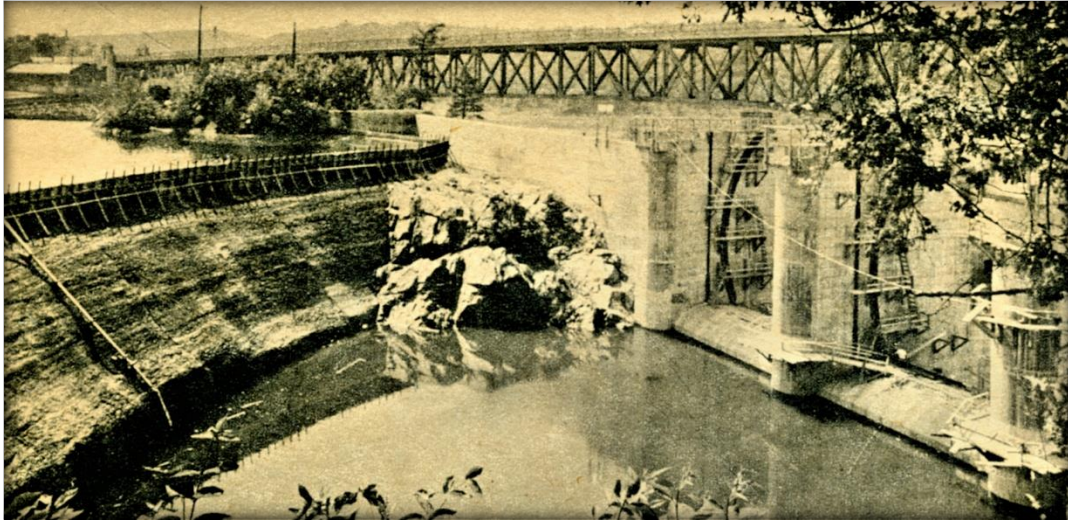
Tainter\* gate sections lie on ground at left, awaiting installation. Non overflow section of the dam is at right, with Unity Park, Turners Falls, in background. The land where the park is will be raised so higher levels of water will not flood it.



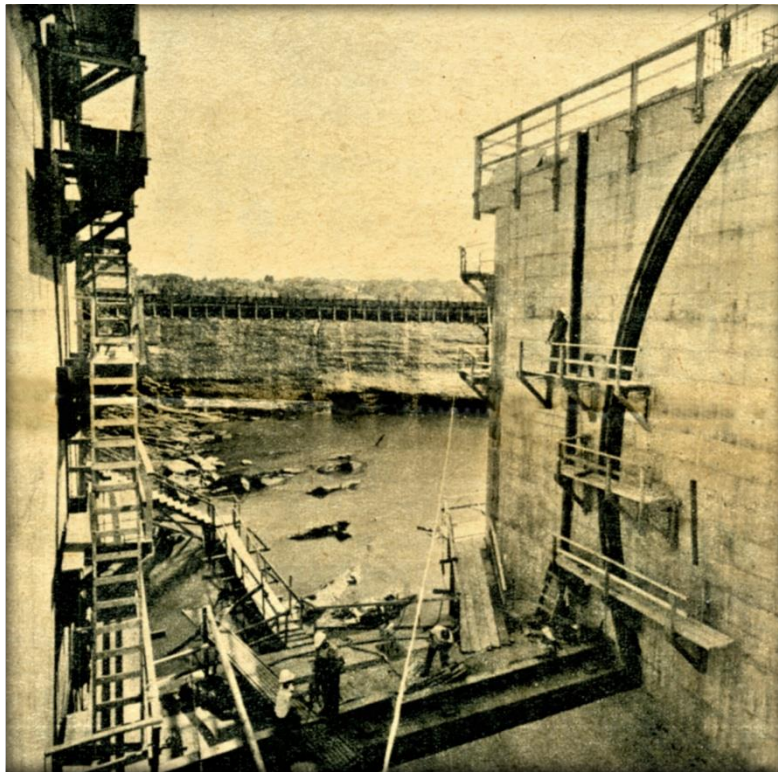
The three sections for radial Tainter gates are pictured. Gates are 40 feet high by 38 feet wide, with the concrete structure of the dam a little higher.



