

1,4 DIOXANE INFORMATIONAL BRIEFING

Board of County Commissioners Meeting

July 25, 2023

Kim Ornberg, PE – Environmental Services Department Director

Overview

- What is dioxane?
- Background
- Current Actions
- Next Steps
- Contact Information



SM

What is 1,4-Dioxane?

- 1,4-Dioxane (1,4-d) as a synthetic industrial chemical used in solvents and cleaners
- Used in the manufacture of dyes, adhesives, deodorant, lubricants, etc.
- Contaminant is unregulated by state and federal authorities
- FDOH Health Advisory Level (HAL) is 0.35 ppb (parts per billion)
- Documented use at the former Siemens plant in Lake Mary
- Multi-part series regarding 1,4-d published in Orlando Sentinel

Background

- 1,4-d first identified in three (3) County water treatment plants (WTP) during 2013 EPA-mandated sampling
 - County previously planned to decommission two (2) WTPs (Heathrow & Monroe WTPs) and redevelop the third into a regional facility (Markham Regional WTP).
- Results published in 2015 Annual Water Quality Report (aka Consumer Confidence Report)
- Operational adjustments were made in 2016 to minimize concentrations of 1,4-d drinking water
- County drinking water tested **below** the Health Advisory Level (0.35 ppb) since 2016

Background - SC Water Sampling History

Initial USEPA UCMR3 Sampling Results

	Sample Date	Concentration, μL (ppb)		
		Sample Sites		
		Heathrow WTP POE	Monroe WTP POE	Markham WTP POE
1,4-Dioxane	8/1/2013	0.58434	0.17089	0.30052
	2/12/2014	0.1	0.29	0.23

Note: All samples with concentrations at or above HAL (0.35 ppb) are highlighted in peach; non-detects are highlighted in green



Background - SC Water Sampling History

Ongoing Sampling Results

Sample Date	HEA-2	HEA-5	HEA-6	Markham POE
8/1/2013	NS	NS	NS	0.30
2/3/2014	NS	NS	NS	0.23
1/12/2016	0.17	0.14	0.34	0.16
4/28/2016	0.15	0.12	0.35	0.22
6/29/2016	0.15	0.15	NS	0.16
9/6/2016	0.18	0.13	NS	0.16
12/22/2016	0.16	0.13	NS	0.21
2/22/2017	0.03	0.07	0.18	0.16
5/30/2017	0.07	0.10	NS	0.19
8/23/2017	0.10	NS	0.25	0.13
11/15/2017	0.10	0.10	NS	0.17

Sample Date	HEA-2	HEA-5	HEA-6	Markham POE
2/18/2018	0.07	0.08	NS	0.16
6/14/2018	0.11	0.13	NS	0.13
9/13/2018	0.20	0.12	NS	0.23
12/13/2018	0.18	0.17	0.21	0.24
3/14/2019	0.14	0.20	NS	0.24
6/26/2019	0.22	NS	0.22	0.22
9/25/2019	0.14	0.19	0.24	0.20
12/12/2019	0.08	0.17	0.22	0.20
3/26/2020	0.12	0.15	0.19	0.17
7/30/2020	0.16	0.14	0.20	0.18
10/29/2020	0.17	0.15	0.25	0.19

Sample Date	HEA-2	HEA-5	HEA-6	Markham POE
1/28/2021	0.08	0.15	0.23	0.18
4/15/2021	0.16	0.23	0.27	0.18
7/29/2021	0.12	0.14	0.18	0.18
10/21/2021	0.08	0.17	0.16	0.16
1/27/2022	0.09	0.13	0.22	0.18
4/28/2022	0.07	0.15	0.20	0.16
7/28/2022	0.20	0.18	0.20	0.19
10/27/2022	0.14	0.15	0.18	0.16
1/26/2023	<0.12	<0.15	<0.21	0.17
4/26/2023	0.04	0.04	0.04	NS
4/13/2023	0.17	0.19	0.21	0.16
5/31/2023	NS	NS	NS	0.13

Note: All samples with concentrations at or above HAL (0.35 ppb) are highlighted in peach; non-detects are highlighted in green

