
NUGGETS OF HISTORY

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A HISTORY OF THE ROCKFORD WATER DEPARTMENT
1955 to the Present
By Thomas Powers



The elevated tank on W. Riverside Blvd was built in 1985 and holds 1,500,000 gallons.
Photograph provided by Thomas Powers

FROM THE EDITOR'S DESK

This issue presents the second part of a history of the Rockford Water Utility. It continues on from the mid 1950s where the previous article left off, and continues on to the present day.

I am the author of this article. I have been an employee of the Rockford Water Division for 12 years. During that time I have had access to many old documents and maps including city annual reports and water department annual reports. The water utility has maintained a wealth of records including old ledger books from as far back as the 1890s. I have also been able to talk to and learn from fellow employees, some of whom have worked there 30+ years. I have found the history of the water utility very interesting and I hope that you do as well. Although there have been many changes in how the water utility operates; the basic principle of pumping water out of the ground, through mains and into peoples homes and businesses, remains the same after 130 years.

The water utility is very interested in preserving its history by collecting old photos, maps and documents. If you are in possession of any of these items and would be willing to donate them, or loan them to us so that they could be copied, please contact me at 987-5724 (day) or 986-4867 (evening). We are particularly interested in photos of old pump houses, reservoirs or water employees working.

NOTICE TO RESEARCHERS

If you have a subject that you have researched, or an idea for an article that you would like to pursue, give me a call. I would like to encourage original research into some aspects of local history that have not been adequately pursued. I can be reached at 987-5724 (day) or 986-4867 (evening).

Thomas Powers, Editor

UPCOMING EVENTS

The Rockford Historical Society in conjunction with Midway Village is hosting our annual local history fair on January 14th at Midway Village. Seventh and eighth grade students have created special projects based on various topics of local history. They will be judged and the winners will go on to the regional history fair at Northern Illinois University in Dekalb. If you haven't seen these projects in the past you will be amazed at the knowledge and skill they represent. Better yet, come and help judge. It is a very rewarding day.

THE HISTORY OF THE ROCKFORD WATER UTILITY 1955 TO 2005 By Thomas Powers

In the last issue of *The Nuggets of History*, I discussed the first eighty years of the Rockford Water Department, from 1875 to 1955. In this issue, I will cover the last fifty years up to the present.

Throughout the 1950s and 1960s the city continued to grow and the water department grew with it. By 1956, the water department had 20 wells. Seventeen of these were deep wells (1500 feet) and the other three were shallow (500 feet).

In 1957 the department completed the 5.25 million gallon reservoir on Skyline Drive after nearly 18 months of construction. This reservoir was built to help provide a steady supply and increase the pressure needed by the rapidly growing northeast section of the city. It is still in use.

In 1958 the City Council approved a rate increase for the first time in twenty years. This rate increase of 33% boosted the average residential water bill by \$9.80 per year. It was needed because the water department had been operating in the red for the last 2 ½ years, and to provide funds for a seven year capital improvement plan. The capital plan included the construction of two 5,000,000 gallon reservoirs, eight new wells and approximately 35 miles of new water mains.

The first of the two new reservoirs was built in 1960 at the corner of W. State and Pierpont. The second and larger (6,000,000 gallons) reservoir was built in 1962 at Levings Lake west of Johnston Ave.

In 1960 the city agreed to purchase the Edgebrook Supply Co., a water system serving the suburban area of the same name. The system serviced 946 accounts. The city agreed to pay the owners \$390,000 which would include a down payment of \$80,000 and annual payments of \$25,000 for the next 17 years. The payments included interest at the rate of 5%. The city has the option of paying off the balance at any time, or reducing the payments to \$15,000 if the revenue from the system proved inadequate. Most of the residents served by this system were outside the city.

In 1961 the Water department took title to the old Camp Grant water tower located at the airport. The airport no longer needed the 250,000 gallon tank and agreed to give it to the Water Department if they paid to remove it and reconstruct it. The city moved the water tower to a site off of Harrison Ave., where it remained until the current elevated tank on Wentworth Ave. replaced it in 1992.

