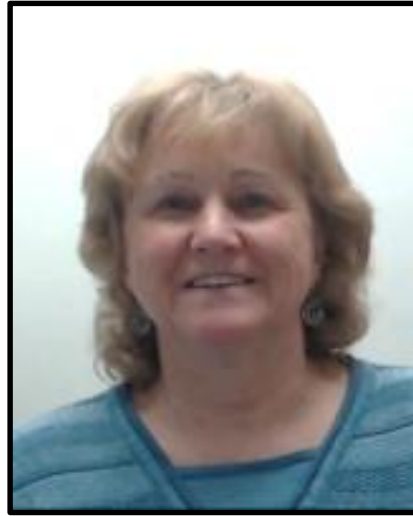


**Shelton C Street Landfill Online Informational Meeting  
Thursday, November 18, 2021**



## Presentation Team



**Rebecca Lawson**

Southwest Region Section Manager  
Toxics Cleanup Program



**Andrew Smith**

Unit Supervisor/Site Manager  
Shelton C Street Landfill Site



**Nancy Davis**

Facilitator



**Agustina Cartagena-McLean**

Spanish Translator/Traductora de español



**Heather May**

Host

# Shelton C Street Landfill Online Informational meeting

## Meeting Outline



- Welcome and introductions
- Model Toxics Control Act (MTCA) Cleanup process
- C Street Landfill Cleanup Site & Proposed Cleanup
- Questions/Answers
- Comment period open until Dec 7

# Comment Period open until December 7, 2021

Slide 4

- Remedial Investigation/Feasibility Study RI/FS
- Draft Cleanup Action Plan dCAP
- Agreed Order DE 19541
- State Environmental Policy Act Determination

Website/Sitio web <https://apps.ecology.wa.gov/gsp/sitepage.aspx?csid=2295>

Comment online/Comentarios en línea: <http://tcp.ecology.commentinput.com/?id=uQCja>

Email/Correo electrónico: Andy Smith, Site Manager

[Andrew.Smith@ecy.wa.gov](mailto:Andrew.Smith@ecy.wa.gov)

Mail/Correo : Andy Smith, Site Manager

WA Department of Ecology

Southwest Regional Office

PO Box 47775

Olympia, WA 98504-7775

Fact Sheet (English): <https://apps.ecology.wa.gov/gsp/docviewer.ashx?did=106180>

La hoja informativa (en español): <https://apps.ecology.wa.gov/gsp/docviewer.ashx?did=106748>

# Participate in Q&A Session

To ask a question:

- Open chat
- Chat your question to **all panelists** and the facilitator will read it out loud  
OR
- Raise your hand and wait to be unmuted to speak

Call-in only folks: \*3 to raise hand, wait to be unmuted to ask your question.

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Slide 5

The screenshot displays the Zoom meeting interface. At the top, the 'Participants' panel is visible, showing a search bar and a list of attendees. One attendee, Nancy Davis (Me), is listed. A blue arrow points to the 'Raise Hand' icon in the top right corner of the Participants panel. Below the Participants panel is the 'Chat' panel, which is currently empty. A blue arrow points to the 'Chat' icon in the bottom right corner of the meeting controls. A third blue arrow points to the 'All Panelists' option in the chat recipient dropdown menu, which is open and shows options: Host, Host & Presenter, All Panelists, and Southwest Toxics Cleanup Program 1.

Participants

Search

Attendee:

