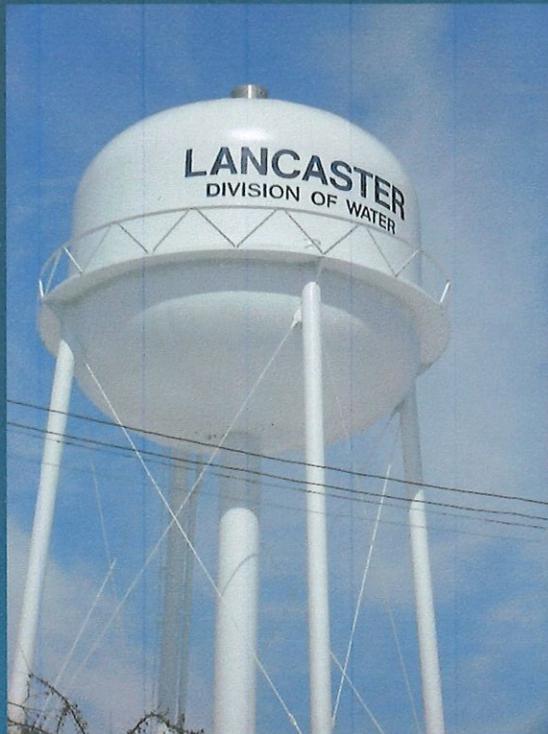


North Water Plant Replacement



Water Treatment for the 21st Century

April 12, 2021

Current Situation

Miller Park Water Treatment Plant

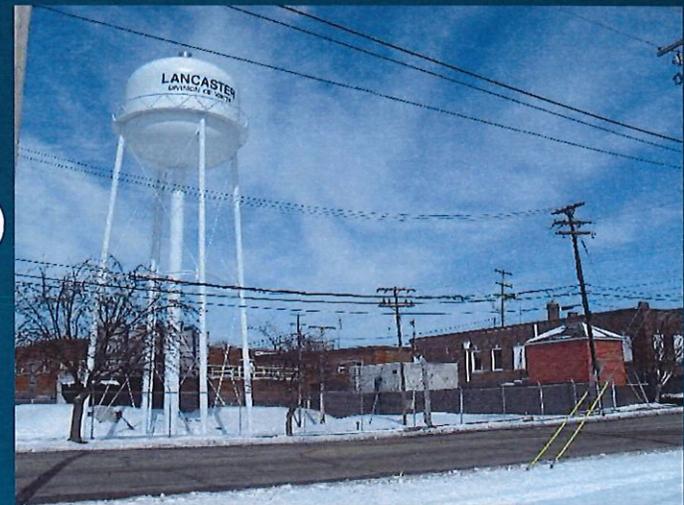
Built 1925

Expanded 1976

Current Production: 2.44 MGD (2019 Avg)

Wellfield Capacity: 9.3 MGD

Treatment: Aeration, Filtration, Zeolite Softening, Disinfection



Reasons to Expand

- Age and Increased Maintenance Costs
- Increased Water Demands in US 33 Service Area
- Changes in Water Quality Needs
- Future Treatment for Emerging Contaminants
- Interest Rates



Option 1

- Renovate Existing Plant

Pros

Existing Wellfield

Connection to Existing System

Wellhead Protection Area

Cons

Age

Maintenance of Operations

Treatment Options



Option 2

Expand the South Treatment Plant

Pros

Existing Wellfield
Room to Expand
Treatment Process

Cons

Less Protected Wellfield
Maintenance of Operations
Limited Connection of Distribution
System
Future Expansion Site



