

# LUDLOW PARK RESIDENTS ASSOCIATION MEETING

YONKERS JOINT WRRF  
THURSDAY SEPTEMBER 10, 2020

A presentation by the Department of  
Environmental Facilities

Vincent Kopicki, P. E. Commissioner

# Yonkers Joint O&M Management Team

## General Plant Number

➤ 231-2845

Nat J. Federici, P. E.

- Deputy  
Commissioner
- 813-5412

Jagdish Mistry P. E.

- Director,  
Wastewater  
Treatment
- 813-5437

Jeff Bryant

- Plant Superintendent
- 231-2847

Erwin Vazquez

- Supervisor, Maintenance
- 231- 2850

Thomas Niciu

- Supervisor, Plant Operations
- 231-2852

# Yonkers Joint WRRF



# Yonkers Joint WRRF

- The Yonkers Joint Water Resource Recovery Facility was originally constructed in 1931 with primary treatment upgrades in 1961 and secondary treatment upgrades in 1979.
- Originally designed to treat an average daily flow of 93 million gallons a day (MGD), has a hydraulic capacity of 330 MGD, and is permitted by the New York State Department of Environmental Conservation to treat up to 120 MGD based on a 12 month rolling average.

# Odor Remediation Project (SY009)

## Phase I, \$9.6 Million

- Screen and Grit Building HVAC and Odor Control, including Ludlow Street Pump Station Odor Control.
  - *Operational and Completed*

## Phase II, \$9.8 Million

- HVAC System upgrades to Blower and Administration Building, including new boilers.
  - *Operational and Completed*

# Odor Remediation Project (SY009)

## Phase III, \$7.3 Million

- Odor control for Primary Access Bldg & South Pumping Station, HVAC systems in several other buildings.
  - *Construction Substantially Complete; Start-up Operations are On-going and anticipated completion by end of 2020*

# Odor Remediation Project (SY009)

## Phase IV, Estimated at \$11.5M

- Secondary Sludge Thickening Bldg. & HVAC upgrades
  - *Design Anticipated to be Completed by the end of 2020*
  - *Construction Anticipated to begin the Second Quarter of 2021*
- Recommendations from Phase V Odor Study to be incorporated in Final Design
  - *Project Scheduled to start in 2021*
  - *24 months from project start to project closeout*

# Odor Remediation Project (SY009)

## Phase V, now to be included as Phase IV

- **Odor study is complete**
- Scope of work to include:
  - Replace blowers & nozzles; re-coat Prim. Thick. scrubbers exterior 2-4
  - Install registers in Sludge Loading Bay supply ducts & balance airflow
  - Install automated wash-down stations
  - Replace Primary Settling Tank Scrubbers A, B, & C
  - Sludge Loading Bay Improvements

# Other Construction Projects

## Sludge Thickening Upgrade

- Existing DAF Thickeners to be replaced with new Gravity Belt Thickeners
  - *~ 95% complete*
  - *Anticipated completion: End of 2020*

## Grit System Upgrade

- Grit removal system refurbishment w/added redundancy
- Currently in construction, ~ 60% complete
  - *Anticipated completion: July 2021*

# Other Construction Projects

## Engine Replacement Project

- Phase II and III - Replace engine driven blowers with Turbo Blowers, highly energy efficient
  - *Anticipated completion is March 2021 Delayed due to COVID; (Construction stopped for 4 months)*
- Phase IV (final phase)
  - *Replacement of two existing engines with Anaerobic Digester Gas (ADG) Engine – (ADG and/or Nat. Gas)*
  - *Anticipated Design Completion March 2021 (@ ~85%)*
  - *Anticipated Construction start June 2021*

# Other Construction Projects

## Sluice Gate Project

- Sluice gates replacement in Secondary System
  - *Design completion @ 95%*
  - *Anticipated Construction start: 2021*

