

# Waste Disposal In The Planning Region

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# Presentation Outline

- Part 1: Planning Region Waste Disposal (FY2024 Data)
- Part 2: Muskegon County Landfill
- Part 3: Landfills and the MMP process

# Part 1: Planning Region Waste Disposal (FY2024 Data)

What Does Each County Generate and Where Does It Go?

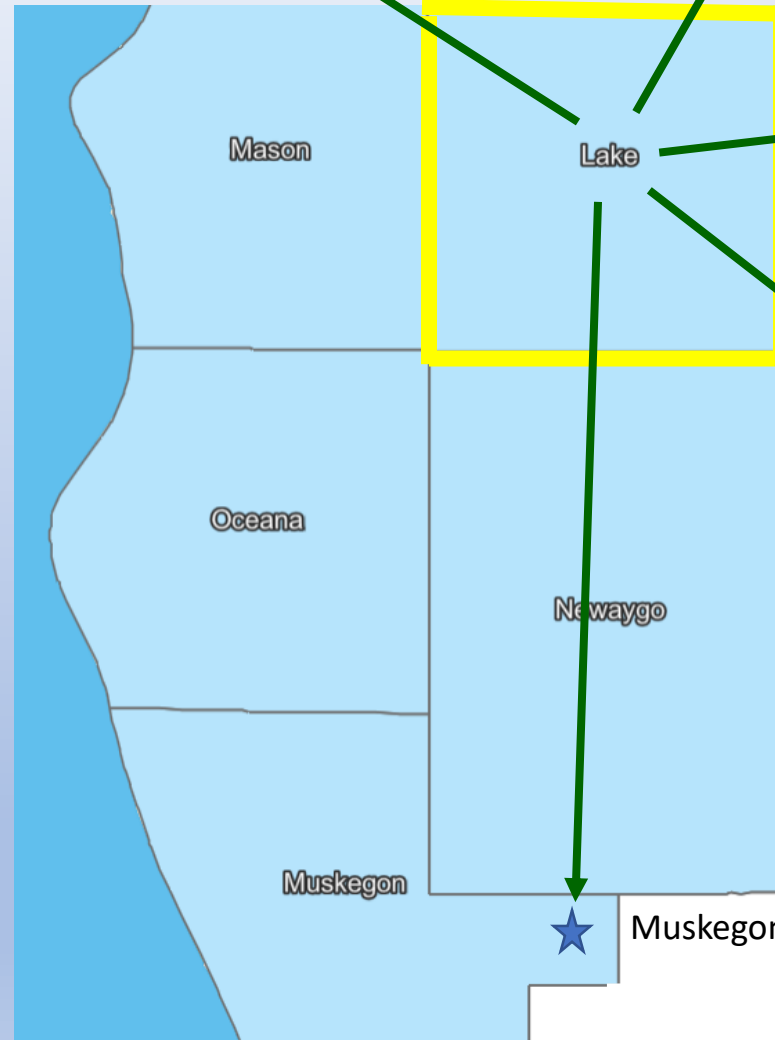
# EGLE Report Data – FY2024



<https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Legislative/MMD/Part-115/Report-FY24-Landfilled-Solid-Waste.pdf?rev=b1a8a575d427406f8a4ad4fb4de0ff47&hash=430D8389FB9BEE4BA4AA6D076DCC50F7>