Option 3

Develop a New Wellfield and Treatment Plant

Pros

Moves Wellfield from City

Cons

Less Protected Wellfield

Limited Connection of Distribution System

Other Land Uses

Cost to Purchase and Develop Wellfield

Wastewater and CSO considerations

Development Time



Option 4

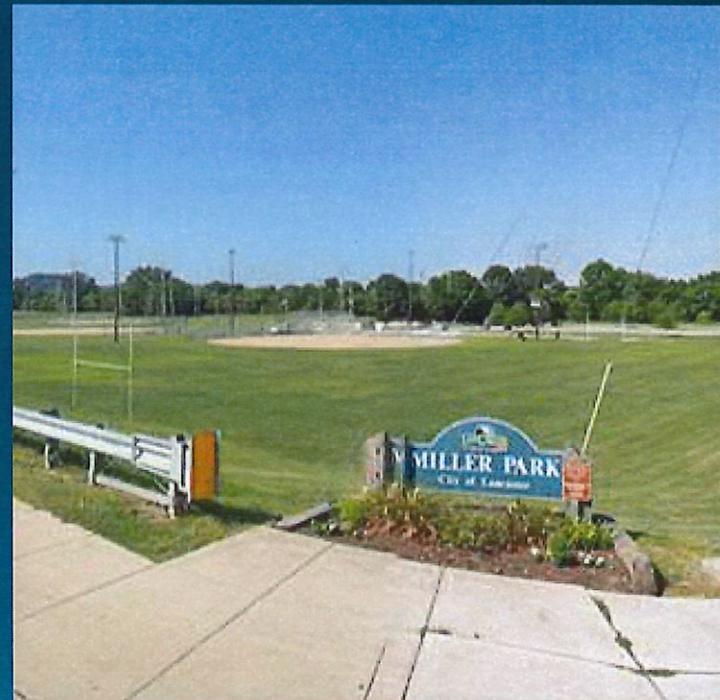
Construct New Treatment Plant at Miller Park

Pros

- Existing Wellfield and Wellhead Protection Area
- Connections to existing Distribution System
- Maintain Existing Plant Operations

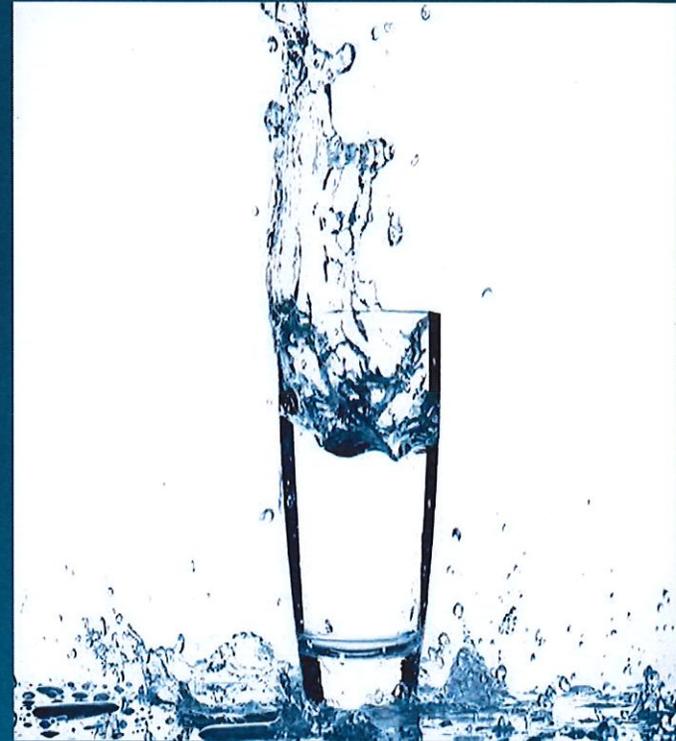
Cons

- Loss of Land for other uses
- Wellfield in Center of City



Treatment Technologies

- Aeration
- Filtration
- Softening
 - Ion Exchange
 - Lime Soda
 - Membrane Treatment
- Disinfection



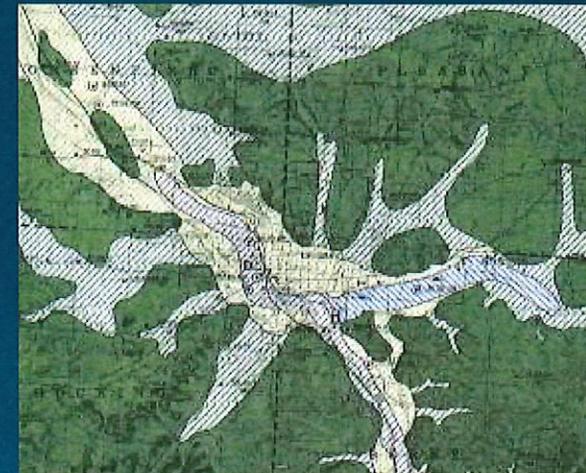
Selected Alternative

- Use Existing Wellfield
- Construct New Water Plant at North End of Miller Park
- Utilize Membrane Filtration for Improved Water Quality