Mr. Merz was well known as a good steward of public funds. One example of this was his use of old paving bricks to build well houses. In the early 20th century many of the city streets were paved with bricks. These bricks were specially made to be non-porous and were larger and heavier than ordinary building bricks. As the old streets were torn up and replaced with concrete or asphalt, Mr. Merz collected them. Beginning in 1940 and continuing for over twenty years, he re-used the bricks to build at least 15 new well houses as well as the Water Department offices on Cedar St. Eventually he ran out of bricks and had to use more conventional construction techniques.

In January 1964 the city council revived the idea of adding Fluoride to the drinking water. They passed a resolution asking superintendent Merz to make a current estimate of Fluoridation costs so that the Finance committee could consider adding the costs to the 1964 city budget. This action was prompted by the release of a study on tooth decay between residents of Aurora who drink naturally fluoridated water, and residents of Rockford. The study concluded that the residents of Aurora had 50% less tooth decay than their counterparts in Rockford.

A dozen years earlier in 1952, the voters of Rockford had passed a referendum in favor of fluoridation by a 3 to 1 margin. Despite this overwhelming support, the city council refused to authorize the cost of installing the equipment needed and nothing had been done about it since then.

Mr. Merz determined that the cost of purchasing and installing the chemical feed equipment would be \$95,000. However, the city council once again put the project on hold, citing the cost as the principle reason. Nearly two years would pass before the council approved fluoridating the municipal water supply by a vote of 15 to 5 on December 6, 1965. The battle wasn't over yet though. A group of Fluoridation opponents met in January to organize a petition drive to convince the alderman to change their minds. They managed to gather 4,500 signatures and two aldermen tried to block the purchase of the equipment by parliamentary moves but it proved unsuccessful. A final effort to block the move by court order was thrown out of court in May. It took a few months to install the equipment in all 27 wells, but on October 14, 1966, fluoridated water flowed through the entire city for the first time.

Coming as it does from deep underground aquifers, Rockford's water supply is naturally pure and does not require a lot of chemical treatment as a surface water supply would require. Rockford began using chlorine as a disinfectant in the 1920s. Although the water leaving the well is free of bacteria, the chlorine is used as a precaution to kill any contaminants that might enter the system through main breaks, broken valves, etc. In addition to the chlorine, Rockford uses polyphosphates to sequester the iron in the water. This keeps the iron that is naturally in the water, suspended so that it

doesn't settle out in customers' homes and stain laundry or porcelain. This is clearly not a perfect solution, but it helps.

Between 1955 and 1970 the water department drilled 18 new wells. During this same period the average daily demand increased from 16 million gallons per day (MGD) to 34.3 MGD. In 1970 Rockford experienced a hot dry summer. Three new wells were nearing completion, but due to delays in the shipment of equipment they were not yet on line as mid summer approached. On July 11, 1970 the department pumped over 60 million gallons in one day. Reservoirs were being emptied and people were experiencing a drop in pressure as the system struggled to meet the demand. Superintendent Merz asked for a temporary sprinkling ban while he refilled the reservoirs and then asked for an odd even ban on sprinkling until the demand dropped.

On May 14, 1973 the city council approved the purchase of the Guilford Water Utility which provided water to Guilford Country Club Estates. Some alderman wanted to annex the subdivision as a condition of the purchase, but they were defeated after a stormy debate. It had long been a standard policy that anyone outside the city wishing to hook up to city water had to annex, or sign a pre-annexation agreement. This policy is still in place today, but for G.C.C.E.'s they made an exception.

In the spring of 1975 H. Spencer Merz retired after 40 years as superintendent of the Rockford water department. He had overseen tremendous changes in the department and was known for running a tight ship. Never-the-less, in his last couple of years there were complaints about inconsistent billing, old meters that were no longer accurate, and other problems that were not being addressed. A report issued by the Public Administration Service in 1974 stated that there were common functions within the water department, and the public works department and recommended that they be consolidated. Other people including public works director Patrick Dougherty agreed with this assessment. Mr. Merz felt very strongly that the water department worked best as an autonomous unit and should remain a separate department. However, after Mr. Merz retired, Mayor McGaw followed the recommendations and the water department became a division of the public works department.

