San Diego County
Air Pollution Control District (District)

Sycamore Landfill Public Meeting

May 13, 2021

Meeting Agenda

SDAPCD	Purpose of this meeting Air Toxics and the "Hot Spots" Program Facility operation, emissions, and health risk Next Steps
Sycamore Landfill	Background and Facility Operations Steps taken to control emissions Future Landfill Operational Measures
Public Comment	Receive public comments Answer questions SDAPCD staff and Sycamore Landfill staff

California Air Toxics "Hot Spots" Program (Assembly Bill 2588)

Program Goal

- Protects the public's right to know about toxic air contaminant emissions and how these emissions can potentially impact public health; and,
- Requires health risk reductions for facilities with elevated health risks

Toxic Air Contaminants

- Chemicals emitted into the atmosphere that may cause adverse health effects

Adverse Health Effect

- Range from minor eye or throat irritation, shortness of breath, or headaches, to cancer, birth defects, or damage to organs

Sources of Toxic Air Contaminants

Stationary Sources

Mobile Sources

Area Sources

California Air Toxics "Hot Spots" Program

San Diego County Air Pollution Control District

Quantify Toxic Air Contaminant Emissions

Identify Facilities that may Present Public Health Concerns

Request Health Risk Assessments

Implement Public Notification and Risk Reduction Requirements

Sycamore Landfill Operations

- Landfill opened in 1962 and presently operated by the Republic Services or Allied (their predecessor) since 2007
- Began accepting municipal solid waste (MSW) in 1967
- Collects around 1 million tons of MSW annually
- Total of 32 million tons of MSW collected to date, nearing capacity
- Permitted for 40 million cubic yards of waste over 520 acres
- Open application wit the state Cal Recycle to increase to 147 million cubic yards of waste over 603 acres
- Estimated closure of 2042

Sycamore Landfill Equipment

- Active non-hazardous waste landfill operation
  - Landfill
  - Landfill gas flares (installed 2000 and 2009)
  - Paved and unpaved haul roads
  - Mining Operation
  - Daily cover application
  - Daily cover stockpiles
- Green Waste Grinding Process
  - Diesel Engine (1050-1200 bhp)

Sycamore Landfill Emissions Inventory

Criteria Pollutants	2013 (tons/yr)
Carbon Monoxide (CO)	6.55
Nitrogen Oxides (NOx)	25.4
Particulate Matter (PM10)	381
Reactive Organic Gases (ROG)	122
Total Organic Gases (TOG)	5300
Sulfur Oxides (SOx)	5.71
Total Particulates (TSP)	904

Toxic Air Contaminants	2013 (lbs/yr)
Arsenic	47
Diesel Particulate	560
Nickel	52
Silica, Crystalline	30,400

Air Toxics "Hot Spots" Program Health Risks

San Diego County Air Pollution Control District

Cancer Risk

Calculates the probability that a person would contract cancer if exposed to emissions for 30 years

Health Hazard Index

Calculated for acute exposure (or short-term health impacts) and chronic exposure (or long-term health impacts)

Index < 1 → no adverse health effects

Index ≥ 1 → potential for adverse health effects

Cancer Burden

Estimates of the number of people that can contract cancer within a community that is exposed to the emission levels

Existing Public Notification and Risk Reduction Thresholds

Health Risk	Public Notification Threshold	Risk Reduction Threshold
Cancer Risk	10 in one million	100 in one million
Acute Noncancer Health Hazard Index	1.0	1.0
Chronic Noncancer Health Hazard Index	1.0	1.0
Cancer Burden	1.0	1.0

Health Risk Assessment Results for Sycamore Landfill 2013 Emissions

Maximum Residential Cancer Risk	**38.3 in one million**
Maximum Worker Cancer Risk	1.48 in one million
Maximum Residential Chronic Non-Cancer Health Hazard Index	**2.90**
Maximum Worker Chronic Non-Cancer Health Hazard Index	**1.98**
Maximum Residential Acute Health Hazard Index	0.887
Maximum Worker Acute Health Hazard Index	0.544
Population Excess Cancer Burden	0.200

