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# LUDLOW PARK RESIDENTS ASSOCIATION MEETING

## YONKERS JOINT WRRF MARCH 2022

A presentation by the Department of  
Environmental Facilities

Vincent Kopicki, P. E. Commissioner

# Meeting Agenda

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- Introduction
- Completed & Current Odor Remediation Projects
- Future/Planned Capital Improvement Projects
- Yonkers-Joint Annual Performance
- Odor Control Operational Strategies
- Odor Complaint Data
- Proposed Environmental Intelligence Software
- Questions

# Yonkers Joint O&M Management Team

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## Nat J. Federici, P. E.

- Deputy Commissioner
  - 813-5412

## Steve Elie-Pierre P. E.

- Director, Wastewater Treatment
  - 813-5437

## John Lennon

- Plant Superintendent
  - 231-2847

## Erwin Vazquez

- Supervisor, Maintenance
  - 231- 2850

## Thomas Niciu

- Supervisor, Plant Operations
  - 231-2845

# Yonkers Joint WRRF



# Yonkers-Joint WRRF Odor Remediation Projects (SY009)

Phase	Project Scope	Cost	Project Status
I	<ul style="list-style-type: none"> <li>- Screen &amp; Grit Building HVAC &amp; Odor Control</li> <li>- Ludlow Street Pump Station Odor Control</li> </ul>	\$ 9.6 M	Completed & Operational
II	<ul style="list-style-type: none"> <li>- HVAC System Upgrades to Blower &amp; Administration Building</li> <li>- New Boilers</li> </ul>	\$ 9.8 M	Completed & Operational
III	<ul style="list-style-type: none"> <li>- Odor Control for Primary Access Building &amp; South Pumping Station</li> <li>- HVAC Systems Upgrade in several other buildings</li> </ul>	\$ 7.3 M	Construction Complete & Operational; Final Permitting & Punch List Inspection to be Completed by End of April
IV	<ul style="list-style-type: none"> <li>- Secondary Sludge Thickener Building &amp; HVAC Upgrades</li> </ul>	\$11.5 M	Project Split into Two Phases IVA & IVB, See Next Slide

# Yonkers-Joint WRRF

## Odor Remediation Projects (SY009) *(cont.)*

Phase	Project Scope	Cost	Project Status
IVA <i>(expanded from original Phase V report)</i>	<ul style="list-style-type: none"> <li>- Sludge Loading Bay Improvements               <ul style="list-style-type: none"> <li>- Increase airflow &amp; install duct registers</li> <li>- New Scale and slab/pipe gallery</li> <li>- Interlock to keep doors closed during operations</li> </ul> </li> <li>- Replace Primary Settling Tank Scrubbers A, B, and C               <ul style="list-style-type: none"> <li>- Replace existing blowers to increase efficiency</li> <li>- Replace chemical systems to increase removal</li> <li>- In-line blowers to preserve negative duct pressure</li> <li>- Real Time/Continuous Odor Monitoring System</li> </ul> </li> </ul>	Included in the \$11.5M	Design Complete, Construction Start 2nd Quarter 2022; Construction Duration 24 months
IVB <i>(newly expanded, as a result of recent investigations)</i>	<ul style="list-style-type: none"> <li>- Installation of 3/8" Secondary Screens to address frequent tank outages</li> <li>- Modification to odor control ductwork at the Blower &amp; Administration Building</li> <li>- Ducting to increase airflow during tank maintenance</li> <li>- New Turbo Blowers for improved process control</li> <li>- Flare Replacement</li> </ul>	TBD	Anticipated Design Completion 4 <sup>th</sup> Quarter 2022; Construction Start 1st Quarter 2023; Construction Duration 24 months



