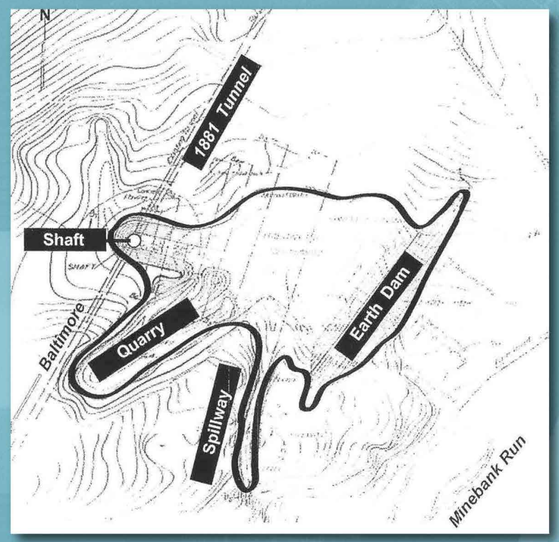
The Balancing Reservoir



At the northeastern edge of Cromwell Valley Park, in the Loch Raven Watershed area (owned by the City of Baltimore), lies the balancing reservoir. It was built in 1922 to control and manage the flow of water from Loch Raven dam to Baltimore's water treatment plant at Lake Montebello.

While the balancing reservoir is no longer used, and the site is over grown with nearly a century's worth of vegetation, its principal features are still clearly visible.

1. A Cylindrical concrete shaft—12 feet in diameter, rising about 18 feet above the ground—connected the balancing reservoir with the 1881 tunnel that ran between the old dam at Loch Raven and Lake Montebello.

2. The abandoned marble quarry, opens about 100 feet due east of the concrete shaft: the quarry itself extends some 300 feet from its mouth and has steep walls rising 50-60 feet from its floor.

3. The earth dam that forms the eastern border of the balancing reservoir; paved with concrete on its inner side, the dam is about 25 feet tall, 450 feet long, and has a 15-foot -wide flat crest.

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4. The concrete spillway at the southwestern end of earth dam.

Why the Blalancing Reservoir was Important

The first Loch Raven dam (1881) connected to Lake Montebello via a seven-mile-long tunnel. When a new dam was built in 1915 and then raised in 1919, the old tunnel could not withstand the increase in water pressure. Also, Baltimore's population had nearly doubled since 1881; matching supply and demand for water could not be done efficiently by opening and closing the gates on the dam.

When the Gunpowder rose and water behind Loch Raven exceeded Baltimore's needs, the surplus could easily be held in reserve, with water above the 10-million-gallon capacity of the balancing reservoir flowing down its spillway, into Minebank Run, and back into the river. This relieved pressure on the dam's gates and afforded greater control of the system. At times of low water behind the dam—or in case of pump failure at Montebello—the gravity flow from the reserve at the balancing reservoir would close temporary gaps in service.

The balancing reservoir was a simple soluton that cost little, took advantage of the immediate topography without damaging the environment, enabled the continueduse of the existing tunnel, and preserved the integrity both of the gates on the dam and the pumps at Lake Montebello—all this through a system with no moving parts that used gravity to maintain a regular and reliable flow of water.