Maximum Residential Cancer Risk

38.3 in one million

Pollutant	Contribution
Arsenic	88%
Diesel PM	7%
Lead	1%

Source	Contribution
Unpaved Haul Roads	71%
Stockpiles	10%
Diesel Engine	7%
Cover Application	5%
John Zink Flare	3%
Landfill	3%
Perennial Flare	1%
Paved Haul Road	1%
Quarrying	0.1%

Residential Chronic Non-Cancer Health Risk

Health Hazard Index: 2.90

Pollutant	Contribution
Arsenic	70%
Silica, Crystalline	28%
Nickel	1%

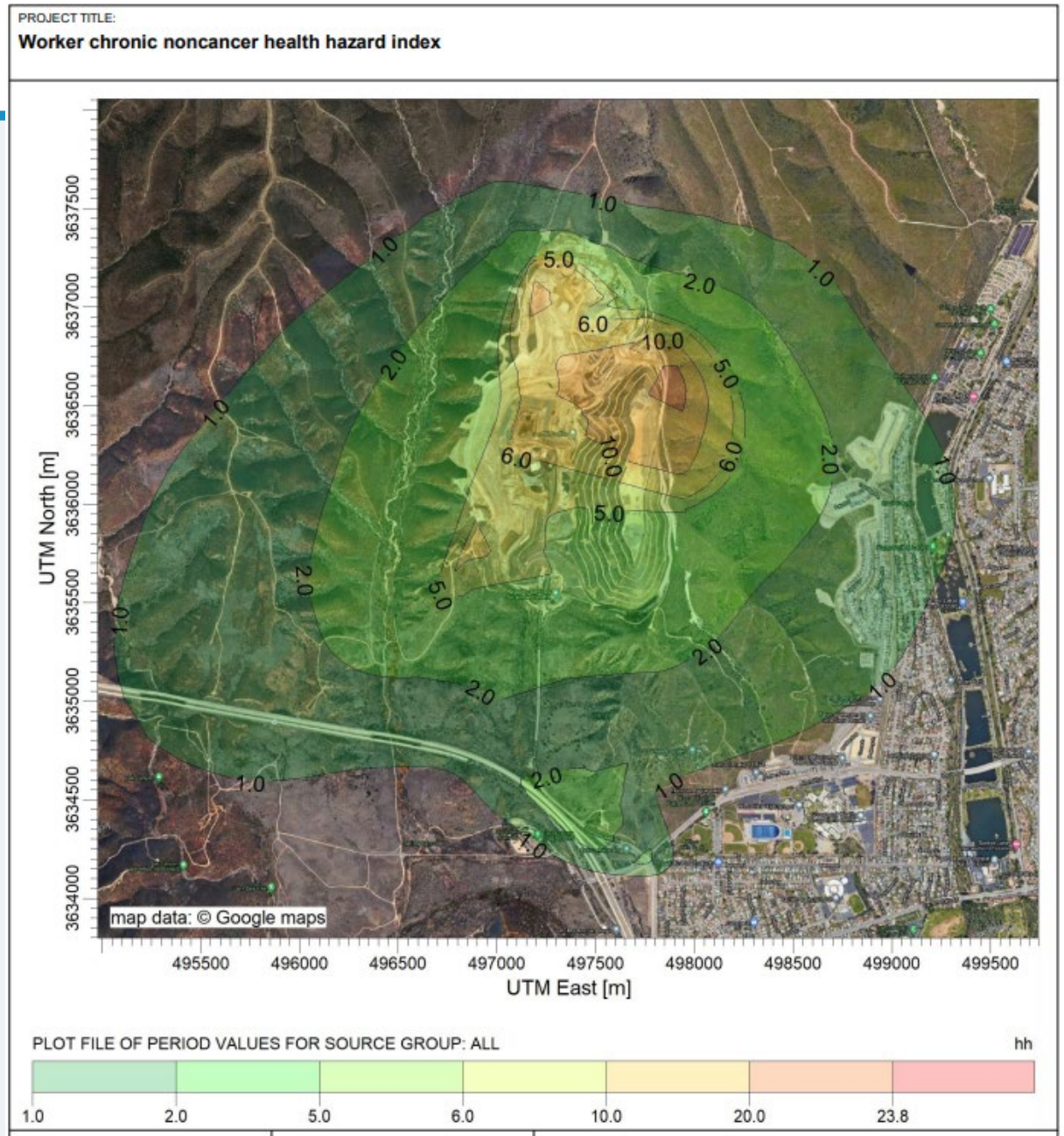
Source	Contribution
Unpaved Haul Roads	79%
Stockpiles	12%
Cover Application	5%
John Zink Flare	2%
Paved Haul Road	1%
Perennial Flare	1%
Landfill	0.3%
Quarrying	0.1%
Diesel Engine	--

