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Formerly Utilized Sites Remedial Action Program (FUSRAP)

PUBLIC MEETING ON THE SEAWAY SITE PROPOSED PLAN SEPTEMBER 24, 2008

Lieutenant Colonel Daniel B. Snead
Commander
Buffalo District
U.S. Army Corps of Engineers



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Agenda

- Welcome and introduction
- Technical presentation in support of the
Proposed Plan
- Obtain public input as part of the decision
making process



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FUSRAP Mission

- Identify, investigate and, if necessary, remediate sites that were contaminated from activities related to the Nation's early atomic energy program
- Protect human health and the environment now and into the future
- Conduct work in a safe and efficient manner
- Address contamination attributable to the Manhattan Engineer District (MED) or Atomic Energy Commission (AED)
- Comply with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)



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FUSRAP

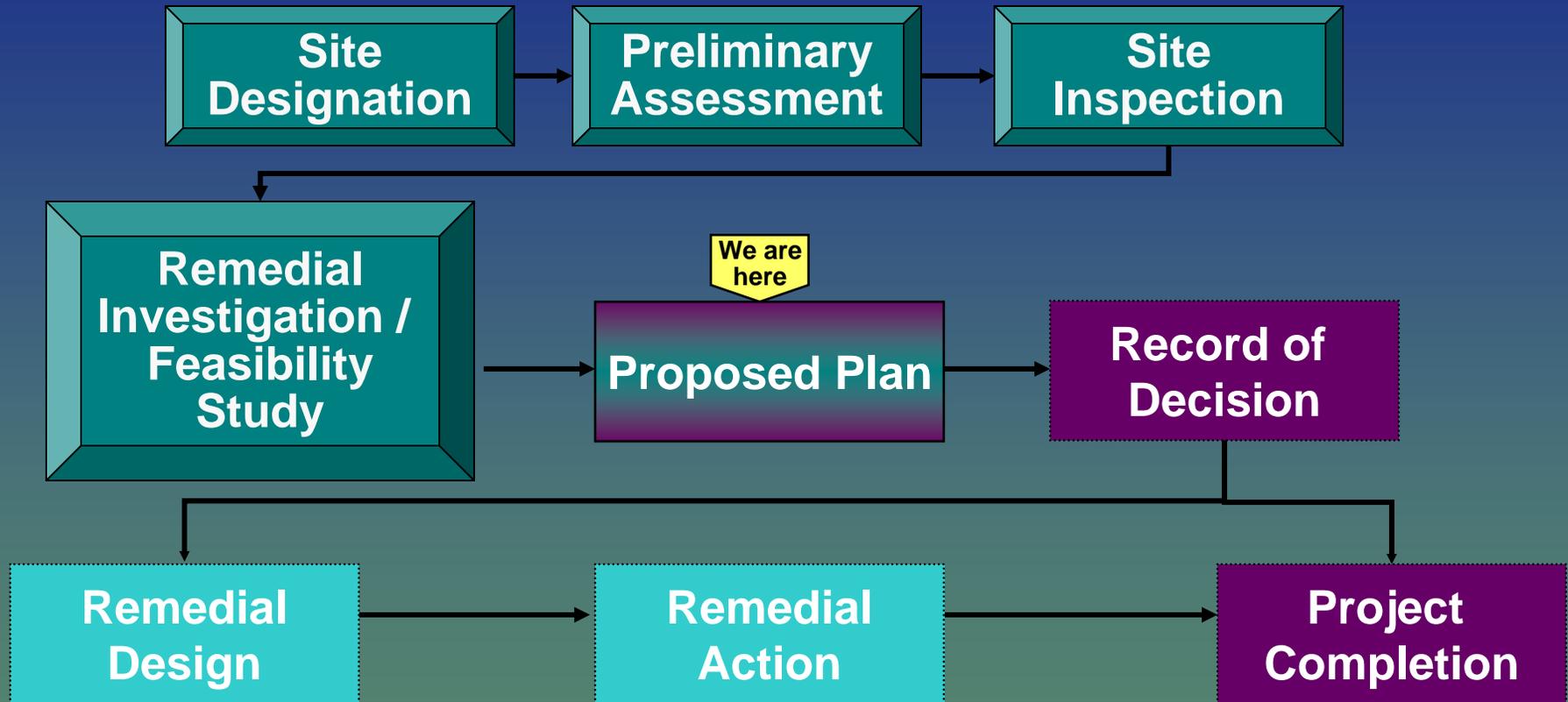
Dedicated to Excellence

- **Buffalo District managing 14 FUSRAP sites**
 - **Have successfully cleaned up three sites to date**
 - **Excellent safety record**
 - **Multi-disciplinary project team**
 - **Extensive technical review**
 - **Work with federal and state regulators and local stakeholders**
 - **Communicate with the local community**



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CERCLA Process



A removal action may be initiated at any time during the process if human health or the environment is in immediate danger.