The Water Division was and is still an independent operating fund. They receive no tax dollars and operate solely from user fees paid by their customers.

After the retirement of H. Spencer Merz, the city hired George Brettrager as the next water superintendent. Mr. Brettrager had previously worked for the Illinois Environmental Protection Agency. He would hold the job for the next 12 years.

In December 1975 the city council approved a 58% increase in the water rates. The move was necessitated by a need to increase maintenance on the infrastructure and to raise funds for future capital improvements. This was the first rate increase since 1958.

In April 1977, a lawsuit was filed on behalf of residents living outside the city limits who were paying a premium to use city water. The suit alleged that the rates were discriminatory and arbitrary. The city successfully proved that the rates for non-residents were properly higher due to the higher costs of servicing these customers and won the lawsuit.

In 1982, testing required by the Illinois Environmental Protection Agency (IEPA) revealed that two city wells contained unacceptable levels of some organic chemicals. The two wells were shallow wells located at 11th St & 18th Ave., and at Douglas St. & Camp Ave. Previous testing had not shown any contamination. Both wells were shut down. Additional testing revealed trace amounts of the chemical Trichlorethylene in several sites around the city. The source of the contamination remained a mystery.

Over the next few years, the contamination spread and other wells had to be closed or used only during peak demand. By 1988 Rockford had closed down eight wells and was continuing to study the extent of the plume of contamination. The act of pumping large quantities of water out of the ground tended to draw nearby contaminants to the well. If a well was only used intermittently, the contamination may decrease.

During the late 1980s the city council approved a series of 7% annual rate increases in order to fund the drilling of additional wells to replace those that had to be closed, and transmission mains to more easily transfer water to different parts of the city.

In 1987 George Brettrager resigned as superintendent of the Water Division. He was replaced by Bob Nimmo who had been the Assistant Superintendent. Mr. Nimmo had worked for the Water Division since 1969, starting as a well operator. He would continue as Superintendent until he retired in 2002.

In 1987 and again in 1988 the city experienced a hot dry summer that taxed the system's ability to meet demand. Several wells had been shut down due to contamination and new wells had not yet been drilled. In both years the city issued temporary sprinkling bans. In 1988 the city council authorized fines ranging from \$50 to \$500 for violators and "Aqua Cops", so-named by their co-workers were sent out to enforce the ban.

In September 1989 the U.S. E.P.A. declared a two-square mile area in southeast Rockford as a superfund site due to "dangerous levels of solvents in the ground water. A series of steps were taken to address the problem. First, bottled water was provided to the homeowners in the area. Then, carbon filters were installed to filter out the contaminants from drinking

water. Eventually, in 1990 and 1991 new water mains and service lines were installed in the area and residents were allowed to hook up to city water for free. The cost of this project was originally funded by the E.P.A. through the Superfund, but it was later paid back by the water division. The cost was covered by a surcharge on non-residential customers. The surcharge will expire when the dept is paid off.

The problems with contaminated groundwater were not over. In 1991 an area adjacent to the original superfund site was found to have contaminated wells, although at a lower level. A total of 243 homes were affected. These homeowners were also given an opportunity to hook up to city water.

Although no single source for the contamination has been found, a plume of contamination continues to exist under parts of southeast Rockford. Monitoring wells were drilled throughout the area to track the extent and level of contamination. It appears that the plume is spreading since the city and private wells that used to draw water from the area are now closed down. However, as it spreads it becomes more diluted. The monitoring wells will continue to be analyzed for many decades to come.

Water towers are used in many cities to provide storage and to help regulate water pressure. An elevated tube of water increases the pressure in the underground mains and helps regulate pressure over changes in elevation. Rockford's first elevated tank was installed off of Harrison Ave. in 1947. It had been moved from Camp Grant after World War II. A hydraulic study conducted by Stanley Consultants in 1979 recommended the installation of additional towers. The first of these, a 1.5 million gallon tank was built in 1985 off of West Riverside Blvd. Another one was planned for a site behind Guilford High School, but it was never built due to opposition from nearby residents. A second tower was built in 1992 on Wentworth Ave. near Harrison Ave. to replace the old 250,000-gallon tank.