# LAKE COUNTY

Total Waste Disposed FY 2024 –  
6,704.81 Tons



★ **Manistee County Landfill –**  
**3,034.82 Tons**  
**45%**

★ Wexford County Landfill –  
83.68 Tons  
1%

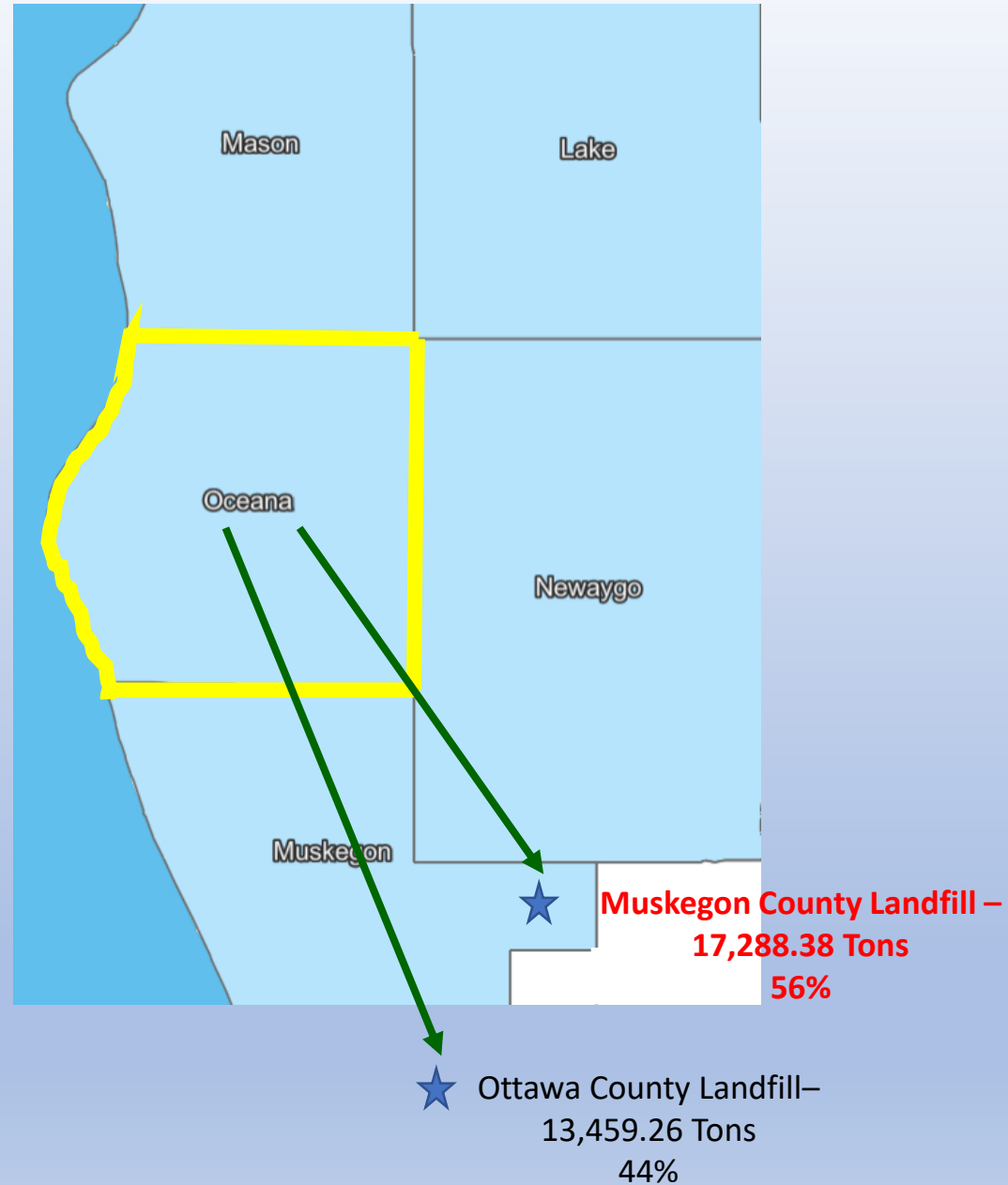
★ Northern Oaks Disposal Facility –  
427.25 Tons  
6%