Complete



Currently performing



To be completed



If necessary



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Public Input

- Input during the formal comment period is very important and encouraged
- The Proposed Plan is not the final decision on FUSRAP action at the Seaway Site
- A final decision on the Seaway Site will not be made until after all public comments have been considered



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Outline of Technical Presentation

- General/Background
- Site Contamination
- Risk and Regulations
- Remedial Action Alternatives
- Selection Process
- Preferred Alternative



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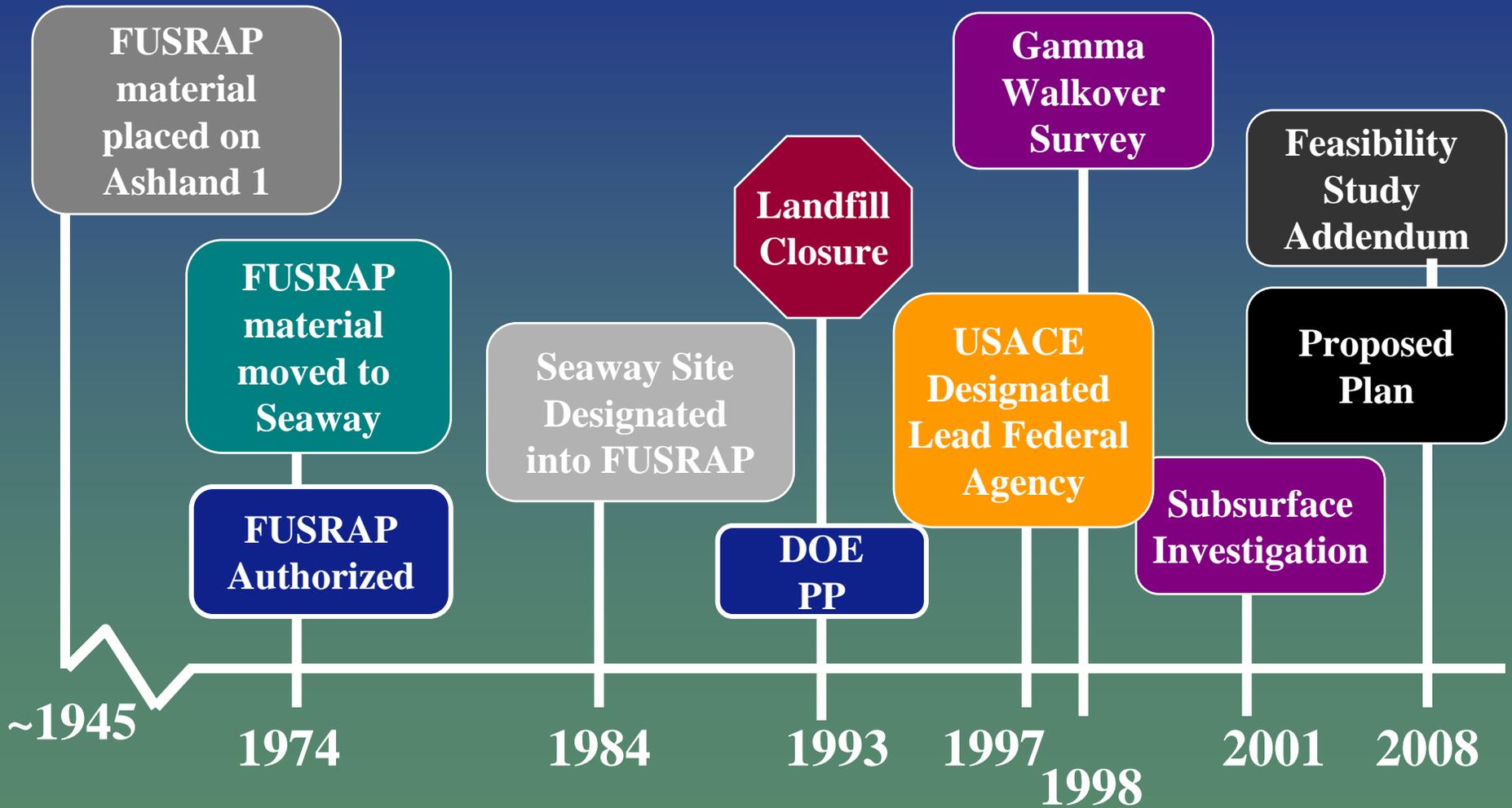
Seaway Vicinity





