

Citizen-Led Nuclear Waste Town Hall

Oct 8th 2024 6PM

Nuclear Waste Town Hall 10/8/2024

Welcome!

Ground Rules:

- Meeting is **citizen-led**; we've done extensive research and there is still a lot to research and learn
- **Q&A Session at the end** - please hold questions until then
- If we cannot answer your question immediately, **give grace**
- **Unanswered questions** follow-up will be in the Michigan Against Atomic Waste Facebook group and/or website
- This is a **bipartisan issue—no political agendas**
 - If we have politicians in attendance: **this is not a platform to push political agendas**



Agenda

1

Why Are We Here

2

History Impacting WDI

3

Regulatory Structure

4

FUSRAP Projects

5

Legal & Legislative Actions

6

Community Strategies



Why are we here?

INFORM



Gain a deeper understanding of the hazardous and radioactive materials disposed of in our community and how they are being managed.

UNDERSTAND



Understand the health impacts of potential exposure and the population density surrounding WDI.

PROTECT



Prepare to protect our communities from the adverse effects associated with having one unique hazardous landfill in our backyards.

Landfills in Van Buren Township



Why is WDI considered one of the most Hazardous Waste Sites in America

Acceptance of TENORM and Additional Hazardous Waste

WDI is one of the **few landfills in the U.S. permitted to accept TENORM**. TENORM stands for "Technologically Enhanced Naturally Occurring Radioactive Materials." It refers to materials that are naturally radioactive but have been concentrated or otherwise altered by human activities, such as mining, oil and gas production, or industrial processes.

In addition to radioactive waste, WDI also accepts various types of **hazardous waste**, including **toxic chemicals** like heavy metals, solvents, and industrial byproducts. According to its permit, WDI can handle over **700 different types of hazardous waste**, which increases the complexity and risk of contamination at the site.

Frequency and Volume of Waste

- WDI handles a **high volume** of hazardous waste daily, which includes materials from industrial sites across the country. This large intake, combined with the **variety and toxicity of the waste**, makes it **one of the largest hazardous waste facilities in the U.S.**
 - **In 2020 WDI received approx 4,944 shipments of TENORM alone = 13 shipments / day** (*source: 2020 FOIA Request - thank you LuAnne Kozma*)
- The existing License authorizes a total landfill capacity (including closed cells) of 22.45 million cubic yards.
 - **That amount of waste could cover Belleville, MI nearly 3xs over, buried 6ft deep.** ([*Fact Sheet on Major Modification for Wayne Disposal, Inc. Site #2 \(michigan.gov\)*](#))

What level of exposure risk are we prepared to accept from a hazardous landfill within our densely populated community?

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WDI Violations

119

Violations since 1983

95.8%

Violations related to HazWaste

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History Impacting WDI

World War II & Hazardous Waste Legacy

1941-1946: The development of nuclear weapons during World War II generated Radioactive and Hazardous Waste, much of which needed disposal. The long-term cleanup of these sites has contributed to waste management concerns today. Willow Run Bomber Plan turned out nearly 9,000 Liberators, at one point reaching the line rate of one bomber every 55 minutes.

Environmental Quality Company was Founded

1957: EQ was a waste management and environmental services company specializing in the treatment, storage, and disposal of hazardous and non-hazardous waste. ([EQ - The Environmental Quality Company \(waste360.com\)](#))

WDI was first established

1970: According to The Michigan Department of Environment, Great Lakes, and Energy (EGLE) official page, Wayne Disposal Inc. (WDI) was established in Belleville, Michigan, before hazardous waste handling and disposal operations were regulated under state or federal law. EGLE previously licensed WDI for the management of hazardous wastes under the operation and ownership control of Environmental Quality Company. ([US Ecology Wayne Disposal Inc. Hazardous Waste Landfill \(michigan.gov\)](#))

Environmental Protection Agency (EPA)

1970: The EPA was established in response to growing concerns about environmental pollution and the need for a coordinated federal approach to environmental protection. The EPA consolidated various federal research, monitoring, and enforcement activities related to environmental issues into one agency.

Formerly Utilized Sites Remedial Action Program (FUSRAP)

1974: Managed by the U.S. Army Corps of Engineers, this program was initiated in 1974 to identify, investigate and, if necessary, clean up or control sites throughout the United States contaminated as a result of the development of atomic weapons. ([FUSRAP \(army.mil\)](#))

Nuclear Regulatory Commission (NRC)

1974: The U.S. Nuclear Regulatory Commission (NRC) was created as an independent agency by Congress responsible for regulating the nation's civilian use of nuclear materials and ensuring the safety and security of nuclear power plants and radioactive waste management. ([About NRC / NRC.gov](#))

History Impacting WDI

Resource Conservation and Recovery Act (RCRA)

1976: The Resource Conservation and Recovery Act (RCRA) was signed into law on October 21, 1976 to address the increasing problems the nation faced from our growing volume of municipal and industrial waste. RCRA was created to ensure that waste is managed in a way that reduces its impact on the environment and public health.