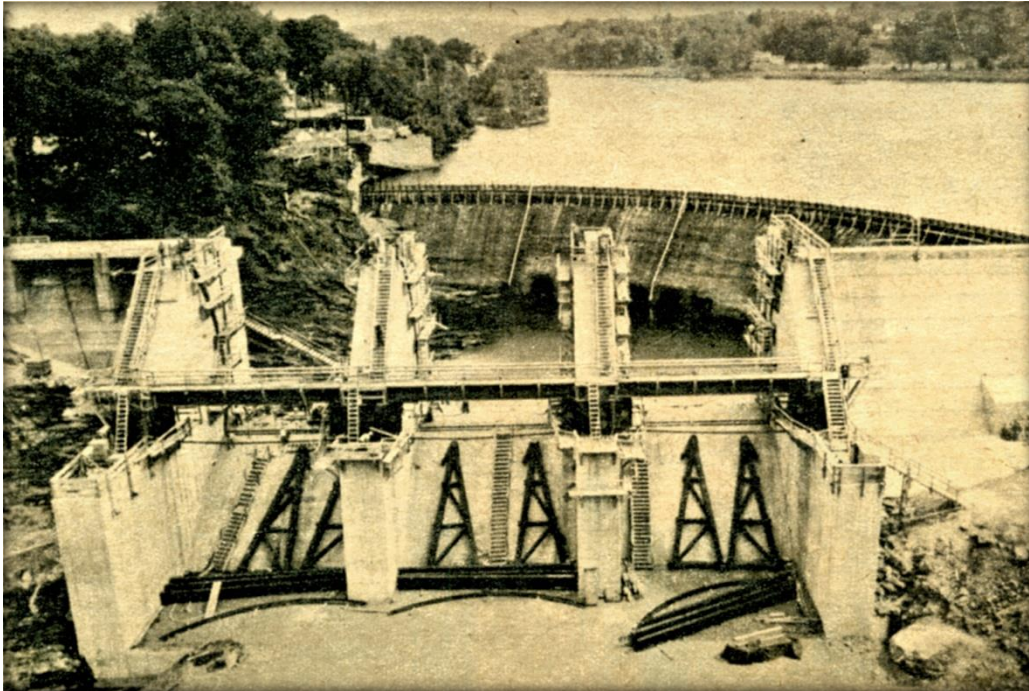
Construction workers for Stone & Webster Engineering Corp.,\* the contractor, stand between gate sections to provide an idea of their size.



With Rte. 2A bridge\* in background . . . and the old and new Gill Dams. Water between the two is to be drained out and the old dam\* demolished. Montague Dam is visible behind the shrubbery.



