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Akron Celebrates 100TH Anniversary of Public Water System

Ceremony at NIHF STEM School includes 8th grade historians and scientists

March 22, 2012 (Akron, Ohio) - Akron Mayor Don Plusquellic today watched as 8th grade learners from the National Inventors Hall of Fame Science, Technology, Engineering and Math Learning Center taught him a thing or two about the 100 years of operation of Akron's Water System.

It was March 22, 1912 that Akron's Water Department was created by an act of City Council.

In 1911, the burgeoning city of Akron - whose population would double by 1920, the fastest-growing city in America - had a "titanic" problem of bad water.

At its founding in 1825, clear, pure water was readily available to any pioneer settler who could dig a well, and tap the rich underground stream of water at the “summit” of Ohio -the divide that separated the waters that flowed north to Lake Erie from the waters that flowed south to the Gulf of Mexico.

By 1881, entrepreneurs formed the Akron Water Works Company, drawing water from underground sources as well as Manning’s Pond and Summit Lake. But as growing industries polluted streams and lakes, there were frequent bouts with typhoid fever in the city because of the bad water. (A typhoid epidemic in the summer of 1911 claimed more than 40 Akron lives.)

A constant problem for businesses was the frequent fires that ravaged Akron’s wood-framed structures. The pipes that served the Water Works were too small, and the pumping stations inadequate for meaningful fire protection, issues that forced the Chamber of Commerce to start looking at potential alternatives in 1907.

In 1910, Akron commissioned a study to locate a new water supply, and began buying land in the Cuyahoga River Watershed.

In September 1911, the water plant owned by Akron Water Works broke down completely. Firestone Tire and Rubber Company stepped in to help, and pumped water into Akron water mains while the plant was being fixed.

On December 5, 1911, the voters of Akron approved a proposal to buy the Akron Water Works company and form their own utility. The City Council of Akron adopted legislation to form a department of water supply and distribution on March 22, 1912.

The City immediately began planning construction for a dam on the Cuyahoga River that would create the reservoir to be named Lake Rockwell after then-mayor Frank Rockwell.

Akron's water plant, reservoir, and dam were completed in 1915 and placed into service on August 15, 1915, thus ending the supply of water from Summit Lake. Since 1915, Akron has continuously served high quality water from this facility to the citizens of Akron.

While the City of Akron is 62 square miles, the service area of the water system is 125 square miles, consisting of one treatment plant in Kent, 43 miles of "water mains" -- to deliver the water to city residents and surrounding communities, 15 water storage facilities (reservoirs, tanks, and stand pipes), 14 pump stations, approximately 12,000 fire hydrants for fire protection, and 1,200 miles of "pipe" to distribute the water.

The Water treatment plant has been upgraded through the years and is rated for 67 million gallons per day. It produces approximately 35 million gallons per day, 13 billion gallons of water every year, for 92,000 businesses, industries and households serving nearly 300,000 people.

The source of Akron's drinking water is the Upper Cuyahoga River which feeds a 207-square mile watershed in Portage and Geauga counties:

- The uppermost reservoir is the 420 acre East Branch Reservoir, near Burton. Completed in 1939, it has a storage capacity of 1.5 billion gallons.
- The second and largest reservoir is the 1,500 acre Wendell R. Ladue Reservoir, also located in Geauga County. Completed in 1962, it can store over 6 billion gallons.
- A third reservoir, completed in 1914 is Lake Rockwell outside of Kent, which provides water directly to the treatment plant. This 770 acre reservoir has a storage capacity in excess of 2 billion gallons of water.

Akron owns about 16,000 acres of the Upper Cuyahoga River watershed upstream of the Lake Rockwell Dam. Akron manages its watershed property to promote a mature forest canopy to provide natural filtration and moderate runoff. As presently developed, the watershed may

produce a potential yield of 120 million gallons daily for treatment and delivery to Akron water customers.

"One of the most influential persons in the history and development of Akron's water system was Wendell Ladue," said Mayor Plusquellic. LaDue began working in the water department in 1919, became its manager in 1933, and retired after 44 years of service in 1963.

"Wendell Ladue was a visionary and conservationist long before it was popular," said the Mayor. "He was able to look into the future and see the need to expand the water system and employ practices to protect the source."

In September, 2011, the Akron Water Department was approached by NIHF STEM school coach (teacher) Elizabeth Bugner, a program specialist who wanted to do a problem-based learning exercise on Water.

Eighth grade "learners" (students) met at the STEM school with staff from the Akron Public Utilities Bureau. Ninety 8th graders toured the water plant as part of their learning.

The problem statement for project was:

> "How can we as Junior Environmental Scientists sample, test and analyze water samples from targeted watershed sites and educate citizens both within the watershed and within the distribution area about the need to protect our water supply?"

The idea of the project was to teach the students about the watershed, the water treatment process and other water related topics and then challenge them to do their own research and make improvements where they felt they were needed.

At the end of the project the students presented their work, broken down into stations that included the history of Akron water supply, water chemistry, water treatment, water quality, OEPA regulations, watershed involvement, toxins, and poetry.

The students came up with fun and creative ways to convey their research in ways such as pathology tic-tac-toe, chemistry Jeopardy, quirky displays, and dramatic historical re-enactments.

History of the Akron Water Supply: http://akronohio.gov/PubUtil/WaterSupply/HistoryAWS.pdf

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