

# RAW WATER IMPROVEMENTS (RWI) PROJECT: Replacing **critical infrastructure** to ensure a safe supply of water for the future

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*Water Utility plant and grounds circa 1935*

# What is the Sheboygan Water Utility (SWU)?

- ✓ A public utility providing drinking water to Sheboygan since 1909
- ✓ Regulated by WI PSC, WI DNR, and US EPA
- ✓ Operates entirely on water revenues, not on tax monies or City general fund
- ✓ Governed by the Sheboygan Board of Water Commissioners
- ✓ Customers include all City residents, City of Sheboygan Falls, and Village of Kohler

# There are four steps involved in providing water.

- 1) Secure a source of raw or untreated water (Lake Michigan)
- 2) Pump the raw water through a water treatment process to make it safe (water treatment plant at 72 Park Ave)
- 3) Pump the treated water through a water distribution network to citizens (~207 miles of water mains, water towers, pressure booster stations)
- 4) Provide accurate metering, billing, and customer services



Water Utility plant and grounds 2020

# SWU uses two raw water pipelines in Lake Michigan

- ✓ A 30" cast iron pipeline installed in 1909 at a length of 5,100 feet and depth of 46 feet
- ✓ A 36" concrete pipeline installed in 1959 at a length of 2,100 feet and depth of 25 feet
- ✓ The 30" can produce 11 million gallons per day (MGD)
- ✓ The 36" can produce 24 MGD
- ✓ Pipelines in Lake Michigan have a normal working lifetime of 100 years
- ✓ SWU produces an average of 12 MGD

# The raw water pipelines deliver water to an underground structure known as a shore well.

- ✓ The shore well is a reservoir for pumps to deliver water to the water treatment plant
- ✓ The shore well dates to its original excavation in 1887
- ✓ Changes have been made over the years including structural evaluations
- ✓ Though serviceable, the shore well has exceeded its normal working lifetime.

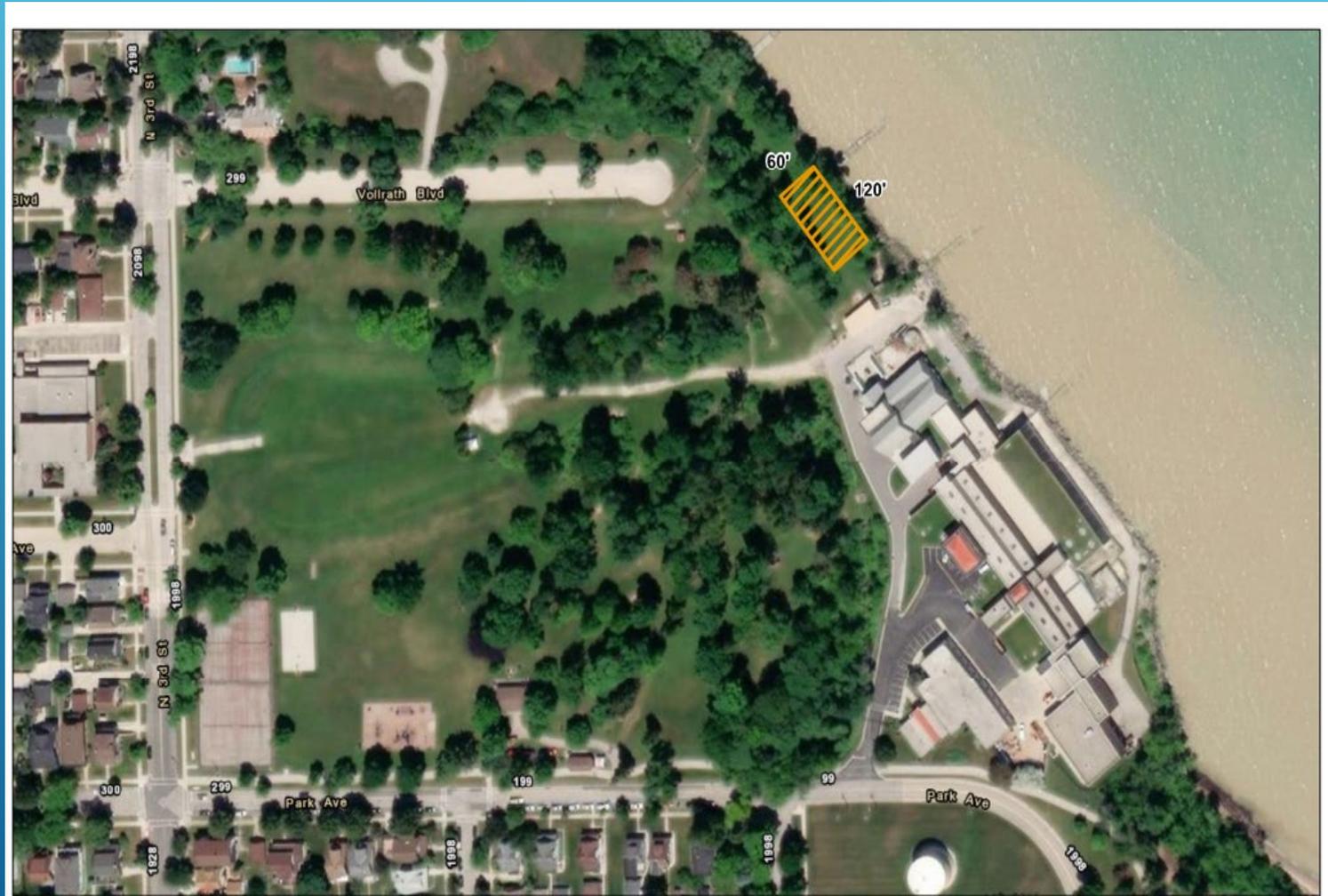
# So what are the problems?