## Secondary Treatment Area Upgrades

- Various small systems refurbishment in secondary area
  - *Design 60% complete.*

# Other Construction Projects

## Vulnerability Work

- Design improvements for storm resiliency
- Protect WRRF for FEMA 500-year flood storm event
  - *Study completed*
  - *Design RFP preparation completed*

## Future Projects

- Plant wide electrical and lighting upgrades
  - *Study completed*

# Annual Performance Report

## YONKERS JOINT WASTEWATER TREATMENT PLANT ANNUAL PERFORMANCE REPORT

MONTH	FLOW THROUGH	Suspended Solids			Biochemical Oxygen Demand			SLUDGE CAKE REMOVED			SEWAGE	
	PLANT (mgd)	Inf Mg/L	Eff Mg/L	PLANT % Rem	Inf Mg/L	Eff Mg/L	PLANT % Rem	WET M-TONS	PERCENT SOLIDS	DRY M-TONS	SCREENINGS LBS	GRIT CU.YDS.
Sep-19	57	162	14	91	144	9	94	2,363	23.1	545	2,583	80
Oct-19	71	154	13	92	137	9	93	3,840	23.5	902	2,370	100
Nov-19	72	134	7	95	127	6	95	3,491	24.4	853	2,000	60
Dec-19	98	106	8	92	92	9	90	3,213	22.3	715	1,677	60
Jan-20	81	144	8	94	149	7	95	3,273	23.8	779	1,630	20
Feb-20	80	128	10	92	161	11	93	2,335	24.1	563	2,000	40
Mar-20	77	126	9	93	130	9	93	2,302	24.5	564	2,000	40
Apr-20	84	122	5	96	104	5	95	2,163	25.8	558	2,000	140
May-20	79	131	4	97	115	4	97	2,533	26.1	660	2,000	120
Jun-20	64	158	5	97	133	5	96	2,372	25.4	603	2,000	60
Jul-20	65	157	6	96	136	6	96	2,541	25.3	642	2,000	60
Aug-20	62	152	6	96	133	6	95	2,702	25	675	2,000	80
<b>Avg.</b>	<b>74</b>	<b>140</b>	<b>8</b>	<b>94</b>	<b>130</b>	<b>7</b>	<b>94</b>	<b>2,761</b>	<b>24.3</b>	<b>672</b>	<b>2,017</b>	<b>72</b>
<b>Max</b>	<b>98</b>	<b>162</b>	<b>14</b>	<b>97</b>	<b>161</b>	<b>11</b>	<b>97</b>	<b>3840</b>	<b>26.1</b>	<b>902</b>	<b>2583</b>	<b>140</b>
<b>Total</b>	<b>890</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>33,128</b>	<b>N/A</b>	<b>8,059</b>	<b>24,260</b>	<b>860</b>

# Ludlow Park Residents Association Meeting

## September 10, 2020

Month	Total No. of Complaints	No. of Days per Month	Correlated w/ Plant Activity & Wind Direction
Sept. 2019	26	11	20
Oct. 2019	15	8	14
Nov 2019	3	3	2
Dec. 2019	1	1	1
Jan. 2020	0	0	0
Feb.2020	3	3	3
Mar. 2020	2	2	0
Apr. 2020	1	1	1
May 2020	11	6	9
Jun 2020	12	8	3
Jul. 2020	7	7	4
Aug. 2020	17	12	15
<b>Totals</b>	<b>98</b>	<b>62</b>	<b>68</b>

# Questions?



# Yonkers Odor Control Improvements

Yonkers Joint Water Resource Recovery Facility

Chris Korzenko, P.E., PMP

William Nylic, P.E., PMP

*September 10, 2020*



**CDM  
Smith**

# Introductions

## CDM Smith Presenters

- Christopher Korzenko, P.E., PMP – Project Director
- William Nylic, P.E., PMP – Project Manager