([*History of the Resource Conservation and Recovery Act \(RCRA\) | US EPA*](#))

Superfund Act (CERCLA)

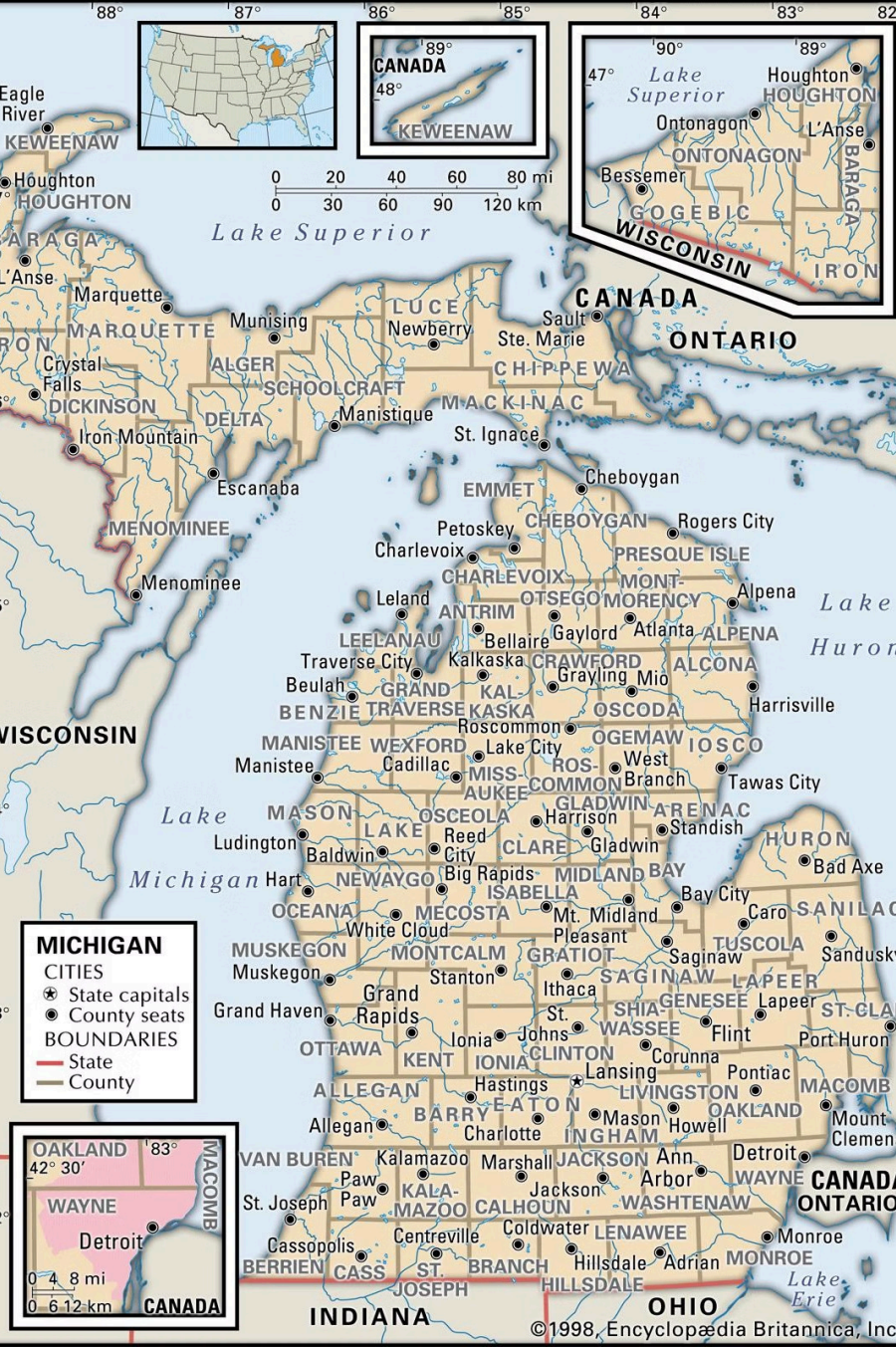
1980: In the late 1970s, toxic waste dumps such as [Love Canal](#) and [Valley of the Drums](#) received national attention when the public learned about the risks to human health and the environment posed by contaminated sites. In response, congress established The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or **Superfund Act**. It allows the EPA to clean up contaminated sites. This also forces the parties responsible for the contamination to either perform cleanups or reimburse the government for EPA-led cleanup work. ([*Superfund: CERCLA Overview | US EPA*](#))

Michigan Joins the Midwest Interstate Low-Level Radioactive Waste Compact

1983: The Midwest Compact was established as part of a national effort, following the Low-level Radioactive Waste Policy Act of 1980, which required states to take responsibility for the disposal of LLRW generated within their borders. **Michigan** was one of the original states in the compact, along with **Indiana, Iowa, Minnesota, Missouri, Ohio,** and **Wisconsin**. ([*Low-level radioactive waste issues in Michigan: 1980-2000. - Free Online Library \(thefreelibrary.com\)*](#))

