



# Roslyn Water District

Bond Request Presentation

January 2021

# Presentation

- Overview of the RWD
- Emerging Contaminant & New State Regulations
- Advanced Oxidation Process Projects
- Project Breakdowns
- Cost Breakdown
- Questions

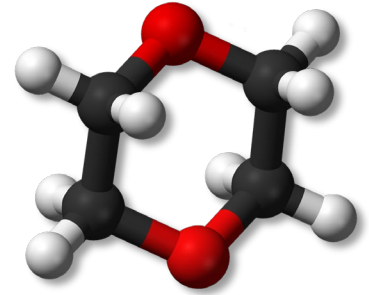
# Overview of the Roslyn Water District

- The Roslyn Water District serves all of the Villages of Roslyn, Roslyn Estates, East Hills, & portions of Roslyn Heights, Roslyn Harbor, Flower Hill, North Hills, Greenvale, Albertson, Glenwood Landing and Port Washington.
- We serve over 5,780 residential and commercial customers in our 5.1 square mile service territory.
- Each year, the District pumps and treats approximately 1.2 billion gallons of water to its customers through 8 water supply wells, three storage tanks, three booster pumping stations and approximately 93 miles of water mains.

# Emerging Contaminant Regulations Overview

- On August 26, 2020, the New York State Health Department finalized regulations establishing Maximum Contaminant Levels (MCL) for the emerging compounds 1,4-dioxane, PFOA and PFOS.
- MCL for 1,4-dioxane = 1 part per billion
  - A part per billion is the equivalent to approximately 1 second in 32 years
- MCL for PFOA & PFOS = 10 parts per trillion
  - A part per trillion is the equivalent to approximately 1 second in 32,000 years
- To ensure our community's drinking water continues to meet or surpass all established drinking water standards, millions of dollars of investment into new treatment facilities is required at some well sites.

# More About the Emerging Contaminants



- **What is 1,4-dioxane?**

- 1,4-dioxane is a synthetic industrial chemical that is miscible in water.
- It has been used as a stabilizer in chlorinated solvents.
- It is a by-product present in dyes, greases, paint strippers, antifreeze and in some consumer products such as deodorants, shampoos, and cosmetics.
- To date, no RWD well has had a detection over the NYSDOH maximum contaminant level of 1 part per billion, but we do have some that are approaching the limit.

- **What are PFOA and PFOS?**

- PFOA is perflourooctanoic acid and PFOS is perflourooctanesulfonic acid.
- These are manmade chemicals that have entered the water supply due to decades of use in industrial manufacturing and household goods.
- To date, no RWD well has had detections above the EPA's lifetime health advisory level of 70 parts per trillion.
- However, we have seen low levels detection from wells throughout the district.

# Treating for Emerging Contaminants

## Advanced Oxidation Process (AOP)

- The Advanced Oxidation Process (AOP) is the only approved method to successfully remove 1,4-dioxane from drinking water.
- Before distribution to residents, the treatment system mixes the raw groundwater with a low level of an oxidant, most commonly hydrogen peroxide, which is then run through an ultra-violet light reactor to destroy the 1,4-dioxane molecules.
- AOP treatment also requires the installation of Granular Activated Carbon (GAC) adsorption, which ensures there are no detections of remaining oxidant in the water as well as many other volatile organic compounds.
  - GAC treatment is also the effective treatment method for the removal of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).
- Both treatment systems are needed to ensure our District is never out of compliance with these new regulations and continues to provide a reliable and adequate water supply for generations to come.

# Planned Capital Improvement Projects

- The Roslyn Water District has identified seven capital improvement projects:
  - Wellhead treatment (AOP) at Plant No. 4
  - Wellhead treatment (GAC) at Plant No. 5
  - Wellhead treatment (AOP) at Plant No. 8
  - 300k generator at Plant No. 3
  - Fuel oil tank replacement at Plant No. 1
  - Fuel oil tank replacement at Plant No. 5
  - Fuel oil tank replacement at Plant No. 6