★ Central Sanitary Landfill –  
815.79 Tons  
13%

★ Muskegon County Landfill –  
2,343.27 Tons  
35%

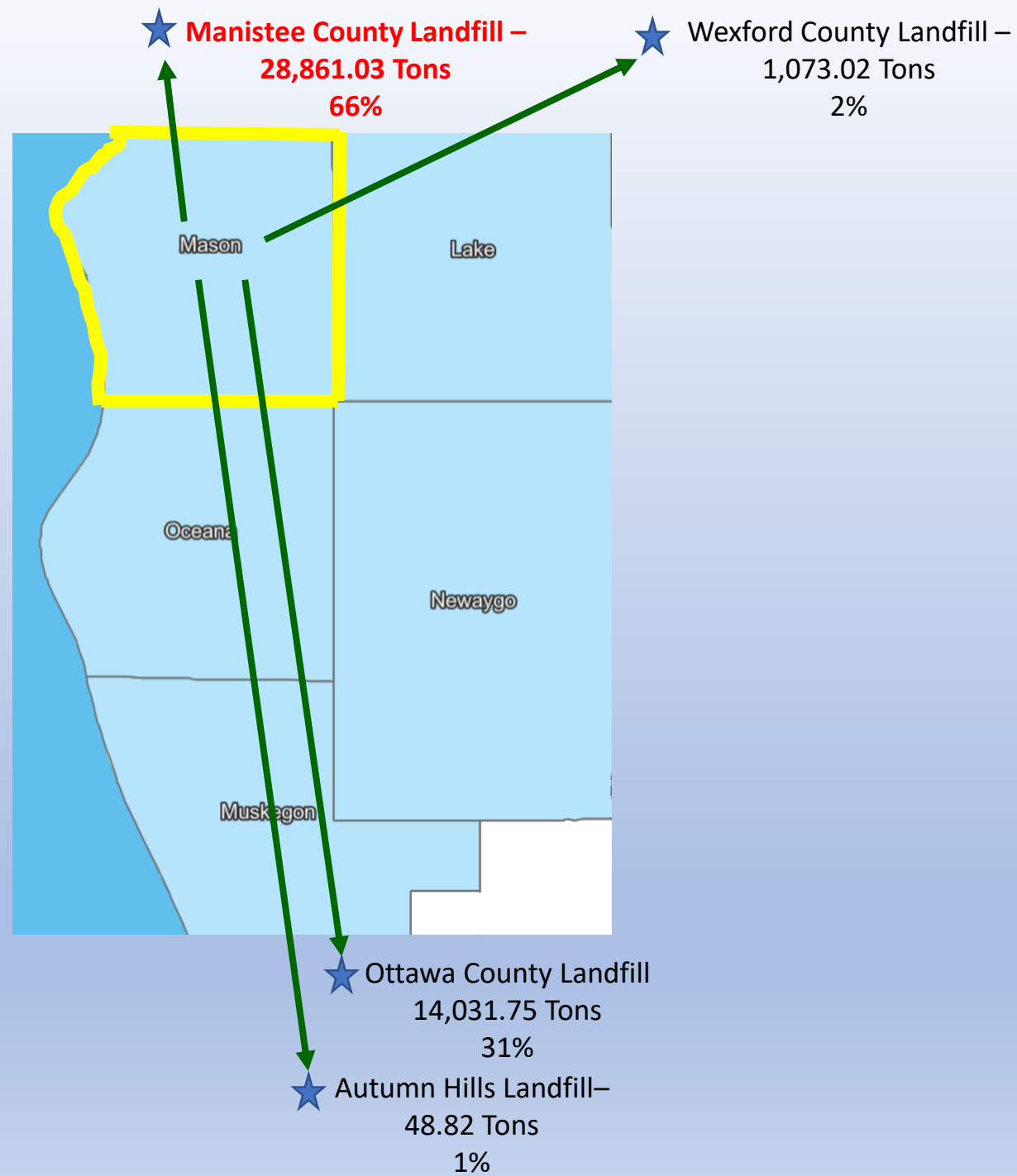
# OCEANA COUNTY

Total Waste Disposed FY 2024 –  
30,911.17 Tons