LLRW Becomes a Political Issue

1987: Michigan was chosen to host a facility for LLRW, but public opposition arose quickly, particularly concerning potential sites like Hillsdale County. **By mid-1990**, three candidate sites were examined but failed to meet legal requirements, leading Michigan to drop them. Meanwhile, South Carolina, Nevada, and Washington blocked Michigan from using their waste facilities due to slow progress on site selection. The Midwest Compact found Michigan's siting criteria too strict and demanded revisions, but Michigan did not comply. As a result, funding was cut, and Michigan's membership in the Compact was revoked in July 1991. ([*Low-level radioactive waste issues in Michigan: 1980-2000. - Free Online Library \(thefreelibrary.com\)*](#))



Concern of Governor Engler

Governor Engler asked the Michigan Environmental Science Board to evaluate whether:

Michigan's environment and/or geology posed unusual or unique conditions that would not be fully recognized, evaluated, and protected under federal siting regulations.

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History of WDI

Michigan Exits the Low-Level Radioactive Waste Compact

1991: Michigan's membership in the Compact was revoked, citing disagreements about financial contributions and a centralized waste disposal site. This decision left Michigan with independent responsibility for managing its radioactive waste. ([Low-level radioactive waste issues in Michigan: 1980-2000. - Free Online Library \(thefreelibrary.com\)](https://www.thefreelibrary.com/Low-level+radioactive+waste+issues+in+Michigan+1980-2000.-Free+Online+Library/))

PCB Waste Management

1997: WDI received its first approval from the EPA to manage and dispose of (PCBs), This expanded the range of hazardous waste WDI could handle. From the 1920s until they were banned in 1979, the U.S. produced an estimated 1.5 billion pounds of these industrial chemicals. Even with discontinued use, PCBs are still present in the environment today because they do not breakdown quickly. **PCBs are hazardous even at very low levels.** Exposure to PCBs can lead to serious health issues, including increased cancer risk, reproductive problems, immune system suppression, neurological deficits, endocrine disruption, skin conditions, liver damage, and potential long-term effects like diabetes and cardiovascular issues.

State Operating Permit Renewal

2012: WDI received an important operating license renewal from the Michigan Department of Environment, Great Lakes, and Energy (EGLE), allowing it to continue operating with expanded capabilities to manage hazardous waste.

US Ecology Acquires WDI

2014: The Environmental Quality Company transferred ownership and operational control of WDI to US Ecology (USE)

History of WDI

PCB Waste Approval Renewal

2019: The EPA renewed WDI's approval to manage PCB waste, extending its capacity to handle up to **12 million cubic yards of PCB waste**. This approval included modifications to landfill design and containment technologies.

Operation License Renewal/Major Modification Request

2021: The license has expired (10 year license). WDI filed a renewal application for its 2012 to be renewed. In addition, WDI submitted further modification requests to the EPA to upgrade the containment systems, including the installation of geosynthetic clay liners and leachate collection systems.

Republic Services Acquires US Ecology (WDI)

2022: Republic Services, a major waste management company based in Phoenix, acquired US Ecology, which included WDI. This acquisition marked another major ownership change for the facility, integrating it into Republic's broader network

Present Day (Oct 8th, 2024)

2024: The license renewal has expired and it is unclear what the current status of the renewal application is. A lawsuit has been filed. Case No. 24-013420-CH with a trial date of October 9th, 2024.

Regulatory Structure



NRC - Federal



EPA - Federal



EGLE - State

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WDI's Current Regulatory Structure

What is an Agreement State?

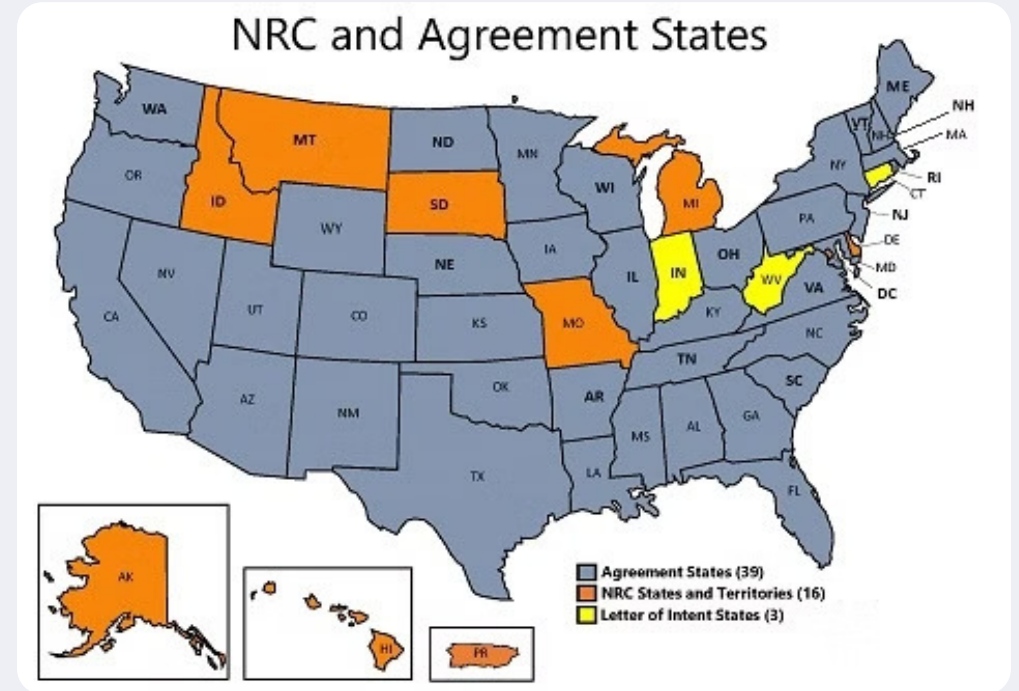
Agreement States have entered into agreements with the **NRC** that give them the authority to license and inspect byproduct, source, or special nuclear materials used or possessed within their borders.