# Yonkers-Joint WRRF

## Other Capital Construction Projects

Project Scope	Project Status
<ul style="list-style-type: none"> <li>- Sludge Thickening Upgrade               <ul style="list-style-type: none"> <li>- DAF Thickeners replaced with Gravity Belt Thickeners</li> </ul> </li> </ul>	Anticipated Completion by April 2022
<ul style="list-style-type: none"> <li>- Grit System Upgrade               <ul style="list-style-type: none"> <li>- Grit Removal System Refurbishment w/added redundancy</li> </ul> </li> </ul>	Construction Substantially complete. Punch list remaining to be done.
<ul style="list-style-type: none"> <li>- Engine Replacement Project               <ul style="list-style-type: none"> <li>- Replace 2 Existing Engines (to run on ADG and/or Natural Gas)</li> </ul> </li> </ul>	Procure Engines 2 <sup>nd</sup> Quarter 2022, Construction Start 1 <sup>st</sup> Quarter 2023
<ul style="list-style-type: none"> <li>- Sluice Gate Project               <ul style="list-style-type: none"> <li>- Replace Sluice Gates in Secondary System</li> </ul> </li> </ul>	Construction Contract Awarded in March 2022
<ul style="list-style-type: none"> <li>- Secondary Treatment Upgrades               <ul style="list-style-type: none"> <li>- Systems Refurbishment in Secondary Treatment Area</li> </ul> </li> </ul>	Design 100% Bid 2 <sup>nd</sup> Quarter 2022
<ul style="list-style-type: none"> <li>- Vulnerability Work ~ Infrastructure Hardening               <ul style="list-style-type: none"> <li>- Storm Resiliency Improvements (FEMA 500-yr storm)</li> </ul> </li> </ul>	Design RFP response due Mid-April 2022
<ul style="list-style-type: none"> <li>- Future Projects               <ul style="list-style-type: none"> <li>- Plant-wide Electrical &amp; Lighting Upgrades</li> </ul> </li> </ul>	Design Awarded January 2022 <sup>8</sup>

# Focused Odor Control Operational Strategies

## ➤ Operational/Plant Staff Implemented Odor Remediation Actions

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### ➤ Best management practices implemented:

- Includes removing sludge/floatables/residuals from the tanks prior to removing covers.
- Maintaining minimum water levels in out-of-service aeration tanks (2'-4') and keeping minimum aeration to keep water fresh.
- Coordinating and scheduling tank draining and cleanout activities when meteorological conditions are more favorable to not perceiving odors off-site.
- Added Screens to the 2<sup>o</sup> Influent Channel Grease Pits ~ *Removes 5-10 yds/day*
  - *Since instituted about 10 months ago, only took down 1 tank once, as opposed to multiple tanks monthly!*
- Every new employee is trained in odor control awareness, existing given toolbox talk reminders.
- For the past 6 months, plant has been running all 3 Grit Removal Channels.
- Added 20 yd. container for screenings located indoors, replacing smaller containers staged outside.
- Optimized the  $\text{KMnO}_4$  system ~ 8 months ago = Less odors from solids processing
- Continuously improving plant operations and housekeeping, which improve odor conditions.