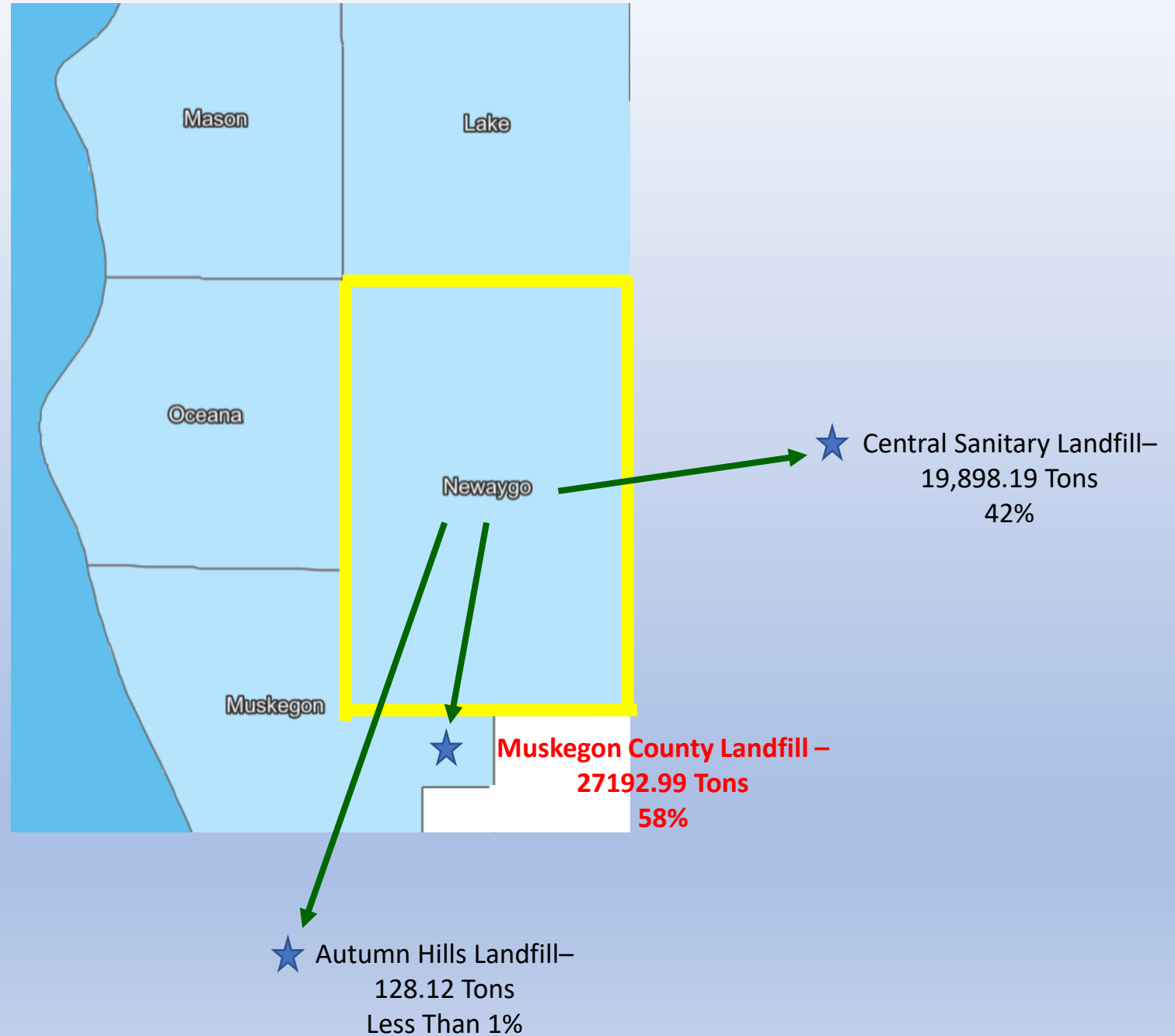
# MASON COUNTY

Total Waste Disposed FY 2024 –  
44,014.62 Tons



# NEWAYGO COUNTY

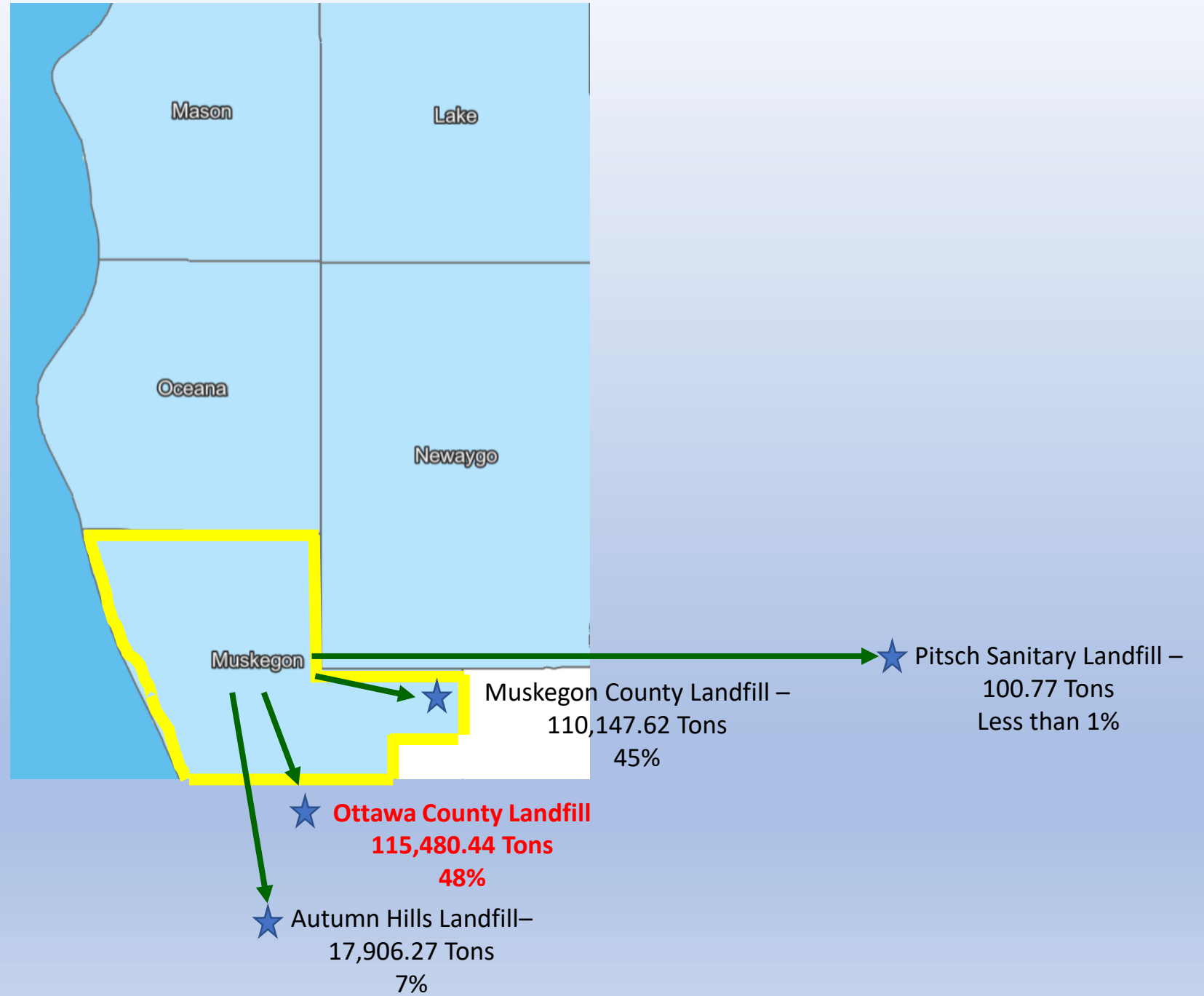
Total Waste Disposed FY 2024 –  
47,313.69 Tons