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Seaway Site History





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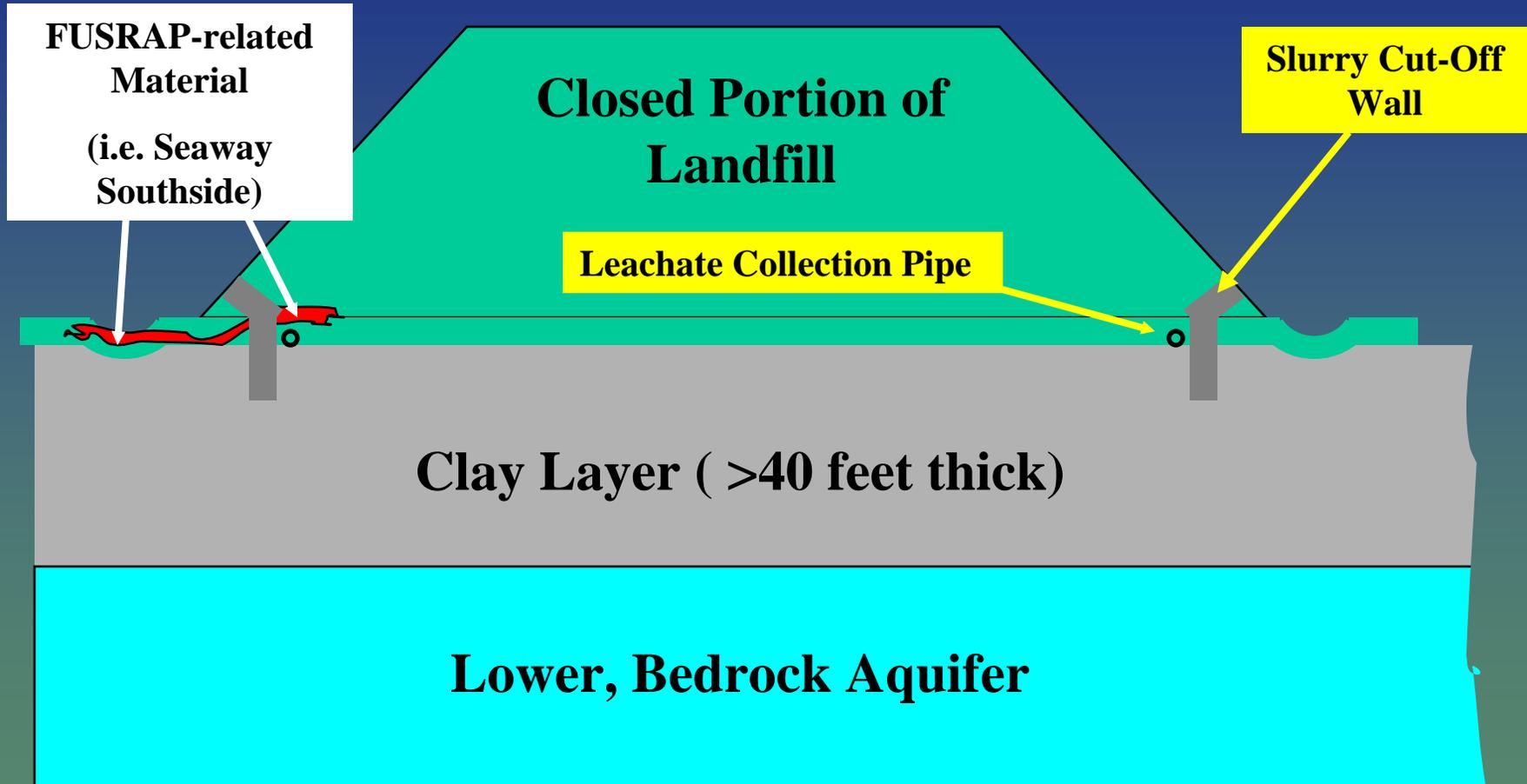
Seaway 'Areas'





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Landfill Configuration/ Material around Cut-off Wall



Drawing not to scale



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Risks from Seaway Media

- Soils: Unacceptable potential future risk for Radium, Thorium, Total Uranium (including daughters Actinium and Protactinium)
- Groundwater: Not impacted
- Surface Water: Not impacted
- Air: No guideline exceedences



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Applicable, Relevant & Appropriate Requirements (ARARs)

General

40 CFR Part 192,
Subpart A and 10 CFR Part 40,
Appendix A, Criterion 6(1)

Remedy is effective for 1000 years

Removal of Impacted Soils

40 CFR Part 192, Subpart B

Radium-226 Concentration on surface
soils
<5 pCi/g, <15 pCi/g in subsurface soils
averaged over 100m²