Michigan is NOT an Agreement State:

Michigan is **NOT an Agreement State** with the Nuclear Regulatory Commission (NRC), meaning Michigan has chosen NOT to enter into an agreement with the NRC to regulate certain aspects of radioactive materials within the state.

([Agreement States / NRC.gov](https://www.nrc.gov/agreement-states))

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Should Michigan Become an Agreement State?

Locations of Low-Level Waste Disposal Facilities

The four active, licensed low-level waste disposal facilities are located in Agreement States as shown in the map, above.

EnergySolutions Barnwell Operations, located in Barnwell, South Carolina

U.S. Ecology, located in Richland, Washington

EnergySolutions Clive Operations, located in Clive, Utah

Waste Control Specialists (WCS), LLC, located near Andrews, Texas



([Agreement States / NRC.gov](https://www.nrc.gov/agreement-states))

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Why Michigan is NOT an Agreement State

Cost and Resource Limitations

Becoming an NRC Agreement State **requires significant resources**, including setting up a state-run program that can enforce regulations for radioactive materials which involves:

- **Regulatory Infrastructure:** States must establish or enhance their regulatory frameworks to effectively manage and oversee nuclear materials. This may involve developing new policies, procedures, and compliance mechanisms.
- **Staffing Costs:** Hiring or training personnel with the necessary expertise in radiation safety, compliance, and inspections can significantly increase costs.
- **Training and Certification:** Staff may require specialized training and certification to meet regulatory standards, which can add to expenses.

Additional Potential Reasons

- **Complexity of Regulation:** Taking on regulatory responsibilities for nuclear materials can be complex and may require significant expertise, which some states may lack or may not wish to develop.
- **Liability and Risk:** States may be wary of the potential legal and financial liabilities associated with regulating nuclear materials and waste. An incident could lead to costly lawsuits or remediation efforts.
- **Potential for Increased Scrutiny:** Becoming an agreement state can lead to increased scrutiny from both the public and regulatory bodies, which some states may wish to avoid.
- **Uncertainty in Regulatory Framework:** The evolving nature of nuclear regulation and technology may create uncertainty, making states hesitant to commit to an agreement state status.

Hazardous Waste Classification

Basic Definitions:

- TENORM = Technologically Enhanced Naturally Occurring Radioactive Materials
- LLRW = Low Level Radioactive Waste

Current WDI operating license:

- NOT currently licensed to accept LLRW for disposal (Stated by EGLE)
- **ARE currently licensed to accept TENORM (radionuclides at concentrations of up to 50 pCi/g)** (Stated by EGLE)
 - Note: During transit, concentrations **may exceed this limit**, as **down blending** to reduce the concentration can occur on-site at WDI (Stated by EGLE)
 - Note: Current WDI operating license renewal requests approval to conduct down blending outside (currently done inside) which gives additional capacity to accept radioactive materials above 50 pCi/g (Stated by EGLE)

Areas of concern:

- TENORM is NOT LLRW, however TENORM could meet conditions of LLRW if certain concentrations are met. (10 CFR Part 40) (Stated by EGLE)
- **Michigan laws do not require portal monitors at the landfill entry point** to measure radioactive exposure rate (inconsistent laws with other states like PA).



Health Risks Associated with TENORM

Isotope	Half Life	Health Risks / Side Effects
Radium-226 (RA-226)	1,600 Years	<p>Bone Cancer: Radium accumulates in bones and can lead to osteosarcoma and other cancers.</p> <p>Anemia: Exposure may result in decreased red blood cell production</p> <p>Soft Tissue Damage: Can affect organs close to the site of accumulation</p>
Lead-210 (PB-210)	22.3 Years	<p>Carcinogenic: Prolonged exposure can increase the risk of cancer</p> <p>Bone and Kidney Damage: PB-210 can accumulate in the bones, leading to potential harm to the skeletal system and Kidneys.</p>
Radium-228 (RA-228)	5.75 Years	<p>Cancer Risk: Similar to RA-226, including potential for Bone Cancer</p> <p>Radiation Exposure: Can affect internal organs and tissues if ingested or inhaled.</p>

Note: Half-life is the time it takes for half of a radioactive substance to break down or decay.