# Annual Performance Report

## Yonkers Joint WWTP Performance Report (April 2021 - March 2022)

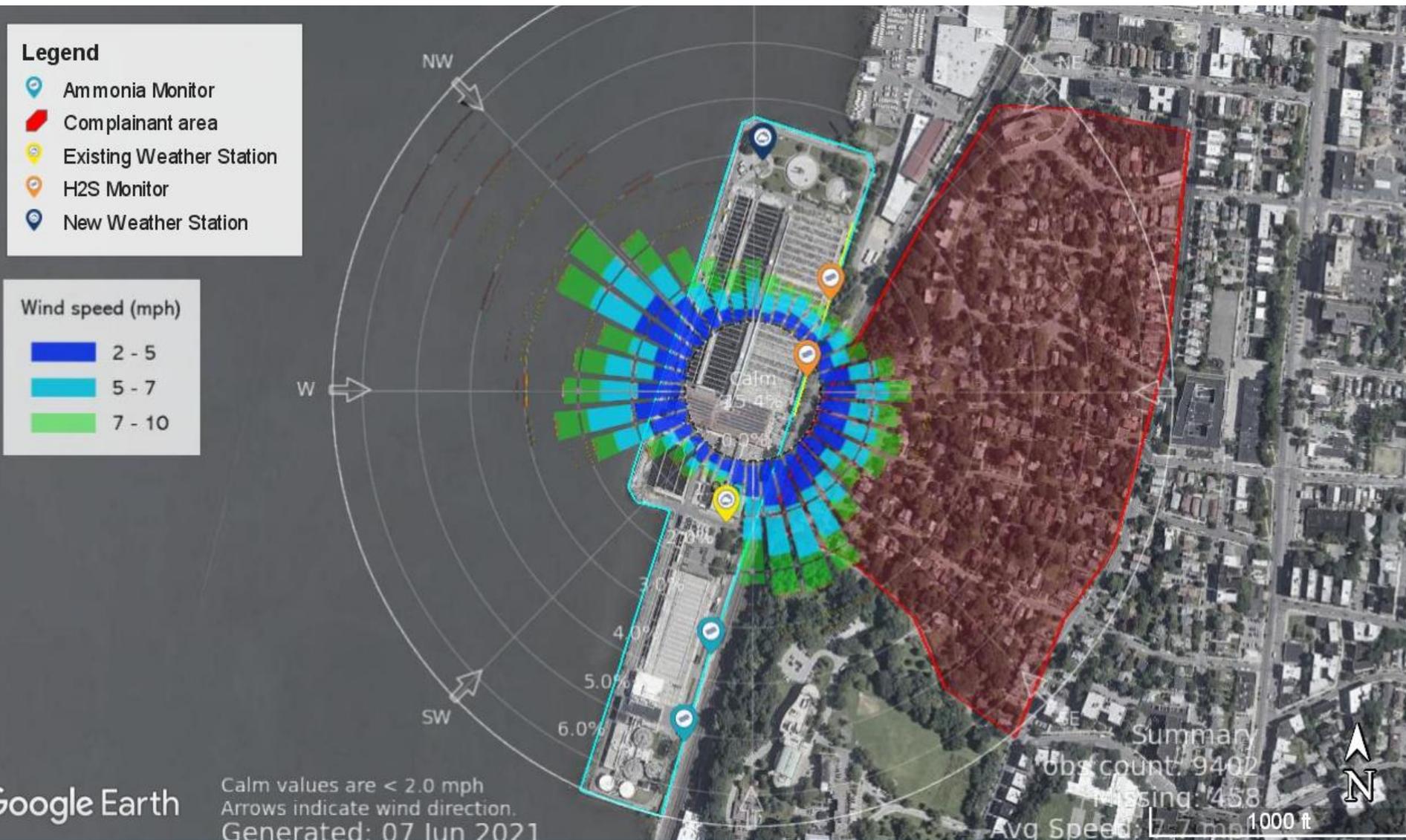
Month & Year	Average Flow, MGD	Suspended Solids		Suspended Solids % Removal	Bio. Oxy. Demand (BOD)		BOD % Removal	Sludge Cake			Screenings, Lbs	Grit Cubic Yard.
		Influent	Effluent		Influent	Effluent		Wet Tons Metric	% Solids	Dry Tons Metric		
		mg/L	mg/L		mg/L	mg/L						
Apr-21	78	110	9	92	89	7	92	2,114	26.0	500	46,000	20
May-21	74	129	7	95	93	6	93	2,546	24.1	558	50,000	0
Jun-21	73	131	6	96	103	5	95	2,993	24.4	663	52,000	100
Jul-21	83	127	7	95	85	6	93	3,243	25.3	745	56,000	120
Aug-21	77	137	6	96	96	5	94	2,622	25.0	596	54,000	120
Sep-21	98	118	9	92	91	8	91	2,241	27.4	615	64,000	100
Oct-21	78	136	8	94	103	7	93	2,579	27.2	637	50,000	60
Nov-21	72	144	4	97	125	4	97	2,943	23.9	640	33,420	100
Dec-21	62	158	7	96	150	8	95	2,196	23.1	460	116,200	80
Jan-22	74	157	10	94	146	9	94	2,516	25.4	580	63,860	60
Feb-22	84	124	13	89	120	12	90	2,971	25.0	675	87,840	60
Mar-22	76	131	9	93	122	8	93	2,520				
<b>Average</b>	77	134	8	94	110	7	93	2,624	25.2	606	61,210	75
<b>Maximum</b>	98	158	13	97	150	12	97	3,243	27.4	745	116,200	120
<b>Total</b>	-	-	-	-	-	-	-	31,485	-	6,669	673,320	820