- ✓ The 30" intake and the shore well have exceeded normal working lifetime.
- ✓ If the 36" intake fails, the 30" cannot meet average daily demand.
- ✓ Both intake pipelines are subject to winter icing.
- ✓ The 36" intake is a substandard distance off-shore.
- ✓ WDNR has noted the low lift pumps are at or below Lake levels.
- ✓ There are no neighboring water utilities large enough for backup.

# What should we do about these problems?

- ✓ In 2016 SWU completed a feasibility study focused on a new intake pipeline
- ✓ The study recommended installation of a new 54" intake pipeline
- ✓ The study also recommended construction of a new shore well
- ✓ The new shore well would include a new low lift pumping station
- ✓ These pieces of critical water infrastructure would be designed for 100 year lifetime

Anticipating the need for a future intake facility, SWU worked with the City to acquire an easement in 2004



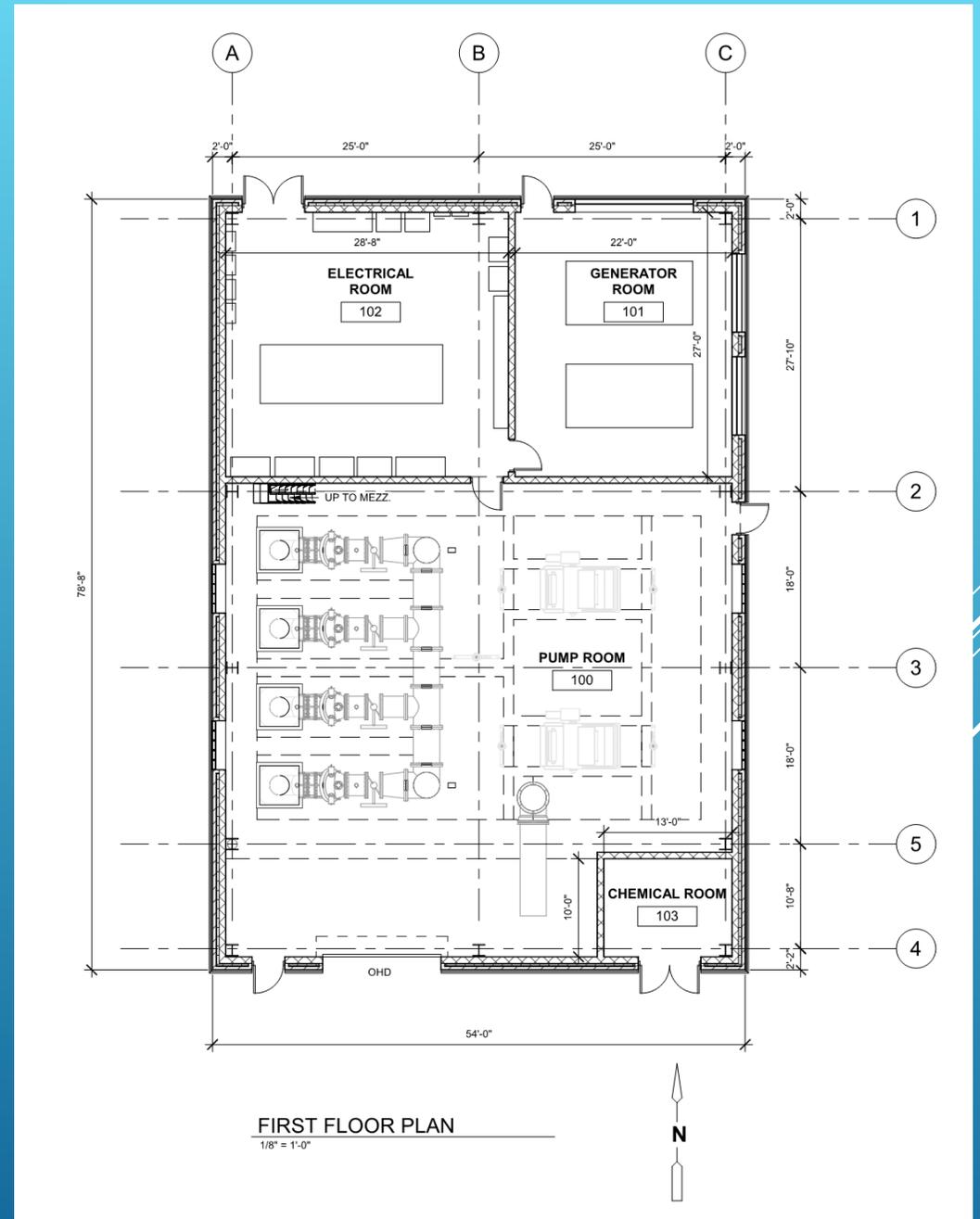
The new 54" intake pipeline would run out 6,000' with a possible emergency backup



The RWI building is a small (50'x80') masonry structure with architectural features inspired by the water treatment plant.



Within the building are the shore well, pumps, electrical equipment, and a chemical feed room.