For example, if something has a half-life of 10 years, after 10 years only half of it will be left.

Radiation Types & Risks



But Bananas...

- Ditch the banana jokes - bananas emit low-energy **beta particles**, which can be **harmlessly blocked by your skin**
- **Radium-226**
 - emit **alpha particles** are highly ionizing
 - **water soluble**
 - **dangerous** if ingested or inhaled
 - human body **mistakes Radium-226 for calcium**, allowing it to accumulate in our bones
 - increases the risk of serious health issues like **bone cancer** and bone disease over time



Understanding risks related to different types of radiation is critical

Legislative Changes Proposed in Michigan

Proposed Legislation

House Bill 5923 has been introduced on September 11, 2024 which aims to strengthen regulations and oversight of nuclear waste facilities like WDI. This bill calls for increased tipping fees.

Legislative Process

The bill is currently under consideration by the relevant House committees.

 **Legislation is currently under review**

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Radiation impacts the human body by damaging cellular structures, particularly DNA. While the body can repair some of this damage, higher or prolonged exposure can lead to serious health issues, including cancer, organ damage, and in extreme cases, death.

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FUSRAP



How Many Projects Are There?

There are **currently 21 active FUSRAP sites** (Formerly Utilized Sites Remedial Action Program) sites located across 8 states. At these sites, remedial action is planned, under way or pending final closeout.

10 additional FUSRAP sites have been transferred back to the Department of Energy's Office of Legacy Management for long-term stewardship.



Where are 5 landfill locations approved by ACOE to accept FUSRAP waste?

Energy Solutions:

I-80, Exit 49 **Clive, UT** 84029

Republic Service Wayne Disposal, INC:

49350 N Interstate 94 Service Drive **Belleville, MI** 48111

Republic Service Idaho:

20400 Lemley Rd. **Grand View, ID** 83624

Republic Service Texas:

3277 County Road 69 **Robstown, TX** 78380

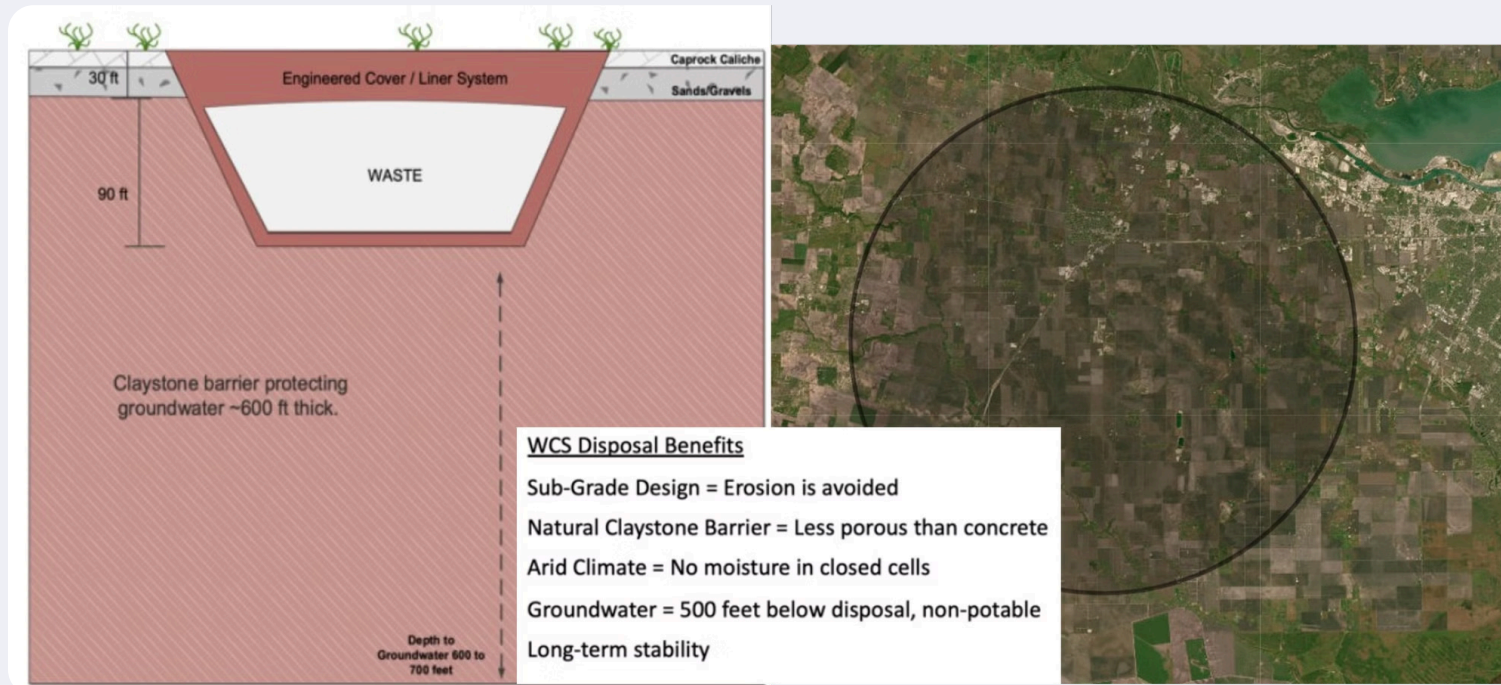
Waste Control Specialists, LLC:

9998 W. Highway 176 **Andrews, TX** 79714

Robstown, Texas

Population Density:

- 1 Mile Radius: 26 People
- 5 Mile Radius: 13,019 People
- 10 Mile Radius: 48,461 People



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Grand View, Idaho

*Owned by Republic

Population Density:

1 Mile Radius: 3 People

5 Mile Radius: 142 People

10 Mile Radius: 491 People



Andrews, Texas

Population Density:

1 Mile Radius: 0 People

5 Mile Radius: 1,046 People

10 Mile Radius: 3,034 People

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Clive, Utah

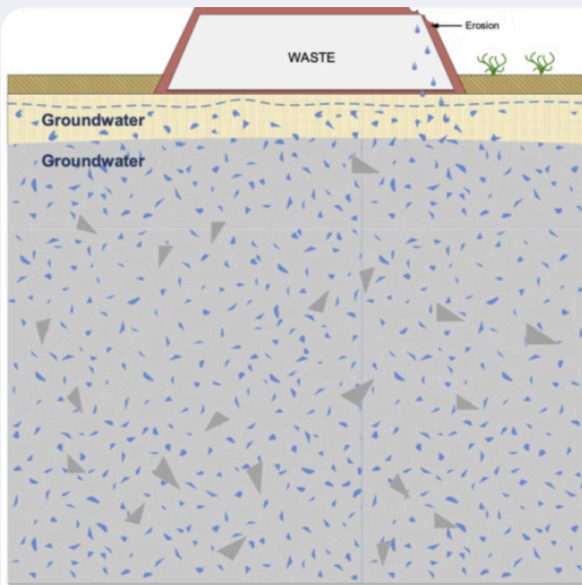
Population Density:

1 Mile Radius: 0 People

5 Mile Radius: 0 People

10 Mile Radius: 1 Person

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Above-Ground Landfill Benefits

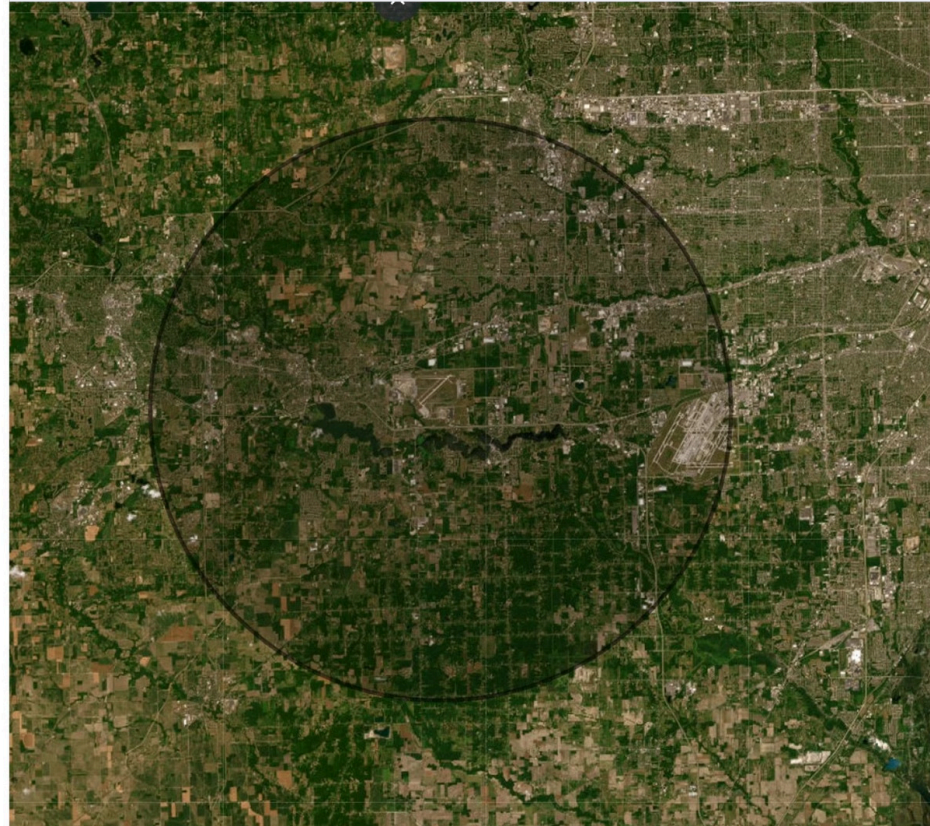
Low cost to construct

Above the water table if shallow water is present

Concerns

No natural barriers to water migration —

Susceptible to erosion —



Van Buren, Michigan

Population Density:

1 Mile Radius: 2,660 People

5 Mile Radius: 94,448 People

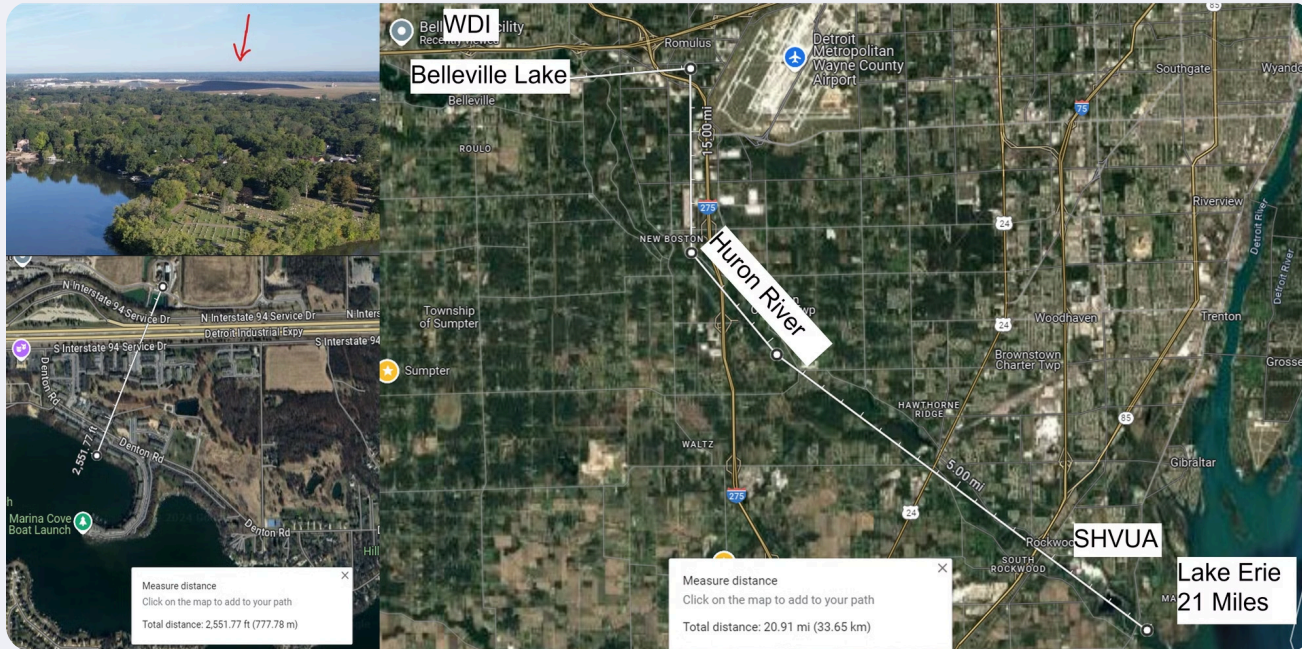
10 Mile Radius: 367,309 People

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Location, Location, Location!

	1 MILE RADIUS	5 MILE RADIUS	10 MILE RADIUS
Robstown, TX	26	13,019	48,461
Grand View, ID	3	142	491
Andrews, TX	0	1,046	3,034
Clive, UT	0	0	1
Van Buren TWP, MI	2,660	94,448	367,309

Slide Produced/Presented By: Chris Donley



Environmental Sensitivity

There's a reason why the other facilities are in remote locations!

Environment:

- 2,500' from the shores of Belleville Lake
- Lake feeds directly to Huron River
- Approx. 21 Miles to Lake Erie

 20% of the Earth's fresh water is from the Great Lakes

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Operating License Renewal

WDI License Renewal:

WDI is up for a license renewal (application submitted 11/5/2021)

Renewal application is available online and at the Belleville Library

Process:

- EGLE is currently reviewing the application for technical deficiencies
- EGLE will send a technical not of deficiency in early 2025 and this will be posted online

Note: The public won't be proactively notified – we have to look for it

- WDI has a time period to respond to technical deficiencies
- EGLE will review responses and make a draft decision - either deny or approve the application
- Public will have 45 days to make public comment after the draft decision
- Public will be notified via Belleville Independent or if you are subscribed on the EGLE facility mailing list
- Public meeting and hearing will be scheduled (in winter 2025). Public meeting is 1 hour before the hearing to allow time to answer questions
- EGLE is legally bound to approve the application if it complies with the federal and state law

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WDI Operating License Renewal Website



 www.michigan.gov

US-Ecology-WDI

Wayne Disposal, Inc. Hazardous Waste Management Facility Operating License Major Modification



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Host Agreement

Finalized by VBT and WDI on September 9, 2009

WDI is providing royalties (per cubic yard of waste) and community improvements, in exchange for VBT "hosting" the landfill including an agreement not object to any WDI application for any permits/licenses.