ND Nancy Davis Me

Chat

Raise Hand

To: Host

Host

Presenter

Host & Presenter

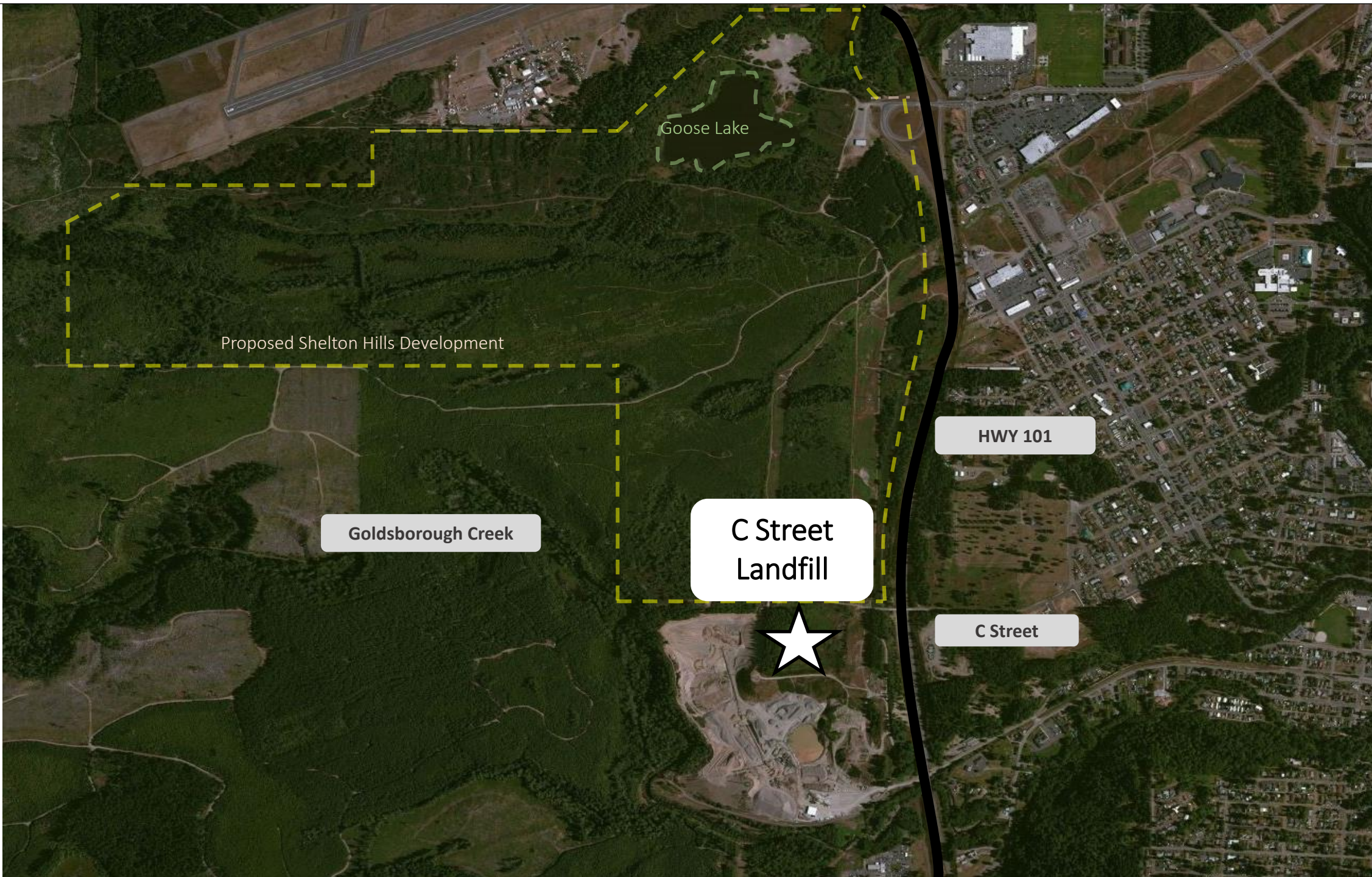
> Q All Panelists

Southwest Toxics Cleanup Program 1

Participants Chat

Type Question

Open Chat



Goose Lake