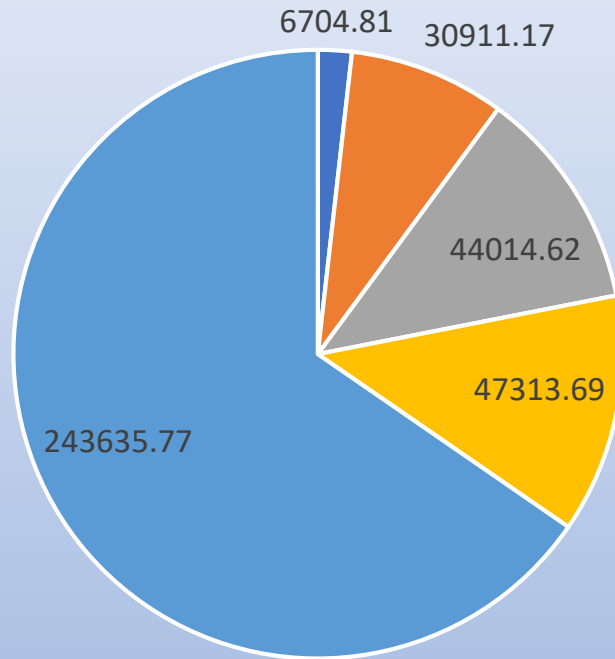
# MUSKEGON COUNTY

Total Waste Disposed FY 2024 –  
243,635.77 Tons



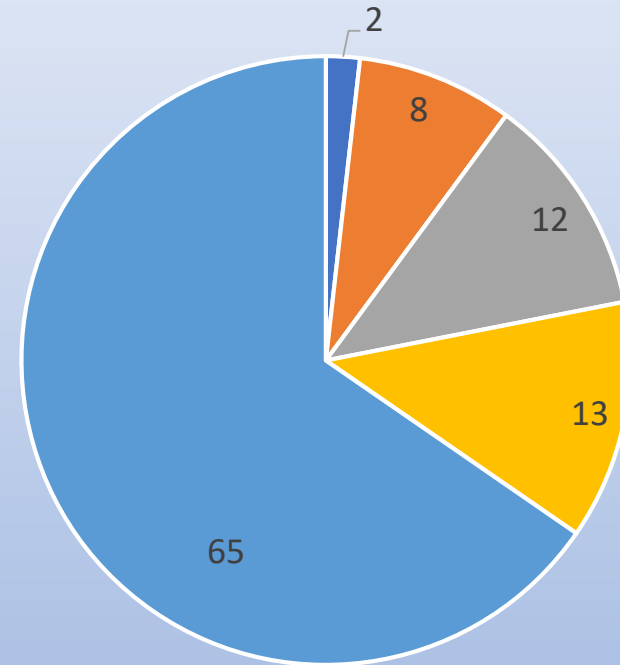
# FY2024 Planning Area Waste Generation

Total Disposal Weight



■ Lake ■ Oceana ■ Mason ■ Newaygo ■ Muskegon

Percent Waste Disposal



■ Lake ■ Oceana ■ Mason ■ Newaygo ■ Muskegon

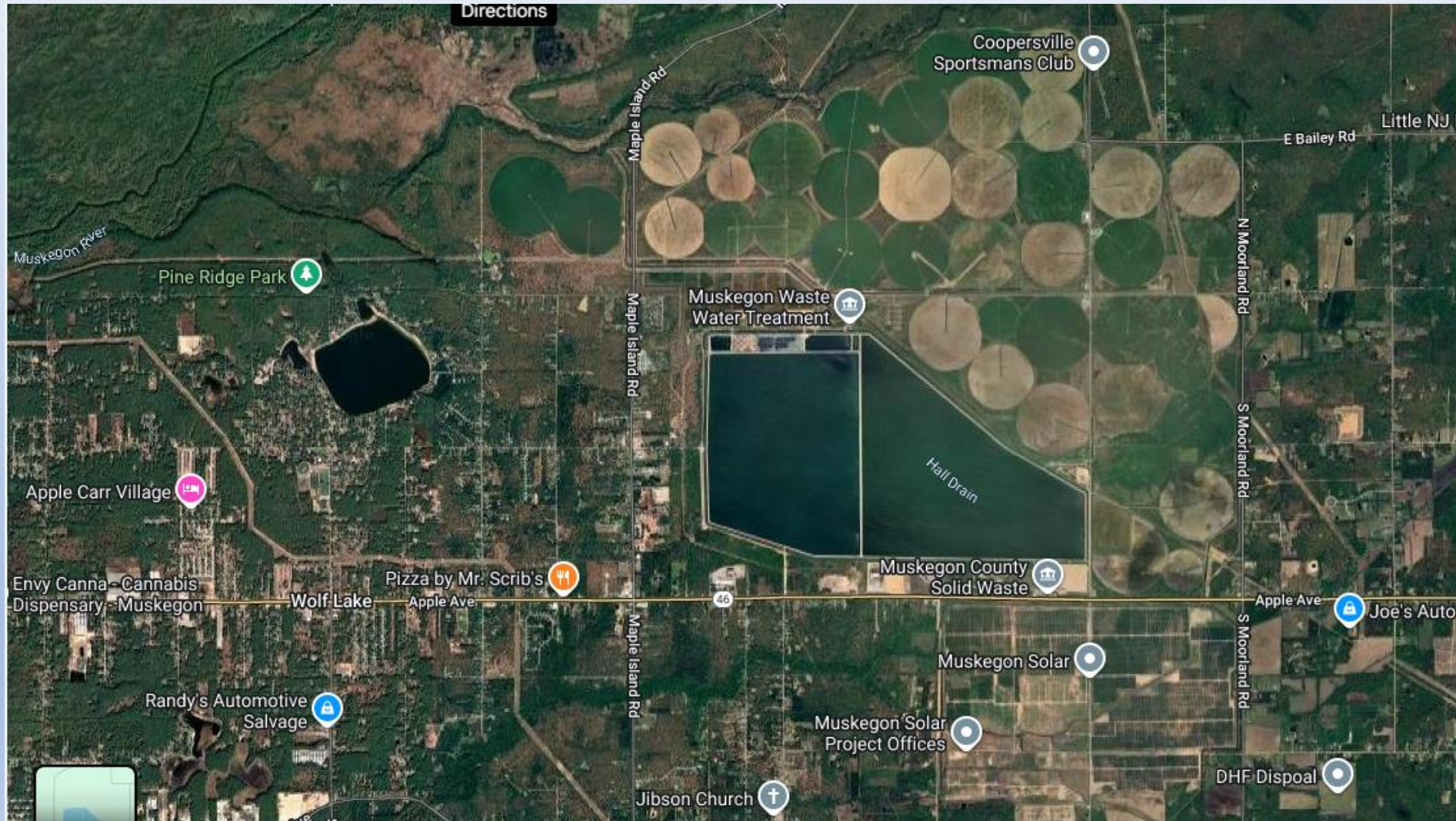
# FY 2024 Waste Information

- Planning Region generated 372,580 tons of the 24,136,620 tons disposed in Michigan, or 1.5 percent of total disposal.
- There was an overall increase in solid waste disposal in Michigan of 5.43 percent.
- Waste from Michigan residents and businesses increased by 1,295,799.83 tons.