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Community Improvements

- Plant
- Restrooms
- Plant trees
- Construct playscape
- Concession stand
- Pave/regrade parking lots
- Install sign
- Construct asphalt paths
- Construct benches

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Lawsuit/Complaint

1

Lawsuit Filed

City of Belleville, Canton, Romulus, Van Buren Township, Van Buren Fire Chief, (and Wayne County later joined the suit) filed a lawsuit Case number 24-013420-CH against WDI

2

Allegations

The lawsuit allegations are outlined on the following slides

3

Legal Process

A TRO (temporary restraining order) was issued to WDI to restrict shipments of radioactive waste. The TRO was later modified on September 24, 2024 at WDI's request to include only shipments from Niagara Storage Site.

Trial is scheduled for October 16, 2024 at 9 am @ Coleman A. Young Municiple Center (2 Woodward Ave, Detroit)



Lawsuit Allegations

- **WDI Expired Operating License**

- WDI is operating with an **expired operation** license and is **still subject to public comments and public hearing in Spring 2025** as part of WDI operating license renewal process
- If all radioactive waste dumping is completed before the public gets a chance to raise its voice, it will be **denied its chance to make its concerns known**

- **Health Risks / Lack of Testing & Transparency**

- WDI is **not monitoring radioactivity** in air, groundwater, or leachate
- **Liquid** (leachate) is treated at WDI (but **not tested for radioactivity**) and released to SHVUA (South Huron Valley Utility Authority) who also does not treat for or monitor radioactivity **before it is released to the Detroit River**

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Lawsuit Allegations (continued)

- **Potential for catastrophic environmental or public-health incidents:**
 - Local Michigan first responders are **not equipped** to mitigate risks associated with quantity of radioactive material being dumped into VBT
 - **no knowledge of nature of waste** (how it will be stored, how it will react with other materials at WDI)
 - **not equipped** with radiation detection equipment
 - **no preplanning** for incidents involving radioactive materials due to lack of information/communication: during the 2024 WDI landfill inspection by VBFD, **WDI did not disclose information** about an addition of significant amount of radioactive material
 - VBFD **does not have response plan that will allow first responders to safely enter** structures or grounds surrounding WDI in the event of an incident involving radioactive materials (leak, fire, explosion)
 - **restricted access to WDI** (approaches only from South and East) and they may be unusable in the event of an accident or fire that would theoretically cut off limited access vectors with plumes of radioactive smoke

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Lawsuit Allegations (continued)

- **Count I: Nuisance Abatement under MCL 29.23**

- Act 207 of 1941 Michigan **"Fire Prevention Code"** (FPC) which applies to storage and transportation of hazardous materials

- **Count II: Public Nuisance**

- **Unreasonable interference** with a right common to all members of general public "public's health, safety, peace, comfort, or convenience"
- Even as now expired WDI operating license extended on a provisional basis, does not grant WDI authority to cause "injury to persons or property, or any invasion of other private rights, or any infringement"

- **Count III: Injunction Relief**

- **Irreparable harm**
 - once waste gets to WDI, it will likely never leave and will cause above-described **damages to local community for decades to come**
 - SE Michigan voting **public loses their ability to exercise statutory rights of comment and participation** under MCL 324,11125

Trial Details

- Wednesday, October 16, 2024 @ 9 am
- Coleman A Young Municipal Center
- 2 Woodward Avenue, Detroit, MI 48226
- Honorable Judge Cox

Public is welcome and encouraged!

Please show your support and attend!

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Call to Action

1 Engagement

We encourage all community members to actively participate in this dialogue and share their questions, concerns, and ideas.

2 Advocacy

Get involved in advocating for stronger regulations and oversight to ensure the safe and responsible management of nuclear waste.

3 Collaboration

Work together with local authorities, regulatory agencies, and the WDI facility to find collaborative solutions that prioritize community well-being.

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Appendix

WDI Environmental Justice Index

(Source: EPA Website)

Census Block Group ID: 261639865011	US (Percentile)			State (Percentile)		
Supplemental Indexes	Facility Census Block Group	1-mile Avg	1-mile Max	Facility Census Block Group	1-mile Avg	1-mile Max
Count of Indexes At or Above 90th Percentile	0	0	1	0	0	0
Particulate Matter 2.5	41	74	86	36	71	83
Ozone	20	46	62	24	55	70
Diesel Particulate Matter	21	50	63	31	60	71
Air Toxics Cancer Risk	8	29	40	20	58	76
Air Toxics Respiratory Hazard Index	5	18	25	16	52	70
Toxic Releases to Air	48	81	! 90	53	82	89
Traffic Proximity	--	63	81	--	67	85
Lead Paint	0	46	81	0	34	78
Risk Management Plan (RMP) Facility Proximity	--	53	80	--	61	84
Hazardous Waste Proximity	--	72	83	--	74	86
Superfund Proximity	--	39	55	--	20	30
Underground Storage Tanks (UST)	39	34	82	30	25	73
Wastewater Discharge	--	68	78	--	78	88

 Each index score is presented as a percentile compared to other areas. The higher the percentile, the greater the concern compared to other regions in the country.