Proposed Shelton Hills Development

Goldsborough Creek

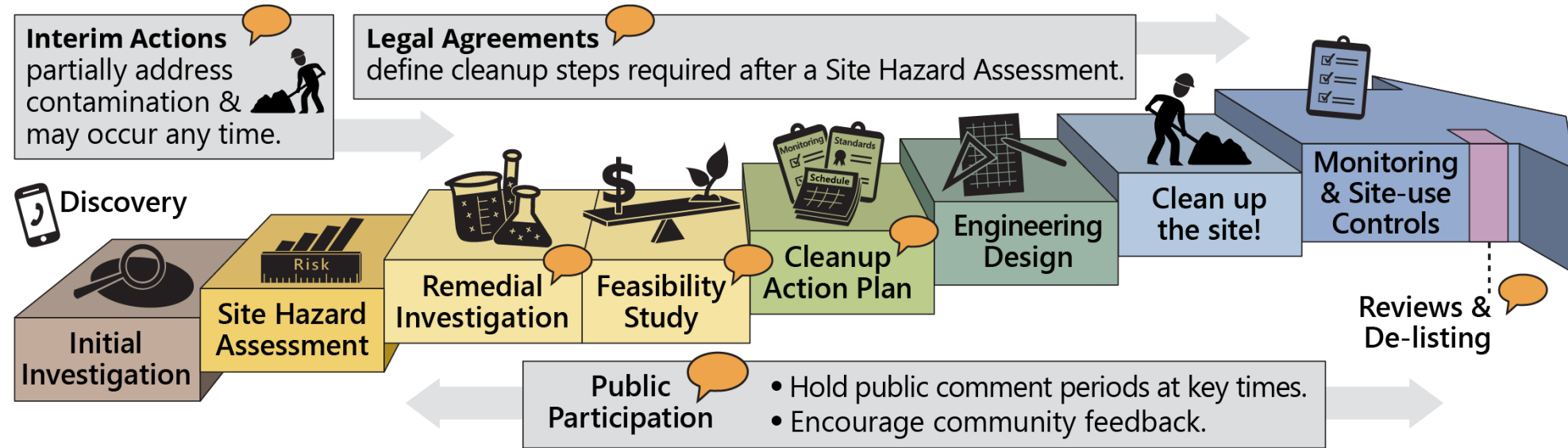
C Street  
Landfill



HWY 101

C Street

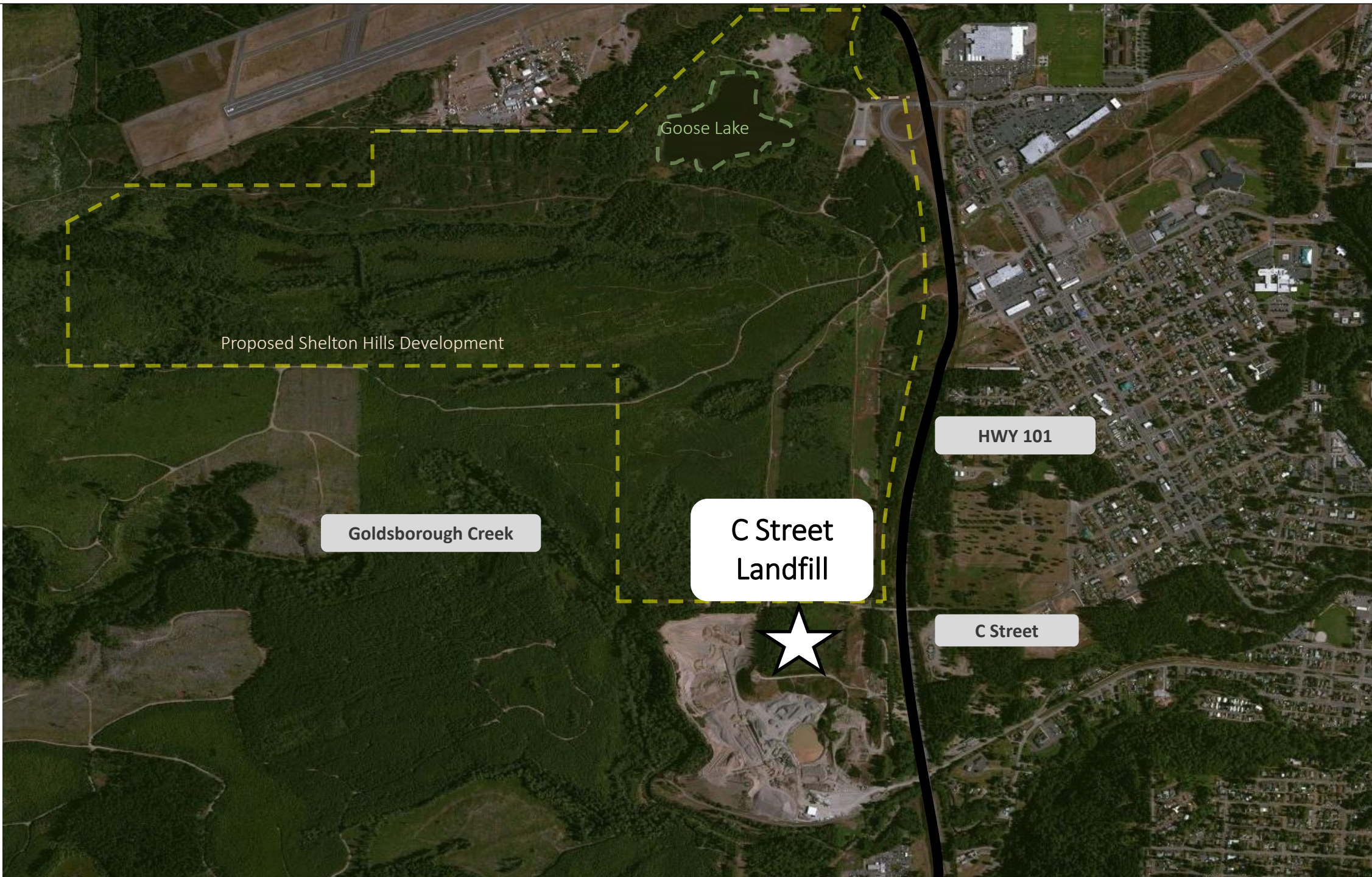
# The MTCA Cleanup Process (Model Toxics Control Act)