- Imported waste decreased by 52,172.37 tons.
- Total imported solid waste is approximately 18.97 percent of all waste disposed in Michigan landfills.
- 4,467,253.17 tons of waste were disposed from other states and Canada in Michigan landfills.
- The largest source of waste imported into Michigan continues to be from Canada at 14.35 percent of all waste disposed of in Michigan landfills.
- Michigan landfills have a total of approximately 21 years of remaining disposal capacity at the end of FY 2024

# Part 2: Muskegon County Landfill

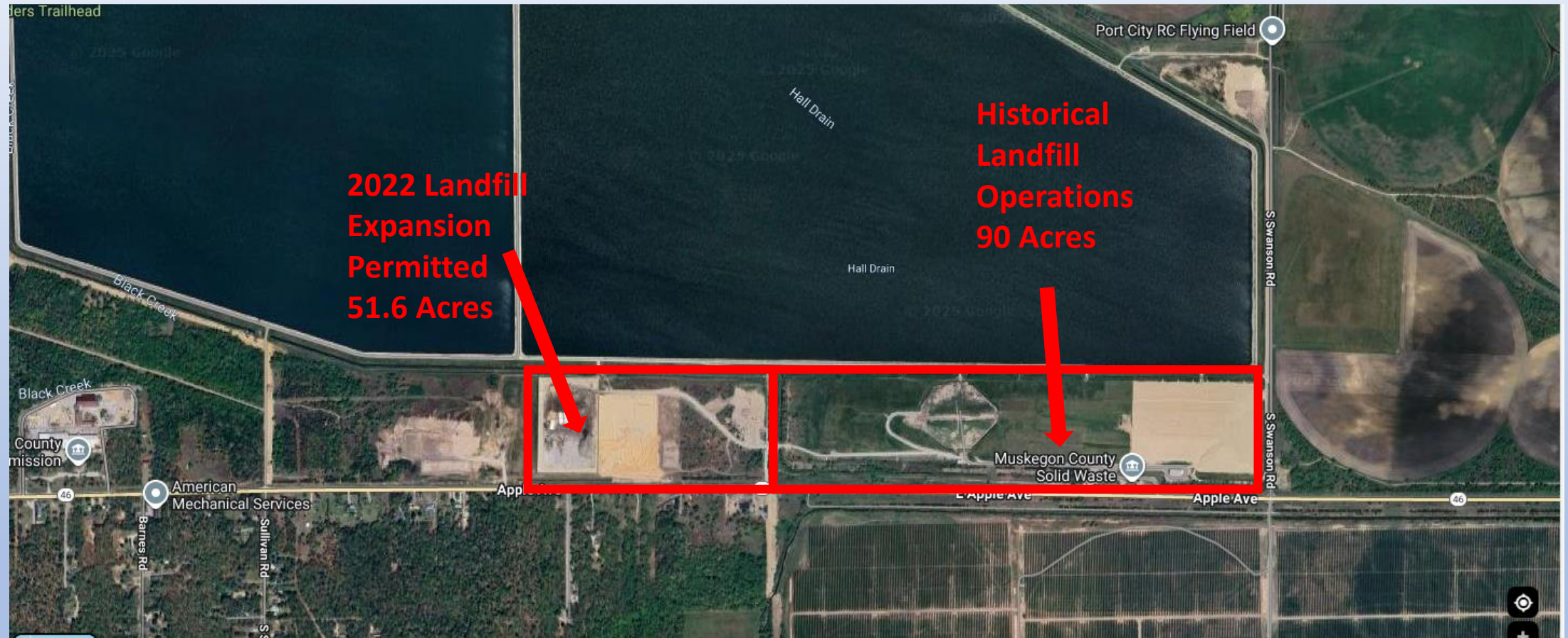
An Overview of the Active Type II Landfill