Rockford straddles the Rock River valley. The river is the low point and the further away you go on either side, the higher the elevation. Although it is not that noticeable, there is an elevation change of as much as 200 feet at the east edge of the city. Since water runs down hill, the city had to find a way to equalize pressure in different parts of the city. The solution was to create different "zones" within the city that are isolated from each other by a series of valves. The east side was separated into two zones in the early 1970s. Recently, a second zone was created on the west side as well. In the future, a third zone is being planned for the east side. Each of these zones is essentially a separate water system with its own supply and demand. Special pumping stations have been set up to transfer water from one zone to another if needed.

Since the 1920s the production side of the water department had operated out of the Stanley St. pumping station. When the old Park Ave. facility burned down in 1953, a new building was built on the corner of Cedar and

Avon. It housed all of the water department employees except for the water plant operators who continued to work out of the old pumping station. By the 1980s the pumping station had outgrown its usefulness. Four of the original six group wells drilled in the 1920s were still in use, but the old coal fired boilers and steam powered pumps had been removed and replaced with electric pumps. In 1990 the water production offices were moved over to the Cedar St facility. The building was about 70 years old and no longer served its original function. The building is still there today and still houses the pumping equipment for the group wells, but there are no longer any employees working there.

At the same time the production control systems were updated with the installation of a Supervisory Control and Data Acquisition (S.C.A.D.A.) system. The system works by installing electronic monitors on key components at each well and reservoir site. An antenna at each site transmits the data by radio signal back to the control center at the Cedar St. location. An operator stationed at a computer terminal can monitor water pressure, reservoir levels, turn pumps on or off, and control many other systems and functions. The operator can detect an equipment failure and call out a repair crew to deal with the problem. This station is monitored 24 hours a day, 365 days a year.

During the early 1990s the city hall was closed for a massive facelift. The city staff moved to temporary quarters on Broadway. In February 1994, the project was complete and the city employees moved back to a completely renovated city hall. At the same time, some other changes were made. The administration, customer service and engineering staff were moved from their Cedar St. offices to city hall. At the same time, the billing and collection functions were transferred from the Water Division to the Finance Department. Earlier, the city had purchased the old J.I. Case plant and had converted it to a city yard where many of the field employees and their trucks and equipment were located. The employees who worked on the water mains, services and hydrants were moved to the city yards. The Water Division was now spread between three locations.

During the 1980s and 1990s the Water Division continued to add new wells as the city continued to expand. The population has grown slowly and the overall consumption has remained flat over the last twenty years due to loss of industry. But the city has grown geographically by a large extent during this time. New wells were needed to serve new areas of the city and to replace some of those that were shut down due to contamination.

The most recent well was drilled on Owen Center Rd. in the northwest section of the city. The well was completed in 2001. In 2004 a new water main was built along Meridian Rd. to service the Pierce Chemical plant and other customers along the way. This was paid for by a \$3,000,000 state grant. Over the last 15 years the water system has spent \$3,200,000 every year for capital improvements and replacements.

In 2002, Bob Nimmo retired after 33 years with the Water Division and 15 years as Superintendent. Mr. Nimmo had overseen many changes in the Water Division and had supervised the construction of several new wells and many other capital projects. After a nationwide search, Tim Holdeman was hired as the new Superintendent. Mr. Holdeman has a background as a management consultant in the water industry in Ohio.

Last year, as a result of changes in the way tests are done, some of our wells were found to have elevated levels of Radium that exceed the maximum level allowed. After studying the problem and possible solutions, the city has proposed a plan to deal with the problem while at the same time addressing some other problems that have plagued water customers for decades. These include high levels of iron and manganese in certain areas of the city and lack of adequate pressure in other areas. The plan, which would cost \$75,000,000 over three years, would necessitate a rate increase of 35% spread over three years. It is currently under consideration by the city council.