## Shelton C Street Landfill Online Informational Meeting Thursday, November 18, 2021







Proposed Shelton Hills Development

Goose Lake

Goldsborough Creek

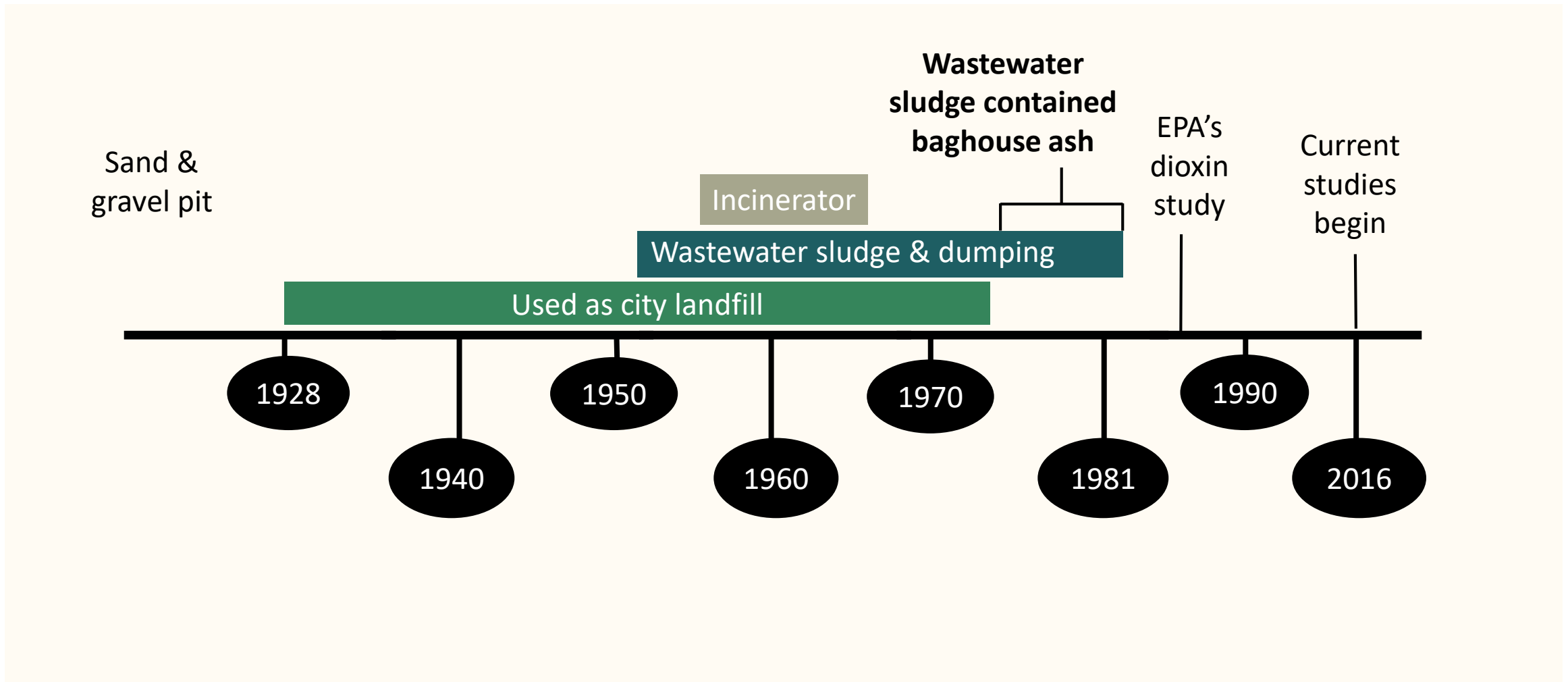
C Street  
Landfill



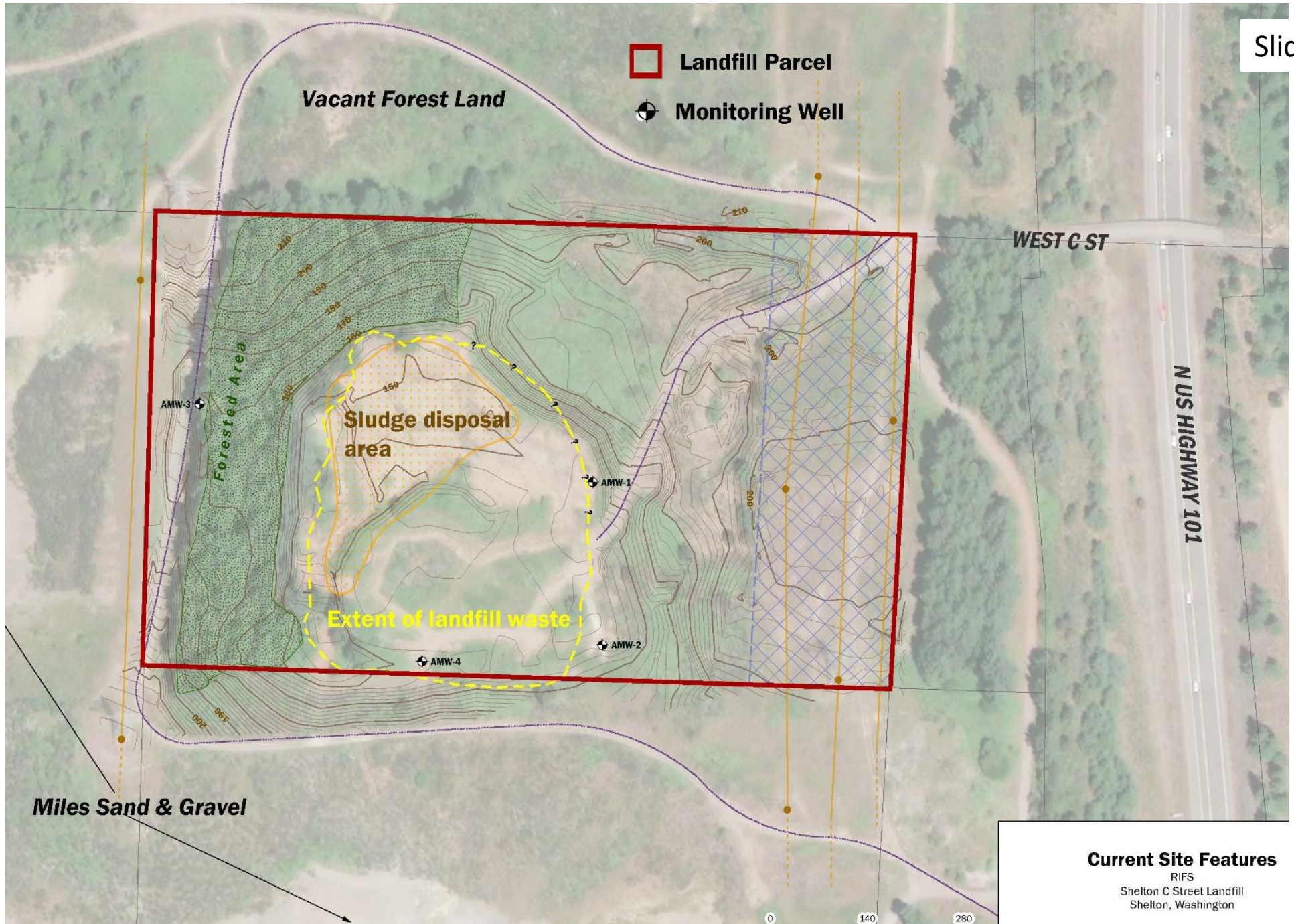
HWY 101

C Street

# Site History



# Current Site Features

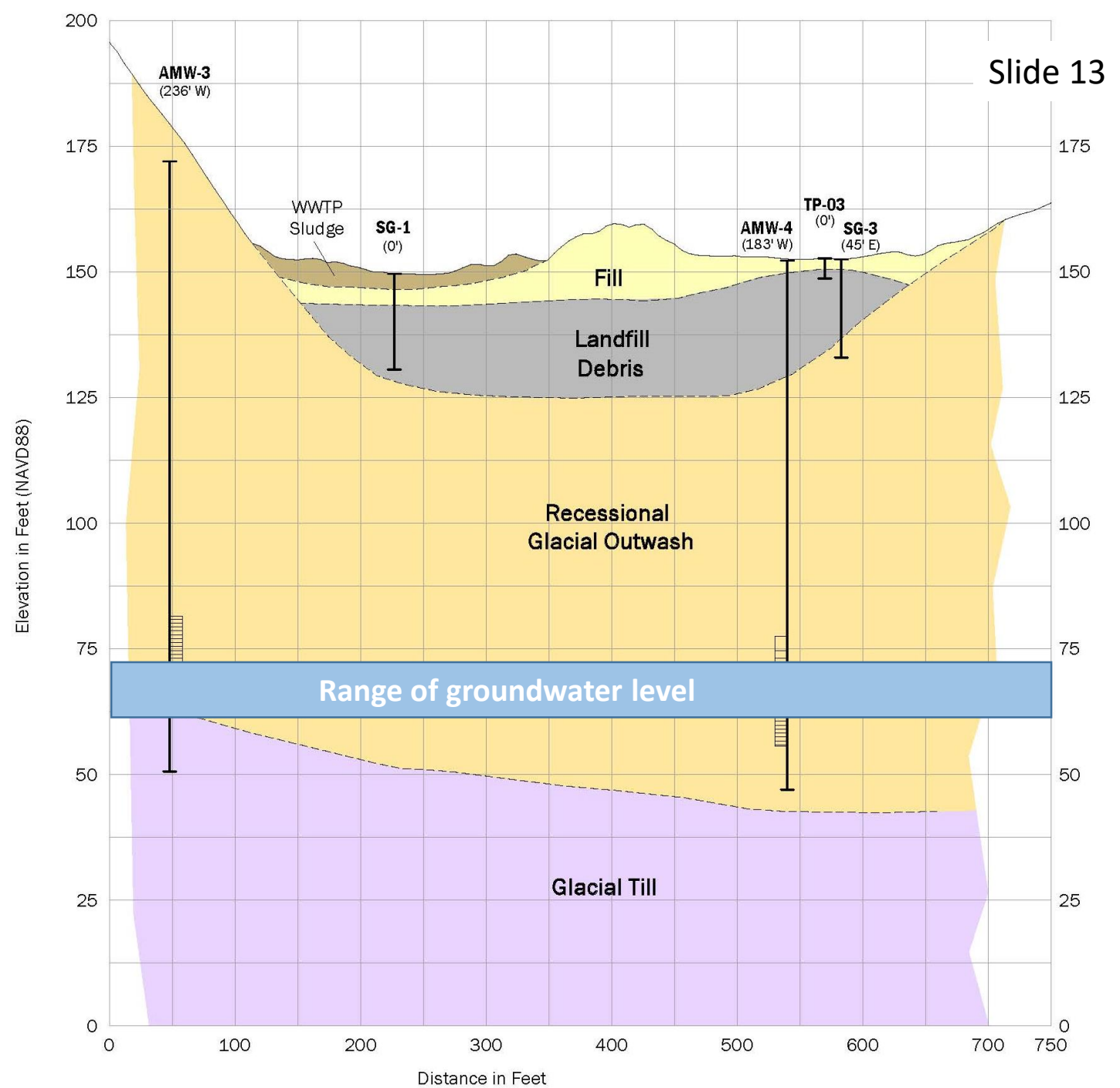


**Current Site Features**  
RIFS  