# Ludlow Park Residents Association Meeting

## Complaints from April 2021 to March 2022

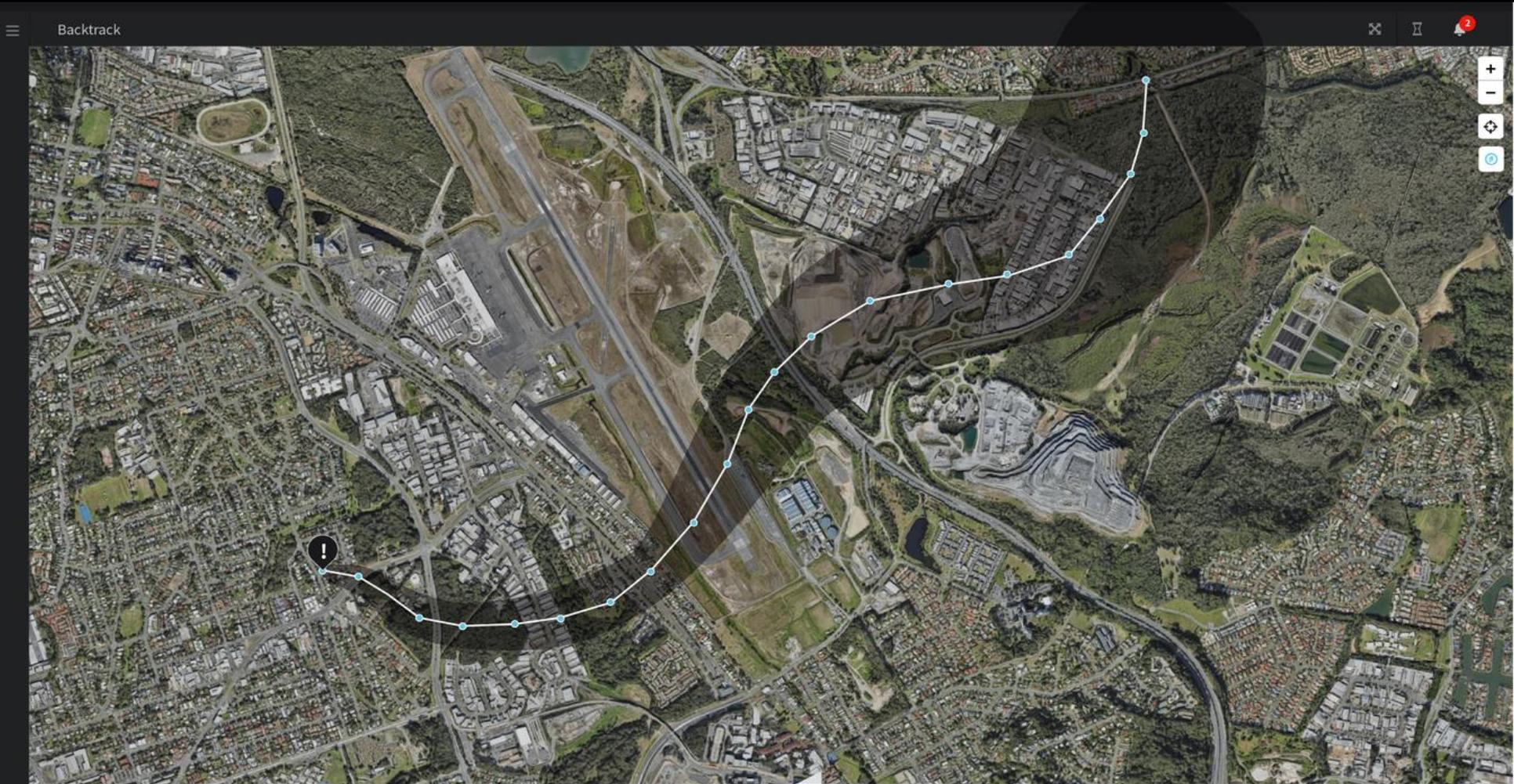
<b>Month</b>	<b>Total No. of Complaints</b>	<b>No. of Days per Month</b>	<b>Correlated w/ Plant Activity</b>
<b>Apr. 2021</b>	<b>7</b>	<b>3</b>	<b>7</b>
<b>May 2021</b>	<b>4</b>	<b>2</b>	<b>4</b>
<b>Jun. 2021</b>	<b>22</b>	<b>12</b>	<b>11</b>
<b>Jul. 2021</b>	<b>19</b>	<b>8</b>	<b>18</b>
<b>Aug. 2021</b>	<b>12</b>	<b>9</b>	<b>4</b>
<b>Sep. 2021</b>	<b>5</b>	<b>4</b>	<b>4</b>
<b>Oct. 2021</b>	<b>46</b>	<b>15</b>	<b>22</b>
<b>Nov. 2021</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Dec. 2021</b>	<b>4</b>	<b>3</b>	<b>0</b>
<b>Jan. 2022</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Feb. 2022</b>	<b>3</b>	<b>3</b>	<b>1</b>
<b>Mar. 2022</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Totals</b>	<b>122</b>	<b>59</b>	<b>71</b>