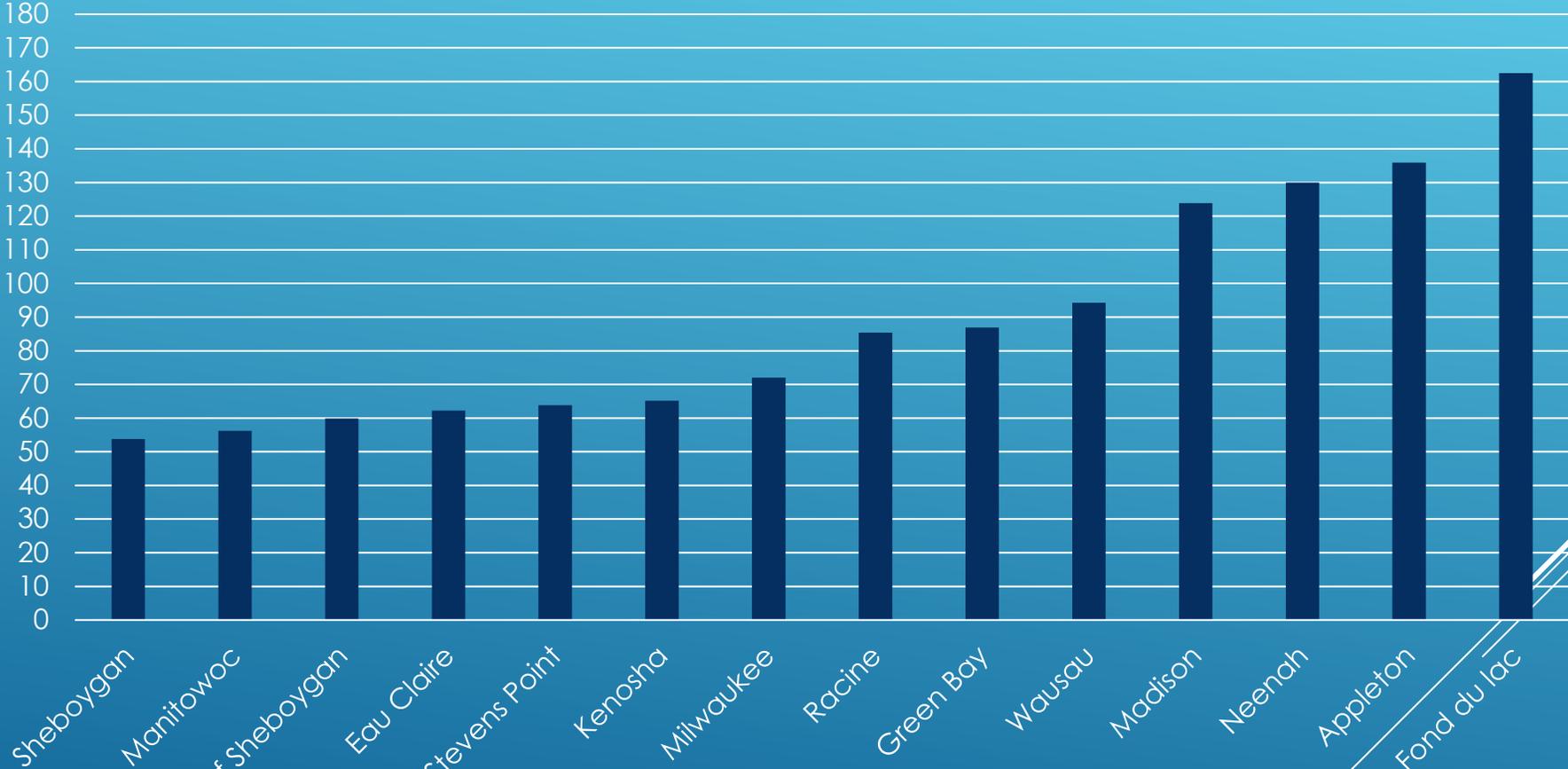


# What will RWI cost: how do we pay for it?

- ✓ Current estimate of construction cost is \$35M for this 100 year lifetime **critical infrastructure**
- ✓ SWU has been working with WI Public Finance Professionals on funding plans.
- ✓ Options include 30 year WI safe drinking water loan, 25 or 30 or 40 year private market water revenue bonds, and possible FEMA BRIC grants.
- ✓ The funding plan would have no impact on property taxes or City budget: all SWU debt is paid out of water revenues.
- ✓ New annual debt service (\$1.6M - \$2.0M) will require ongoing rate cases over the coming decade. Would need about 22% revenue increase to cover annual debt service.
- ✓ Sheboygan Board of Water Commissioners is committed to spreading rate increases over time as much as possible

# Current water rate comparison

Quarterly Water Bill (18,750 gallons)



■ Water Bill (\$)

# How do we know it's a good investment?

- ✓ SWU worked with AECOM to complete a 50 year water demand study and the results were incorporated to right-size the design at 36 MGD
- ✓ WI PSC must provide construction authorization for such a large project and will minimize any stranded assets as part of their review process. They provide additional objective oversight on public utility expenditures.
- ✓ There is no other water provider in the County.
- ✓ SWU will buy-local whenever possible, helping keep dollars in the local economy.
- ✓ Delays will only increase the costs and increase the possibility of catastrophic water supply failure.

# Where do we go from here?

- ✓ Final design is underway and scheduled for completion in June 2021
- ✓ During the spring 2021, SWU will submit to WI PSC for construction authorization
- ✓ Bidding would take place late in 2021
- ✓ With bid results, SWU would then seek Board and Council approval of final funding package
- ✓ Construction could begin as early as 2022 and will take two seasons