Shelton C Street Landfill  
Shelton, Washington

# Current Site Conditions

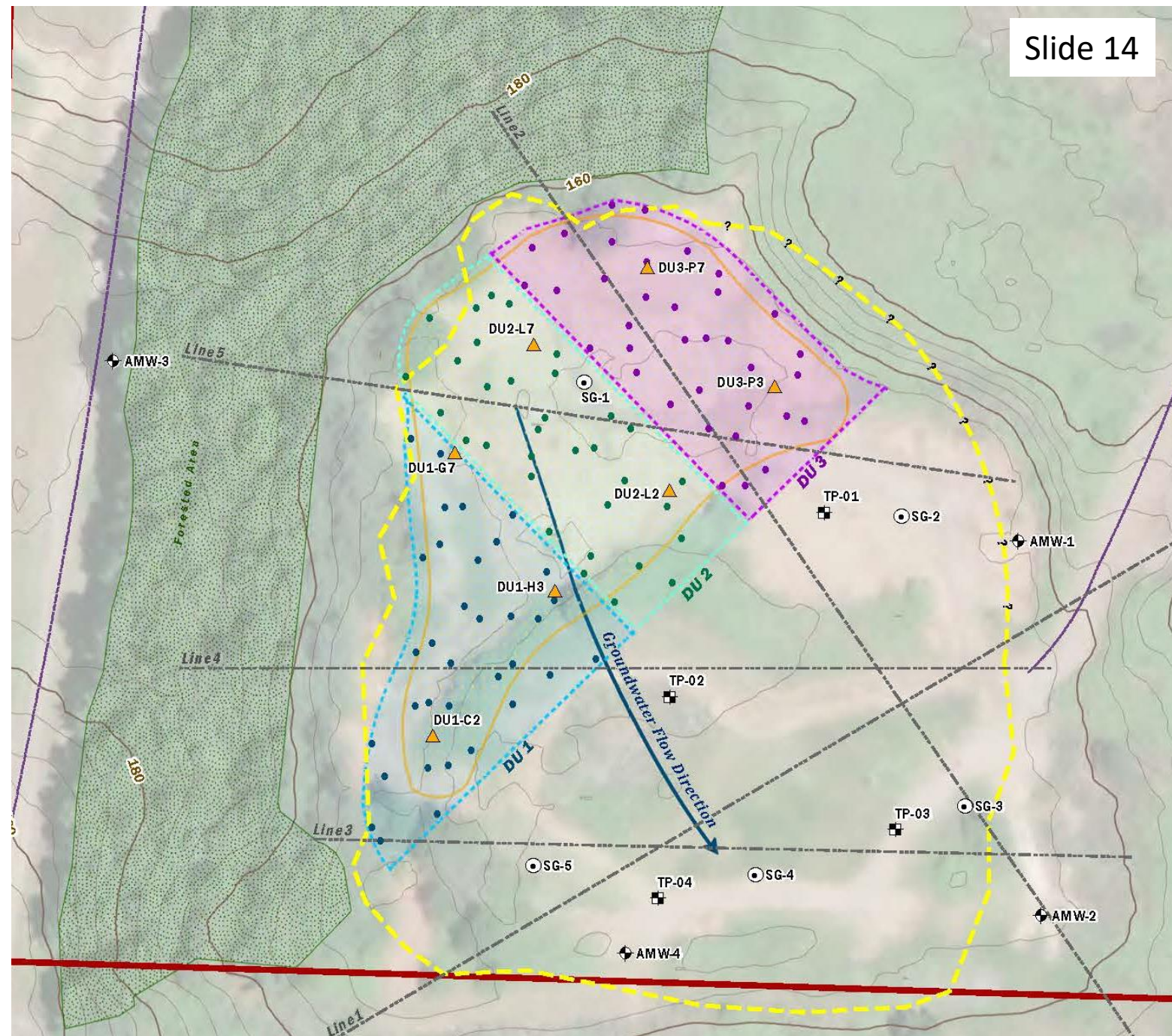


# Cross Section of the Landfill



# Remedial Investigation Tasks

- Geophysical studies to determine extent of waste.
- Surface sampling of wastewater treatment plant sludge.
- Groundwater evaluation.
- Landfill gas and soil gas investigation found no concerns.
- Cover soils characterization.