# Example of the Real-time Monitoring, Risk Forecasting, and Trajectories *Environmental Intelligence Software*



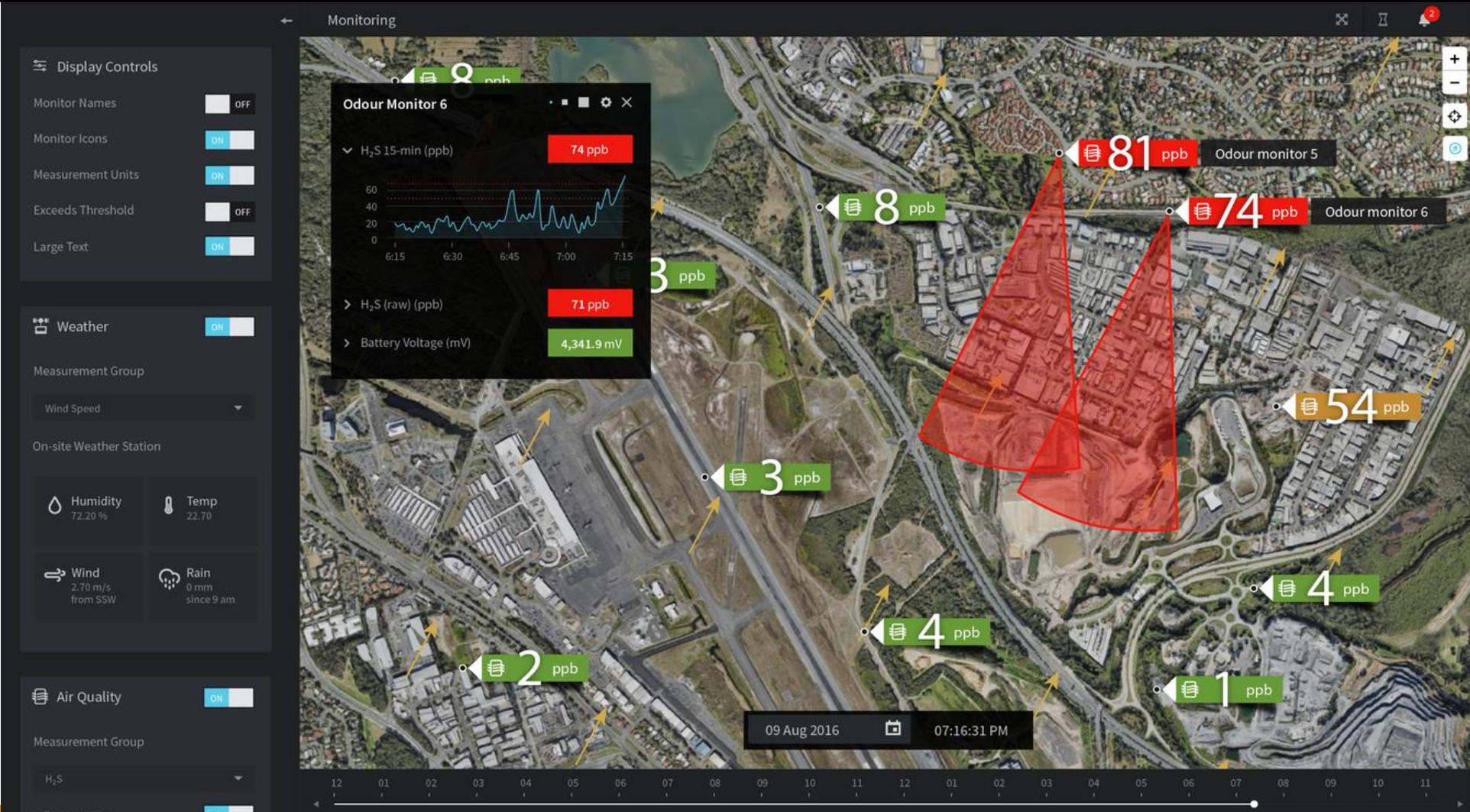
\*The figure shows a map of the proposed instrumentation relative to dominant winds observed throughout the year by the weather station located at the Westchester County Airport (HPN)

# Example of the Real-time Impact Modeling



**\*By combining real-time weather data and complex predictive modelling the EI Software platform enables users to understand how emissions will disperse in the environment and the areas that potential emission sources will impact.**

# Example of the Real-time Impact



\* This system delivers early warning of events and easy analysis of past events, so that we can manage and report on the information.

# Questions?