# Plant 4 Site Rendering





# Project Breakdown: Plant No. 4

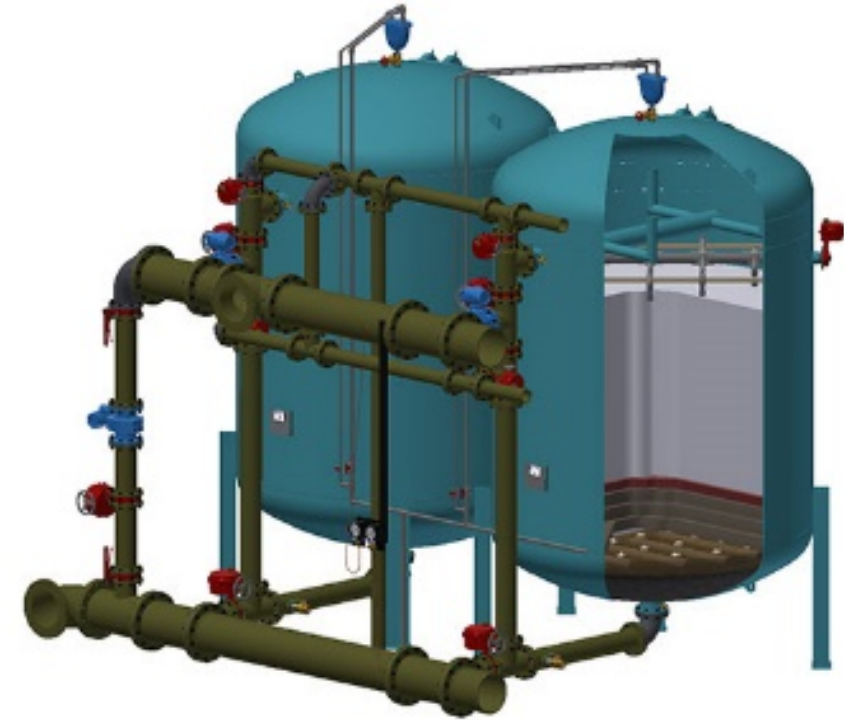
Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) AOP Treatment Equipment and Installation (Including Peroxide System)
3) GAC Treatment System
4) Site Work
5) Drainage Work
6) Interior Piping and Accessories
7) New Masonry AOP/GAC Treatment Building
8) Relocation of Gas Service
9) HVAC and Plumbing for New Treatment Building
10) New MCC
11) Instrumentation, Control & Integration
12) Electrical Work (Power, Controls, and Lighting) for New AOP Building
13) New 250 kW Generator
14) Cash Allowances

# Project Breakdown: Plant No. 4 (continued)

Item
Engineering Design, Permitting, Construction, and Startup Services
Legal
Contingencies
<b>Estimated Project Cost (Rounded): \$8,148,480</b>

# Project Breakdown: Plant No. 5

Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) Testing and Contingency Allowances
3) Granular Activated Carbon Vessels
4) Granular Activated Carbon
5) Site Piping Modifications and New Site Valves
6) New GAC/Chemical Treatment Building and Foundation, Masonry Construction
7) Mechanical HVAC and Plumbing for New GAC Building
8) Site Work- Drainage, Curbs, Sidewalks, Paving, Seeding, etc.
9) Mechanical Piping, Valves, and Accessories
10) Relocation of Chemical Injection Systems
11) Instrumentation, Controls & Integration, and Building Monitoring
12) New Chemical Analyzers
13) Electrical Site Work
14) Electrical Work in New GAC Building



GAC Treatment Rendering

# Project Breakdown: Plant No. 5 (continued)

Item
15) Demolition of Existing Caustic Tank
16) Demolition of Existing Chemical Feed Systems
17) New Caustic Tank and Chemical Feed System
18) New CL2 Chemical Feed Systems
Engineering, Permits, Design & Construction Administration, and Inspection
Legal
Contingencies
Estimated Project Cost (Rounded): \$4,974,500

# Proposed Plant 8 Building – North Elevation



# Project Breakdown: Plant No. 8

Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) AOP Treatment Equipment and Installation (Including Peroxide System)
3) Site Work (Including Retaining Wall and new driveway)
4) Interior Piping
5) New Masonry AOP Treatment Building
6) HVAC and Plumbing for New Treatment Building
7) Exterior Piping
8) Instrumentation, Control & Integration
9) Electrical Work (Power, Controls, and Lighting) for New AOP Treatment Building
10) Electrical Service Work
Engineering Design, Construction and Startup Services
Legal
Contingencies
<b>Estimated Project Cost (Rounded): \$3,816,200</b>

# Project Breakdown: Plant No. 1

Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) Site Demolitions
3) Remove & Dispose of 3,000 Gallon Buried Fuel Tank
4) Remove & Dispose of Remaining Fuel (1000 Gallons)
5) Remove & Dispose of Remaining Fuel Sludge (4 Drums)
6) Soil Removals (10 Cubic Yards)
7) Clean Fill (10 Cubic Yards)
8) Restoration of Removals
9) Well House No. 1 Building Modifications for New Fuel Tank
10) New 1,000 Gallon Double Wall Fuel Tank at Well House No. 1
11) New Well House No. 1 Fuel Tank Plumbing
12) (2) New 375 Gallon Double Wall Fuel Tanks at Admin. Building/Garage
13) New Admin. Building/Garage Fuel Tank Plumbing Work & Monitoring Equipment
14) (2) New 275 Gallon Double Wall Fuel Tanks at the New Garage
15) New Garage Fuel Tank Plumbing Work and Monitoring Equipment

# Project Breakdown: Plant No. 1 (continued)

Item
Engineering, Permits, Design & Construction Administration, and Inspection
Legal
Contingencies
<b>Estimated Project Cost (Rounded): \$325,389</b>