## Soil and Groundwater Analyses

- Polycyclic Aromatic Hydrocarbons (PAHs)
- Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)
- Dioxin/Furans
- Metals: Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Zinc, Iron, Magnesium, Manganese, and Sodium
- Petroleum Hydrocarbons: gasoline, diesel, and motor oil
- Pesticides and Herbicides
- Polychlorinated Biphenyls (PCBs)
- Semi-Volatile Organic Compounds (SVOCs)
- Volatile Organic Compounds (VOCs)

## Soil Gas Analyses

- Petroleum Hydrocarbons as gasoline
- Volatile Organic Compounds (VOCs)
- Methane
- Hydrogen Sulfide

# Remedial Investigation Results for Soil

Media	Contaminant	MTCA Cleanup Level	Range of Results	Unit
Soil	Total cPAHs	0.14	0.34-1.1	mg/kg or part per million
	Benzo(a)Pyrene	0.14	0.22-0.61	mg/kg or part per million
	Benzo(b)floranthene	1.37	0.54-2	mg/kg or part per million
	Total Dioxin TEQ	5.2	1,760-12,200	pg/g or part per trillion
	2, 3, 7, 8-TCDD	2.0	144-828	pg/g or part per trillion
	Total Furan TEQ	5.2	280-2,520	pg/g or part per trillion
	Metals			
	Barium	102	66-162	mg/kg or part per million
	Copper	50	36.7-80.6	mg/kg or part per million
	Lead	50	69.9	mg/kg or part per million
	Mercury	0.1	0.812-1.15	mg/kg or part per million
	Selenium	0.78	0.5-0.79	mg/kg or part per million
	Silver	2	1.65-6.55	mg/kg or part per million
	Zinc	86	81.9-355	mg/kg or part per million



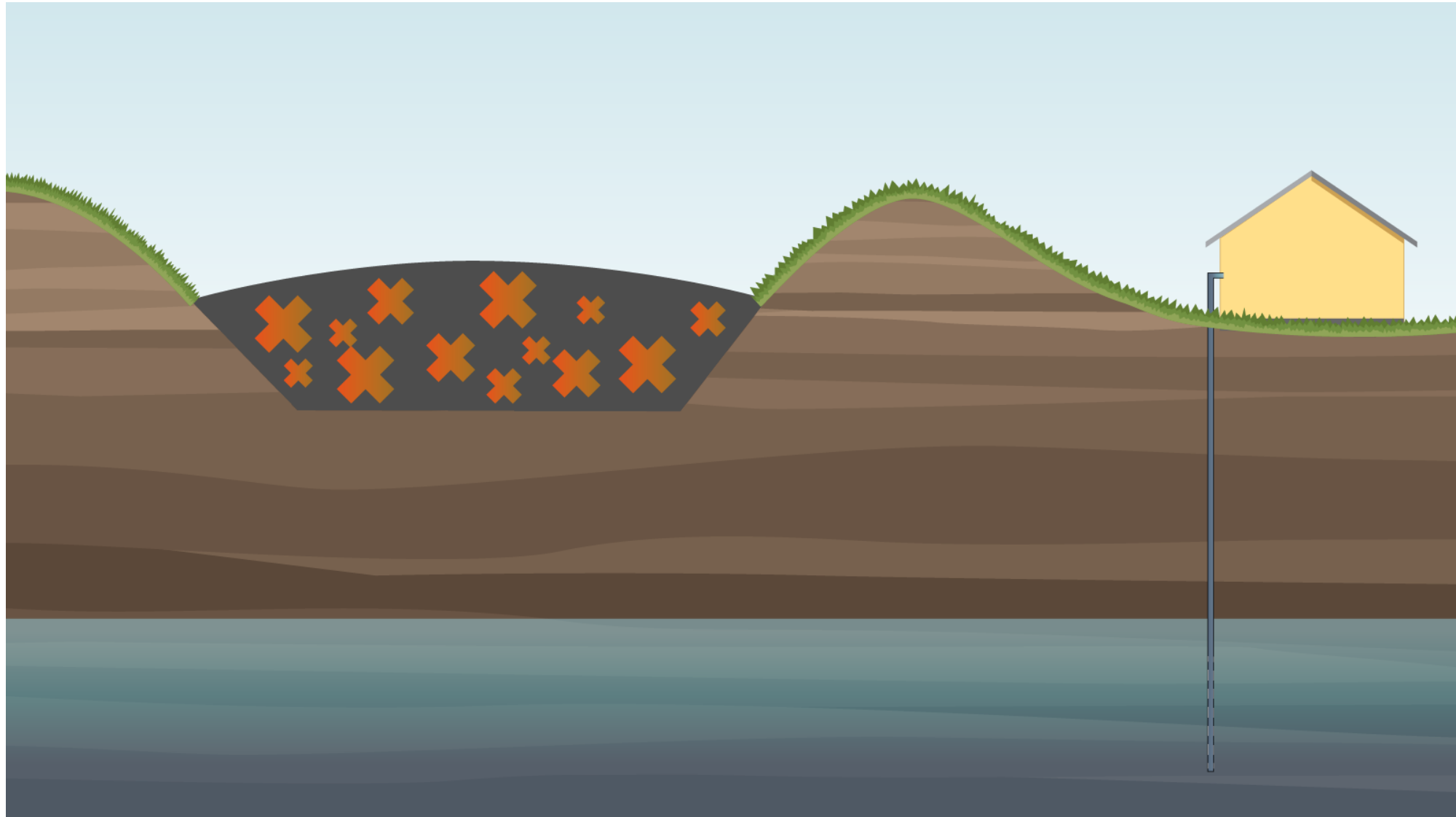
# Remedial Investigation Results for Groundwater

Media	Contaminant	MTCA Cleanup Level	Range of Results	Unit
Groundwater	Iron	300	317-566	ug/L or part per billion
	Manganese	50	1.0-2,560	ug/L or part per billion

# Remedial Investigation Results for Soil Gas

Media	Contaminant	MTCA Cleanup Level	Range of Results	Unit
Soil Gas	Benzene	32.1	7.3-220	ug/m <sup>3</sup> or part per billion
	Acrolein	0.914	1.4-9.8	ug/m <sup>3</sup> or part per billion

# Potential Exposure Pathways



# Feasibility Study

## Alternatives Evaluated

- **Alternative 1** – Install a low permeable soil cap, implement institutional controls, and conduct long-term monitoring.
- **Alternative 2** – Install an impermeable cover system with geomembrane layer, implement institutional controls, and conduct long-term monitoring.
- **Alternative 3** – Remove WWTP sludge, install a low permeable soil cap, implement institutional controls, and conduct long-term monitoring.
- **Alternative 4** – Conduct full removal of landfill debris and sludge.