## Company Background

- Established in 1947
- More than 5,000 employees worldwide
- Services include consulting, engineering, construction, and operations
- Solutions in water, environment, transportation, energy, and facilities
- Experienced in the design and evaluation of odor control systems
  - Odor Source Surveys/Emissions Modeling/Dispersion Modeling
  - Technology Assessments
  - Process Cover Design/Odor Control Design
  - Construction Services

# Odor Control Study

## Goal

- Identify sources of odors and develop recommendations to reduce offsite impacts

## Areas of Focus

- Odors associated with taking tanks out of service
- Performance of Existing Odor Control Equipment
- Aeration Tank Odor Control
- Digester Gas Flare Operation
- Dewatered Sludge Loading Bay

# Odor Control Study - Status

- Odor Control Study is Complete
  - Provided to the County Executives Office for dissemination
- Recommendations being Implemented in HVAC Phase IV
  - Primary Thickener Scrubbers 2, 3, and 4 - Replace nozzles and blowers. Recoat exterior
  - Install registers in Sludge Loading Bay Supply Ducts and balance airflow
  - Install automated washdown stations
  - Replace Primary Settling Tank Scrubbers A, B, and C
  - Sludge Loading Bay Improvements
- Schedule
  - 24 months from Project Initiation to Project Closeout

# Primary Thickener Scrubbers 2, 3, and 4

- Mist scrubbers that treat emissions from the:
  - Primary Thickening Building
  - Overflow Tanks
  - Sludge storage Tanks



(Primary Thickener Scrubber 3)

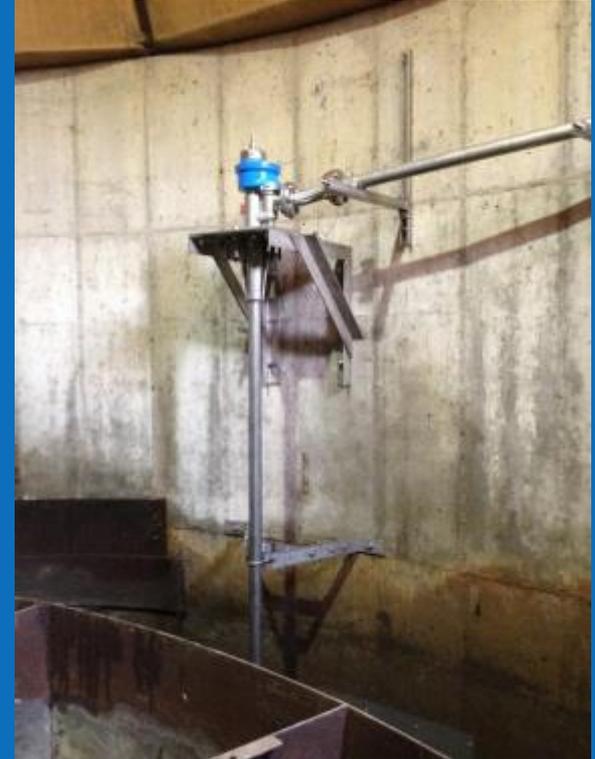
# Primary Thickener Scrubbers 2, 3, and 4

- Incorporated Improvements
  - Replace nozzles inside scrubbers
  - Replace Blowers which force air through
  - Recoat exterior to protect from UV degradation



# Reduce Odors from Out of Service Tanks

- During Maintenance activities tanks can be taken out of service
- Odors can be generated from collected debris on tank walls and bottom
- Automated washdown stations will spray tank walls and bottom
- Accomplished with covers still closed to contain odors



# Replace Primary Settling Tank Scrubbers

- Scrubbers A, B, and C treat air from the Primary Settling Tanks
- Outdated technology – End of useful life
- Replaced with more efficient Single/Dual Stage scrubbers



# Sludge Loading Bay Improvements

- Increased airflow
- New scale and slab/pipe gallery for determining sludge weights
- Added air registers to optimize circulation



Questions?