Reasons for Selection

- Existing Wellfield
- No land acquisition
- Connect to existing distribution system
- Existing Wellhead Protection Area
- Redundant Water Production from 2 Plants
- Discharge of Concentrate Waste
- Improved Water Quality
- Standardize Operations where possible

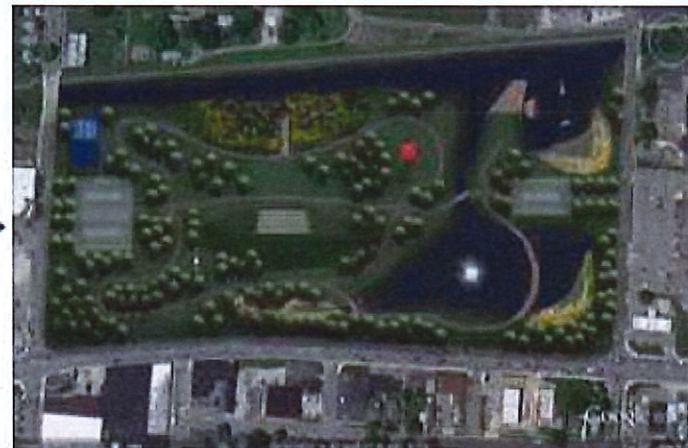


Impacts on Miller Park

- Coordination with Lancaster Park and Recreation
- Parks planned to move athletic fields and create passive recreation area
- Master Plan for Miller Park after North Plant Footprint determined (Summer of 2021)



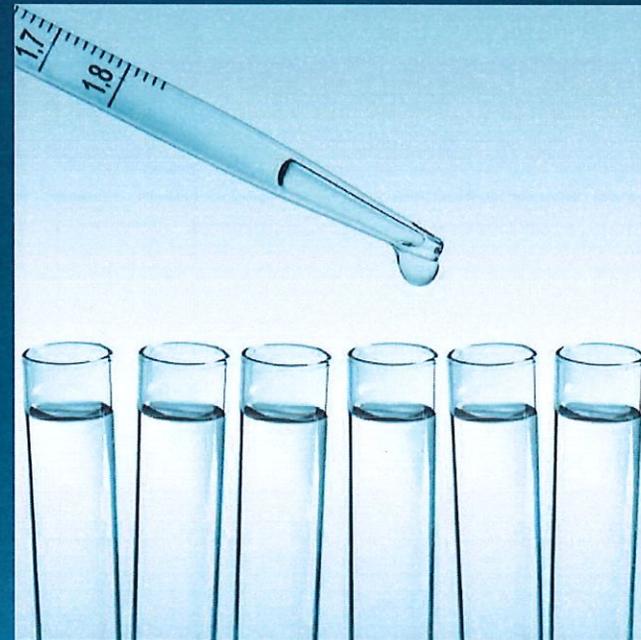
Miller Park (Before)



Miller Park (After)

Treatment Technology

- 21st Century Treatment Technology
- Prepare to address emerging contaminants
- Reducing Dissolved Solids and Sodium in finished water



Cost

- Initial Study Project Cost \$40 Million
- Bond Anticipation Notes-Study
- OWDA Loans-Design (\$2.5 Million) and Construction \$35 Million
- OWDA Interest Rate Current 0.6%

Effect on Rates

- South Water Plant Debt-Retired in 2022
- Operation Costs-Membrane Filtration Less to Operate
- New Loan Payment Starts 2026
- Bond Retirement-Bonds Retire in 2029
- Interest Rates-Current Low Rates
- Increased Industrial Customers in US 33 Service Area
- Expected User Charge Changes-Too soon to Predict



Comments

- Send Comments by **April 30, 2021**
- Send to Steven Wellstead
- 121 E. Chestnut St Suite 100
- Lancaster Ohio 43130
- swellstead@ci.lancaster.oh.us

Questions