Worker Chronic Non-Cancer Health Risk

Health Hazard Index: 1.98

Pollutant	Contribution
Arsenic	70%
Silica, Crystalline	28%
Nickel	1%

Source	Contribution
Unpaved Haul Roads	79%
Stockpiles	12%
Cover Application	5%
John Zink Flare	2%
Paved Haul Road	1%
Perennial Flare	1%
Landfill	0.3%
Quarrying	0.1%
Diesel Engine	--



Sycamore Landfill

Serving the San Diego region as an essential public facility necessary to safely manage non-hazardous solid waste for public health and safety.

REPUBLIC SERVICES

We'll handle it from here.®

Company Overview

| 36,000 employees
| 14 million customers
| 240 markets
| 41 states

5.1M

5.1 million pickups every day

75

75 landfill gas and renewable energy projects

7

7 treatment, recovery and disposal facilities

40%

40% better safety performance than the industry average based on OSHA data

| 7th largest fleet
| 16K trucks

| 75% of residential routes automated

| 20% of fleet powered by natural gas

91

91 recycling centers that process more than 6 million tons of recyclables annually

190

190 active modern-day landfills

Monitoring and Oversight

County of San Diego

- Planning and Development Services
- Public Works
- Hazard Material Division
- Air Pollution Control District

City of San Diego

- Solid Waste Local Enforcement Agency
- Public Utilities

State of California

- San Diego Regional Water Quality Control Board
- California Department of Fish and Game
- Cal EPA
- CalRecycle

Federal Agencies

- U.S. Fish and Wildlife Services
- U.S. Army Corps of Engineers
- U.S. EPA

Regulatory agency inspections – at least monthly

Sycamore Landfill operates in strict compliance with all permitting and regulatory requirements of all agencies.

2013 Health Risk Assessment

- Fugitive dust (PM-10) is the main contributor to the result of the HRA - NOT the landfill waste or recycling operations

- Truck operations on the Landfill may result in fugitive dust emissions from paved and unpaved haul roads, stockpiles, and cover soils

- Naturally occurring metals and minerals (arsenic, crystalline silica and nickel) are prevalent in the native soil at Sycamore Landfill and within San Diego County.

Our Risk Reduction Best Practices

- ✓ Landfill gas collection and control system
- ✓ Speed limits enforced on site
- ✓ Increased amount of paved roadway
- ✓ Street sweeping on paved roads
- ✓ Watering - continuous throughout the day during operations
- ✓ Dust suppressant and soil stabilizers
- ✓ Vegetation on completed landfill slopes
- ✓ Temporary vegetative cover in other areas when possible

Republic Services proactively implements strategies to reduce emissions and mitigate health risks from fugitive dust.

Next Steps

- Review and approve risk reduction plan
- Implement and enforce risk reduction plan
- Evaluate and approve HRA based on 2017 emissions inventory
- Consider public comments