# Feasibility Study: Cost-benefit Analysis

## Benefit Score Criteria

Criteria	Weighting
Protectiveness	30%
Permanence	20%
Long-term effectiveness	20%
Short-term risk	10%
Implementability	10%
Public concern	10%

# Feasibility Study: Cost-benefit Analysis

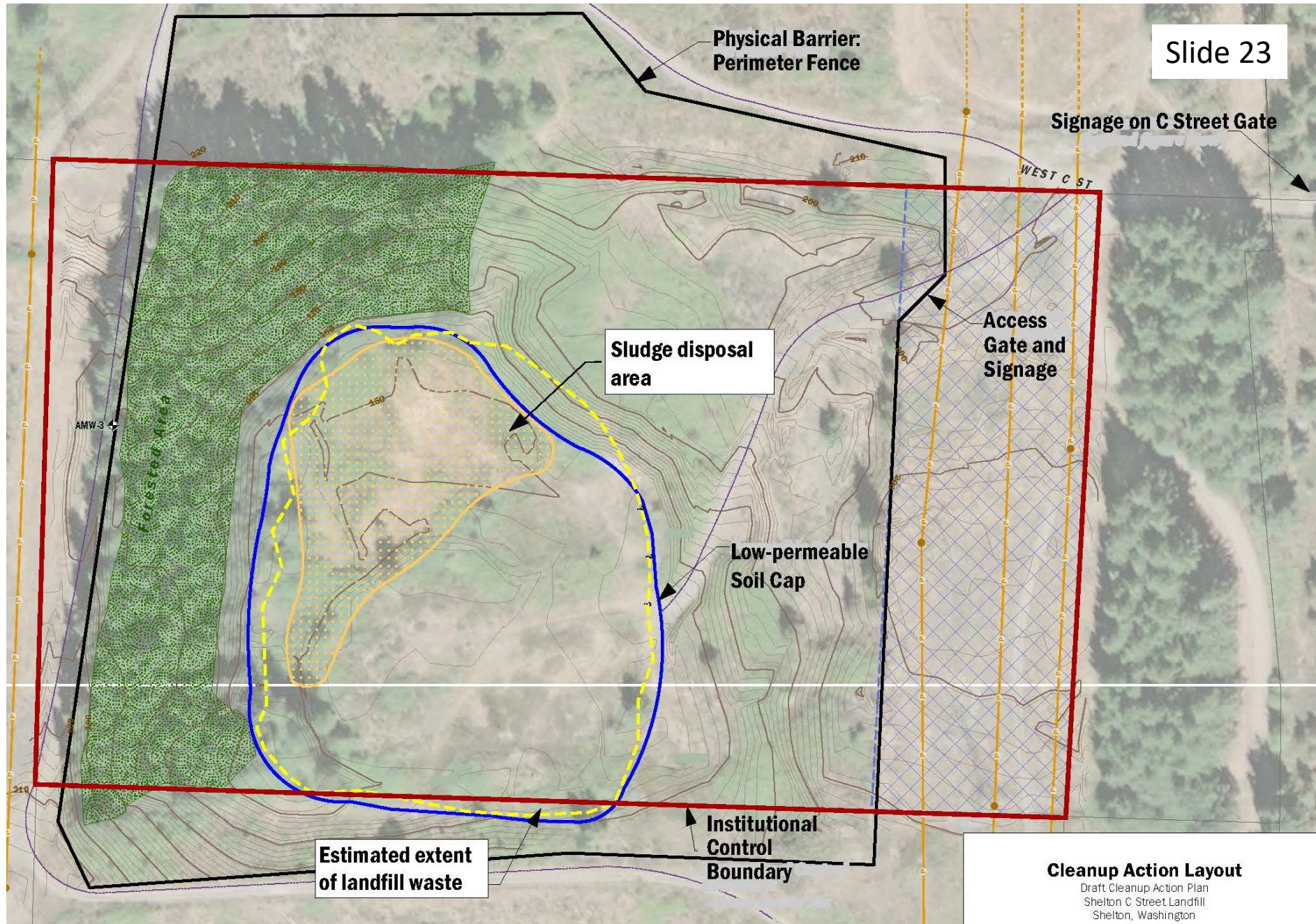
## Alternatives Comparison



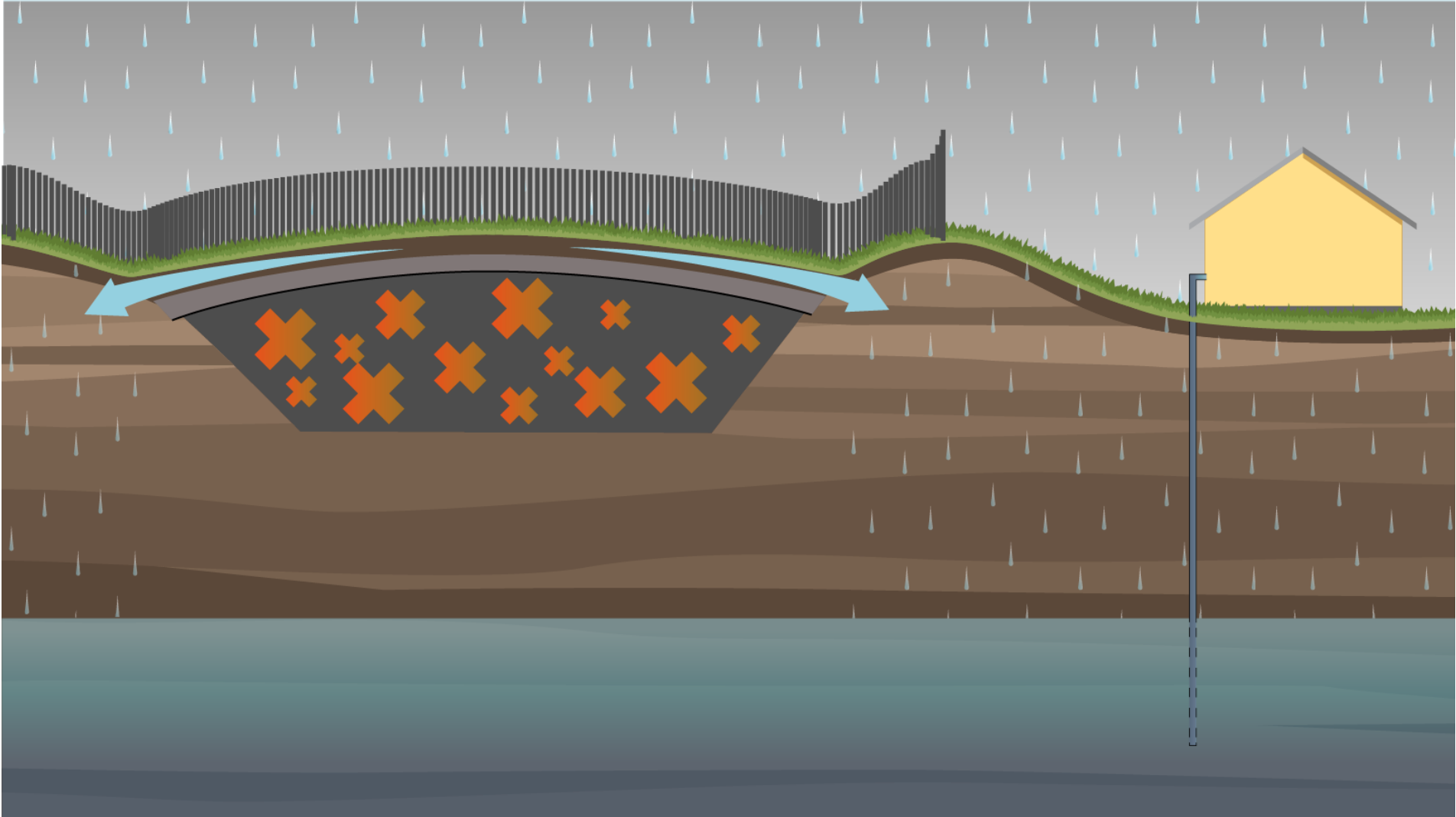
	1 Low Permeable Cap	2 Impermeable Cap	3 Sludge Removal/Low Permeable Cap	4 Full Removal of Contaminated Media