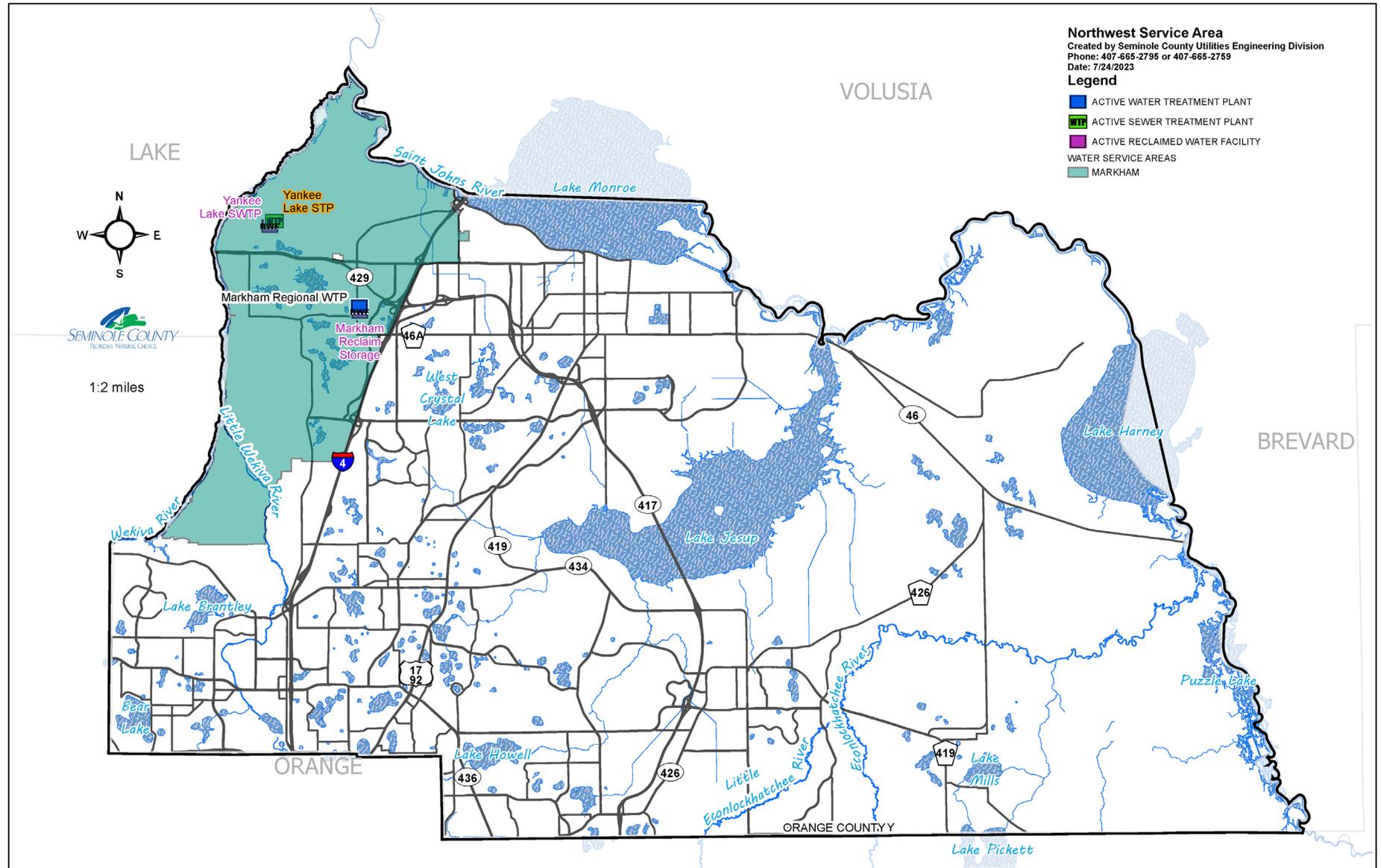
Current Actions

- Monitoring
 - Expanded sampling for 1,4-d (25 potable wells & 5 WTPs)
 - Coordinating sampling efforts with FDEP
 - Proactively initiated sampling for other emerging contaminants
- Coordination and communication with cities, FDOH, and FDEP
- Engaged a consultant for assistance and expertise (Carollo)
 - **Kick-off meeting (Friday 7/21/23)**
 - **Task 1:** Review all data and available information (2 weeks)
 - **Task 2:** Data assessment summary report (late August)
 - **Task 3:** Identify treatment options, estimated costs, and potential funding opportunities (late October/early November)
 - Present findings and recommendations to BCC (November)

Current Actions

- Seminole County Informational Website
 - seminolecountyfl.gov/dioxane
 - Includes educational information (FAQs, regulatory info, Water Quality Reports)
 - Feedback form and contact info
 - 842 total site visits (7/12-7/21)
- Total Customer Inquiries (BCC Offices, 311, Customer Service)
 - 42 emails
 - 53 phone calls
- Most Frequently Asked Questions
 - Is my water safe?
 - Am I in the impacted area?
 - How can I get my private well tested?

Northwest Service Area



Next Steps

- Develop website to house **all** water quality data
 - Similar to Seminole Water Atlas (or expand to a “One Water Atlas”)
- Establish regular meetings with city and county utility teams
 - Improve coordination and information sharing
 - Identify regional solutions (e.g., Holistic Water Policy)
- Coordinate 1,4-d activities with FDEP and FDOH
- Present updates, findings, options, and recommendations to BCC

State Contact Information

- **Florida Dept of Env. Protection- Central Office**
407-897-4100
- **Florida Dept of Health- Well Testing**
407-665-3611
Joyce.Bittle@flhealth.gov



City Contact Information

- **City of Lake Mary**
lakemaryfl.com
407-585-1452
- **City of Sanford**
sanfordfl.gov
utilitycustomerservice@sanfordfl.gov
407.688.5100



County Contact Information

- **Kim Ornberg, PE – Director**
kornberg@seminolecountyfl.gov
407-665-2012
- **Seminole County Environmental Services**
dioxane@seminolecountyfl.gov
407-665-2110
- **Website**
seminolecountyfl.gov/dioxane