# Project Breakdown: Plant No. 5 (Fuel Oil Tank)

Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) Site Demolitions
3) Remove & Dispose of 1,000 Gallon Buried Fuel Tank
4) Remove & Dispose of Remaining Fuel (300 Gallons)
5) Remove & Dispose of Remaining Fuel Sludge (2 Drums)
6) Soil Removals (10 Cubic Yards)
7) Clean Fill (10 Cubic Yards)
8) Restoration of Removals
9) New Site Work
10) New 1,000 Gallon Double Wall Fuel Tank
11) New Fuel Tank Plumbing and Monitoring Equipment
Engineering Design, Construction and Startup Services
Legal
Contingencies
<b>Estimated Project Cost (Rounded): \$198,708</b>



# Project Breakdown: Plant No. 6

Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) Site Demolitions
3) Remove & Dispose of 1,000 Gallon Buried Fuel Tank
4) Remove & Dispose of Remaining Fuel (300 Gallons)
5) Remove & Dispose of Remaining Fuel Sludge (2 Drums)
6) Soil Removals (10 Cubic Yards)
7) Clean Fill (10 Cubic Yards)
8) Restoration of Removals
9) New 1,000 Gallon Double Wall Fuel Tank
10) New Fuel Tank Plumbing and Monitoring Equipment
Engineering Design, Construction and Startup Services
Legal
Contingencies
<b>Estimated Project Cost (Rounded): \$149,700</b>

# Project Breakdown: Plant No. 3

Item
1) Mobilization/Demobilization, Supervision, Bonds & Insurances
2) New 300 kW Natural Gas Generator
3) Rigging
4) Concrete Foundation
5) Electrical Work
6) Automatic Transfer Switch
7) SCADA Integrations
8) New Gas Service
9) Cash Allowances
Engineering Design, Construction and Startup Services
Legal
Contingencies
Estimated Project Cost (Rounded): \$655,750

# Potential Need for Future Projects

- The District is constantly evaluating projects that may need to be undertaken.
- As water quality changes, and as new contaminants are detected, the needs of the District may also change.
- As such, the District may need to reprioritize capital projects and allocate funding accordingly.
- The bond request addresses this potential need.

# Project Breakdown: Additional Improvements

Item
1) AOP Treatment at Plant Nos, 1, 2, 3, 5, 6, or 7
2) VOC Treatment at Plant Nos. 2, 3, 6, or 7
3) PFAS Treatment at Plant Nos. 2, 3, 6, or 7
4) Nitrate Treatment at Plant Nos. 1, 2, 4, or 8
5) Water Main & Distribution System Upgrades
Engineering Design, Permitting, Construction, Startup, and Legal Services
Contingencies
<b>Estimate Project Cost (Rounded): \$15,000,000</b>

# Project Breakdown: Preliminary Summary

Recommended Improvements	Cost
AOP Treatment and Well Improvements- Plant No. 4	\$8,148,480
GAC Treatment for PFAS- Plant No. 5	\$4,974,500
AOP Treatment and Well Improvements- Plant No. 8	\$3,816,200
Fuel Oil Tank Replacement- Plant No. 1	\$325,389
Fuel Oil Tank Replacement- Plant No. 5	\$198,708
Fuel Oil Tank Replacement- Plant No. 6	\$149,700
New Generator- Plant No. 3	\$655,750
Additional Related Capital Improvements (Projects from Previous Slide)	\$15,000,000
<b>Total Capital Cost: \$33,268,727</b>	

# Exploring Additional Funding Sources

- Clearly, our residents should NOT have to bear the entire financial burden for this treatment as they are not the ones responsible for the contamination.
- We have filed lawsuits to hold those responsible for the presence of emerging contaminants in our water supply financially accountable.
- The District is also the likely recipient of a nearly \$4.5 million grant funding from New York State.

## *Our Situation is Not Unique*

- Estimated \$840 million investment needed across LI to fight emerging contaminants.
- 27 water suppliers on LI are in active litigation against the polluters.

# Cost Impact to Residents

HOME VALUE	ASSESSED VALUE	MAXIMUM ANNUAL COST*
\$400,000.00	\$400.00	\$125.98
\$500,000.00	\$500.00	\$157.48
\$600,000.00	\$600.00	\$188.97
\$700,000.00	\$700.00	\$220.47
\$800,000.00	\$800.00	\$251.96
\$900,000.00	\$900.00	\$283.46
\$1,000,000.00	\$1,000.00	\$314.95
\$1,500,000.00	\$1,500.00	\$472.43
\$2,000,000.00	\$2,000.00	\$629.90

- \*These cost estimates assume a worst case scenario, meaning this is the most residents will pay should the District be unsuccessful in its litigation against the polluters and no grant funding is awarded.
- Any grant money awarded or awards from successful litigation will be used to reduce that amount of borrowing against the bond.





# Thank You!

We look forward to answering your questions!