Benefit Score	3.00	2.90	3.00	2.20
Cost (Millions)	\$2	\$2.6	\$5.3	\$32
Benefit to Cost Ratio	1.50	1.12	0.57	0.07

# Proposed Cleanup:

- Low permeable cap.
- Physical barrier perimeter fence.
- Signage.
- Locked access gate.
- Institutional controls.
- Long-term monitoring.

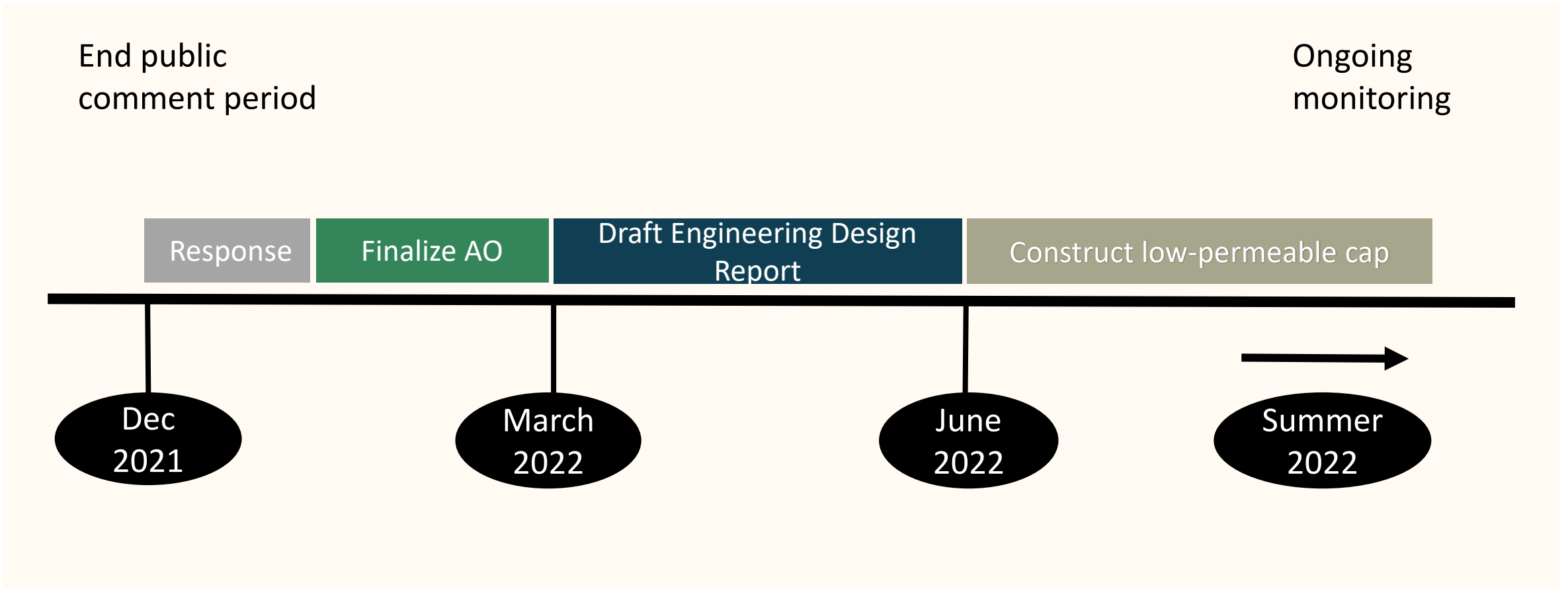


# Exposure Pathways Addressed





# Next Steps



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Slide 26

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