# Site Location – 9366 Apple Avenue





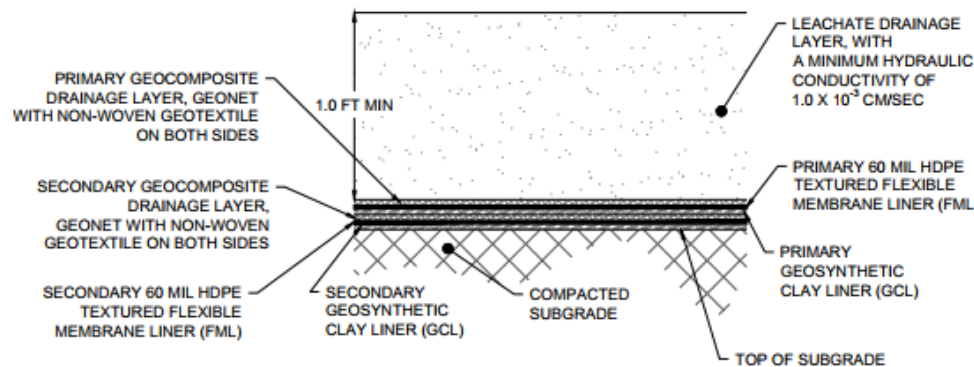
# Moorland and Egelston Township



# Modern Sanitary Landfill Design Standards

## Double Composite Liner System With Leak Detection

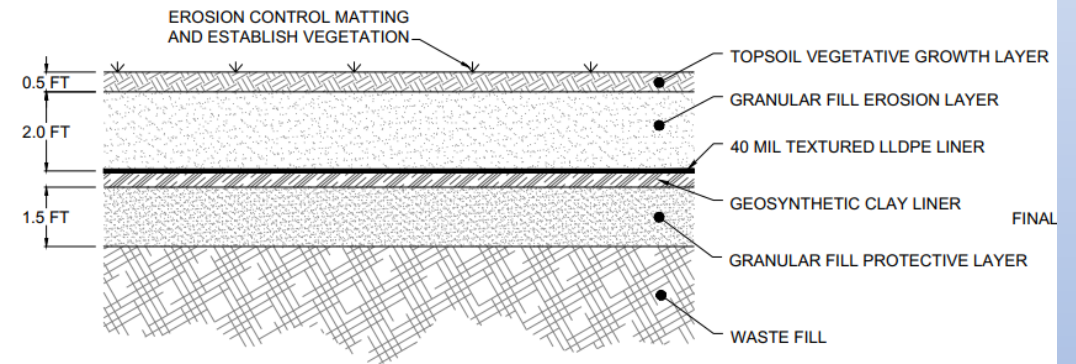
## Composite Capping System



NOT TO SCALE 1 TYPICAL BASE LINER SYSTEM  
500-4

**NOTES:**

1. ALL FILL MATERIAL BELOW THE LINER GRADE SHALL BE COMPACTED TO 90% OF MODIFIED PROCTOR AT LIFTS NOT TO EXCEED 6 INCHES.



NOT TO SCALE 1 TYPICAL FINAL COVER SYSTEM DETAIL  
500-12  
NOTES:



# Modern Sanitary Landfill Design Standards

## **Double Composite Liner System With Leak Detection**



## **Composite Capping System**





# Expansion Cell 6 Construction

**Base Geosynthetics Nearing Completion**



**Leachate Collection System Complete**



# Waste Disposal Process

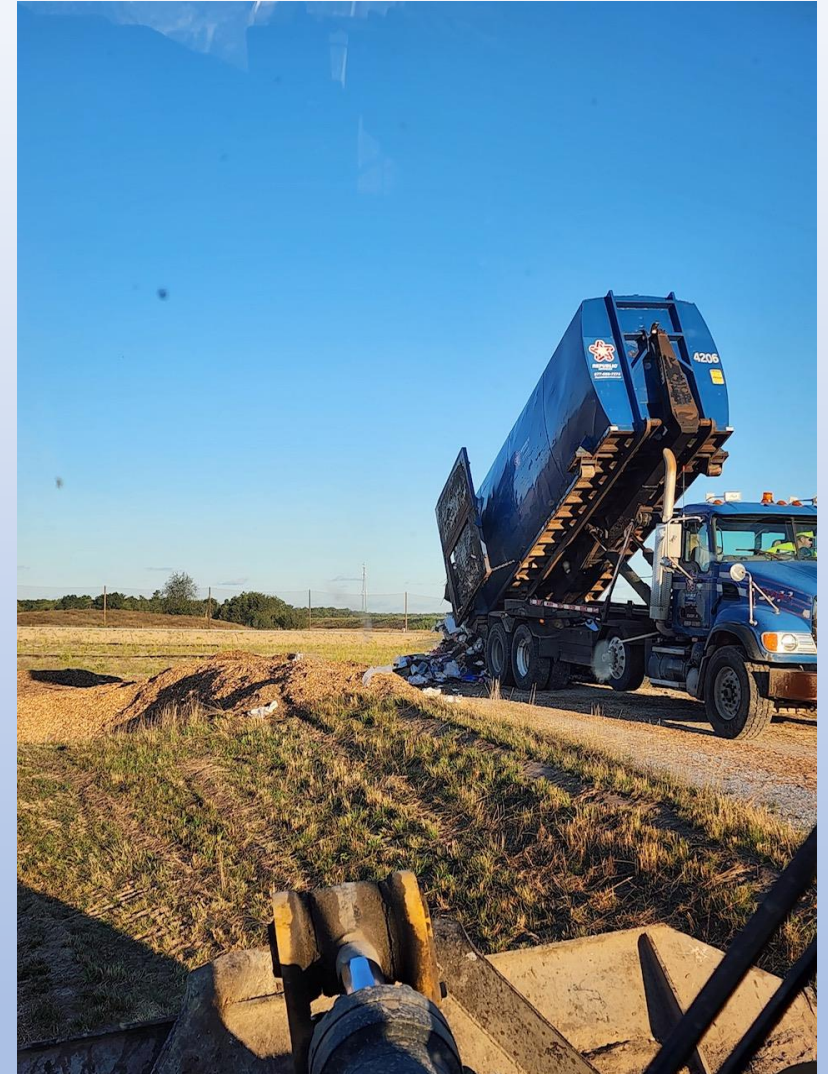
- Weight in on scale
- Drop material at transfer station or
- Proceed to active landfill and discharge load at active face
- Return to scale
- Receive ticket for disposal





# Waste Disposal Process

- Deliver load to active cell
- Compact the waste materials
- Cover with soil, alternate daily cover, or tarping system





# Modern Landfills:

- Protect groundwater
- Collect leachate
- Sequester materials from the environment
- Collect landfill gas for destruction or reuse



# Muskegon County Landfill Waste Hauling Info

- The County does not have any hauling operations
- The County depends on waste haulers to deliver materials for disposal
- Most Muskegon County haulers have entered into a Type II Hauler Delivery Agreement
- Other Haulers operate with gate rate disposal fees and no delivery obligations

# Muskegon County Landfill

## Total waste received by origin FY 2024

### 164,557.32 Tons

- Origin of Waste Received Details:

• Lake County	2,343.27 Tons	1%
• Muskegon County	110,147.62 Tons	67%
• Newaygo County	27,192.99 Tons	17%
• Oceana County	17,288.38 Tons	11%
• Ottawa County	7,585.06 Tons	4%

# Muskegon County Landfill

## Total waste received by waste type FY 2024

### 164,557.32 tons

- Type of Waste Received Details:

• Municipal & Commercial Waste	100,905.27 Tons	61%
• Industrial Waste	1,792.33 Tons	1%
• Construction & Demolition	30,038.06 Tons	18%
• Alternate Daily Cover	31,680.72 Tons	19%
• Other	140.94 Tons	<1%

# Muskegon County Landfill Expansion Projected Lifespan

	FY2024	FY2025
Airspace Used (CYD)	161,656	277,149
Airspace Remaining (CYD)	4,569,913	4,292,764
Tonnage Received	164,557	200,705
Life Remaining (Years)	19	15
Citizen Trips	12,176	12,397



# Part 3: Landfills and the MMP Process

A landfill supervisor perspective

# Modern Sanitary Landfill

- The backbone to any Materials Management Plan
- Maintenance of adequate airspace is still important
- Most landfill diversion techniques still require disposal
- There is currently no cost effective replacement to the Modern Sanitary Landfill
- Landfills are considered a good PFAS sequestration option
- Landfills don't rely on any other waste management operation to function properly

# A Landfill Supervisor Conclusions

- The MMP process should welcome the inclusion of Landfills
- The MMP should not place undo burden on landfills
- As population increases the amount of required landfill airspace will increase, even with increased diversion
- It can be difficult to get the general public to follow source separation requirements, which contaminates loads and results in disposal
- Landfill material diversion is valuable and should be pursued to the extent possible – while always maintaining a proper place for the material to go.

QUESTIONS?