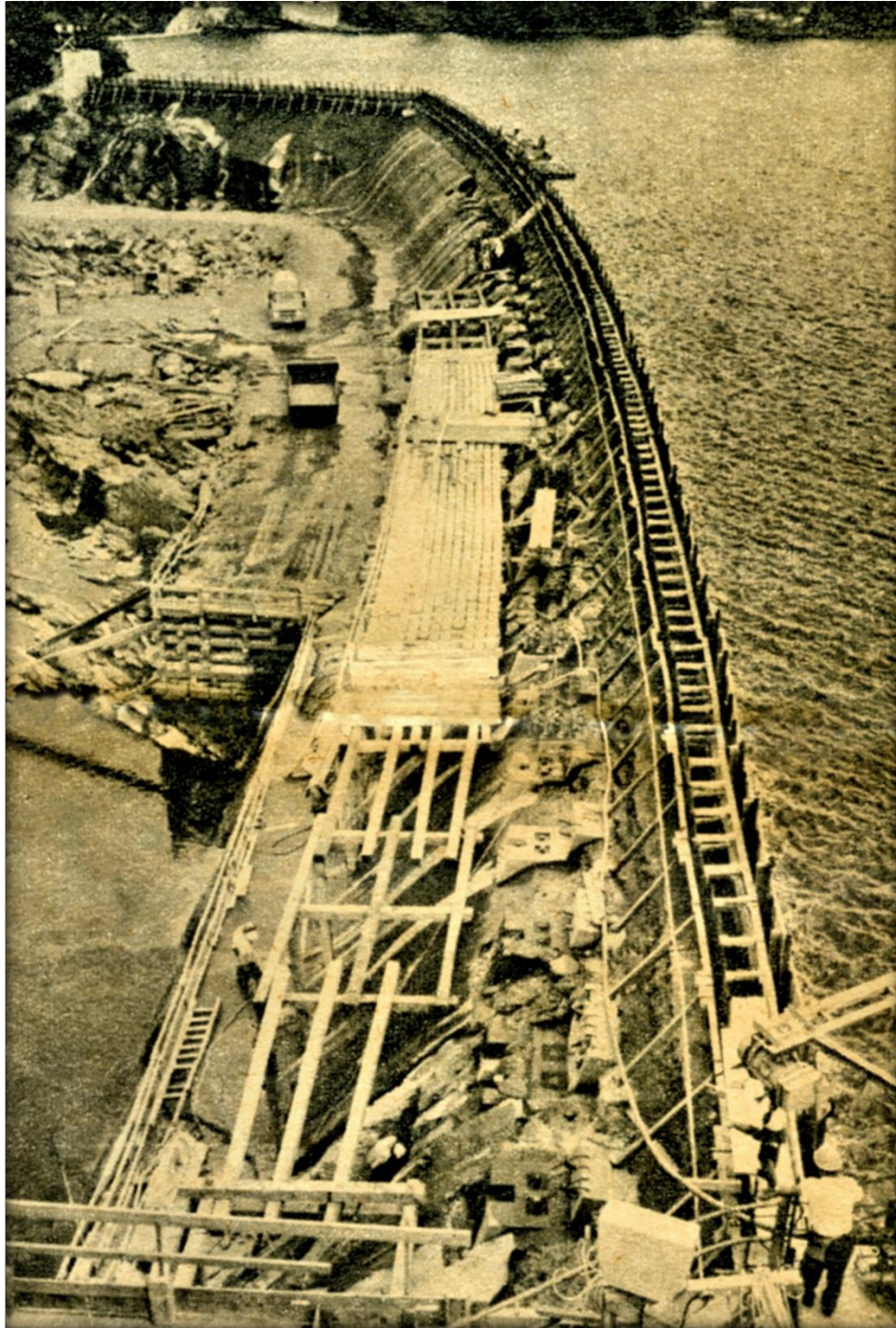
A staging is rigged in one of the dam's three gate sections. The gate seat\* is in place on the side wall.



This view, from the highway bridge,\* looks upriver. Beginning of a service roadway that will cross the dam is at left. At the base of the three gate sections are hinges which will support and operate the gates.



Hydro-maintenance crew build flashboard\* structure to facilitate work at Montague Dam. It will be topped by four plate steel hydraulic Bascule gates\*, each 120 feet long by more than 13 feet high, believed to be the largest in the world.



Bearing beads\* for Bascule gates atop the Montague Dam are each anchored by three tension bolts\* driven down to bedrock. The contractor at first tried to drive the bolts from barges but had to build work platforms for firmer base.

## Definition of terms and corrections:

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<sup>i</sup> Gill Dam in Turners Falls. The Gill dam is in Gill, MA. The entire dam is commonly known as the Turners Falls Dam.

<sup>ii</sup> Freshets; A great rise or overflowing of a stream caused by heavy rains or melted snow.

<sup>iii</sup> The Turners Falls Dam (Turners Falls side). The Montague Dam—in name—is incorrect.

\*Tainter Gates are named for Wisconsin structural engineer Jeremiah Burnham Tainter. Tainter gate is a type of radial arm floodgate used in dams and canal locks to control water flow.

\*Stone & Webster are hired to provide Engineering, Design, and Field Construction management.

\*Rte. 2A bridge. The proper and only name for the structure is the Turners Falls-Gill Bridge.

\*“old” Gill Dam was built in 1914-1915 by the Turners Falls Company.

\*“gate seat.” This not the gate seat. It’s the gate’s radial track.

\*“highway bridge” The Turners Falls-Gill Bridge.

\*“Flashboard” Boards attached to iron pipes driven into the top-edge of the dam to ensure water does not leak over the dam.

\*Bearing beads ??? Not defined as such. Most likely a bearing that will assist in the half-circle rotation of the Bascule gate, i.e., from a closed(up) to open (down) position.

\*“Tension bolts.” A tension control bolt (TC bolt) is a heavy duty bolt used in steel frame construction. The head is usually domed and is not designed to be driven. The end of the shank has a spline on it which is engaged by a special power wrench which prevents the bolt from turning while the nut is tightened. When the appropriate tension is reached the spline shears off.