10 CFR Part 40,
Appendix A, Criterion 6(6)

All other COCs will have an equivalent
dose as Radium-226

Containment of Impacted Soils

40 CFR Part 192, Subpart A

Radon flux <20 pCi/m²/s concentration
in air at or outside border <.5 pCi/L
increase



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Removal Cleanup Goals

Contaminant Of Concern	Background	Average Area A	Removal Standards for Soil (incremental to background)	
			Surface	Subsurface
Radium-226	1.1	8	5	15
Thorium-230	1.4	130	15	44
Total Uranium	6.3	~21	110	1000

All values are in pCi/g



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Exposure to Radiation

My Yearly Tally (in mrem):

cosmic radiation	28
terrestrial radiation	46
food, water	40
air	200
airplane trips (trip to FL and trip to TX for work)	5
1 x-ray (mammogram)	30
TV	1
Other	10
YEARLY TOTAL	360

Currently at Seaway:

Occasional Visitor

3 hours/week outside at Area A
for 52 weeks

Yearly Exposure: ~6 mrem

After Containment at Seaway:

Industrial Worker

8 hours/day (1 outside, 7 inside)

50 work weeks/year

Yearly Exposure: <1 mrem/year

Source: National Council on Radiation Protection and Measurements Reports #92-#95



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Introduction to Alternatives

- Tonawanda's planned use of the Seaway landfill, once closed, is low-intensity recreational
- Due to heavy presence of industry around the landfill and uncertainty of future use of the entire site, USACE also considered industrial use
- Alternatives are protective for industrial and recreational use
- Alternatives are protective without further action from the property owner



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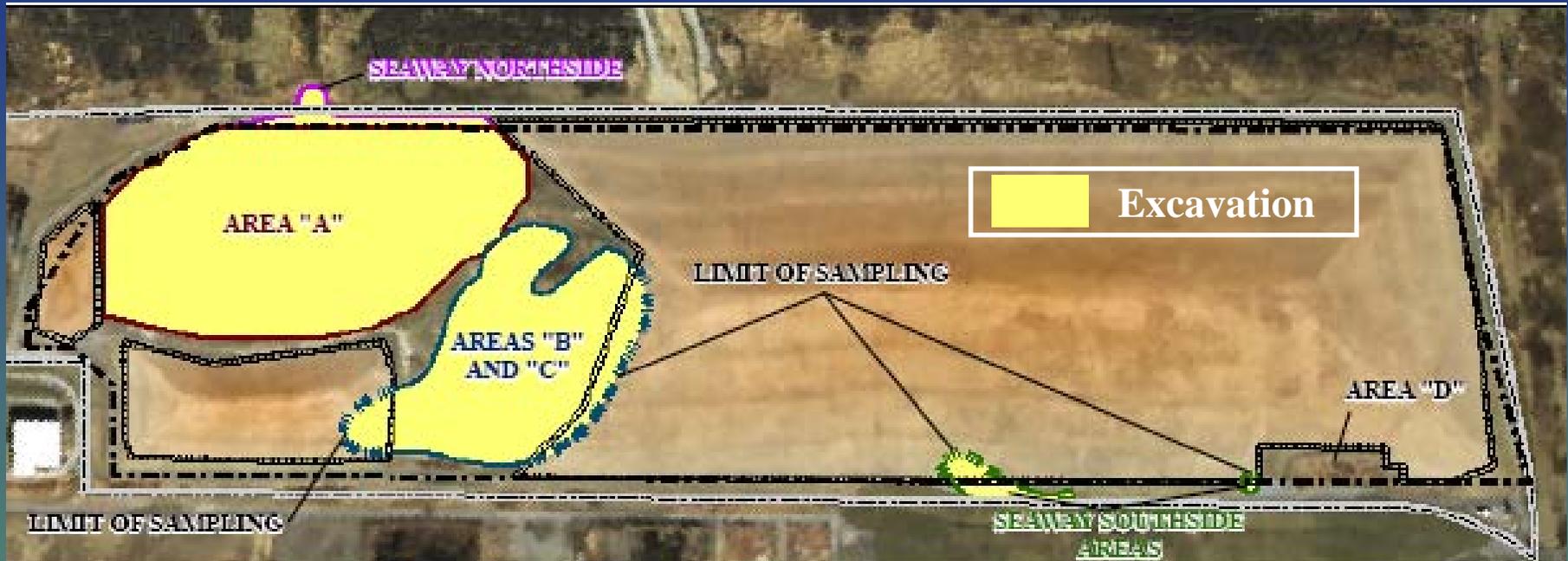
Screening Alternatives

<u>#</u>	<u>Alternative</u>	<u>Comments</u>
1	No Action	Baseline
2	Complete Excavation, Off-Site Disposal	
3	Complete Excavation, On-Site Disposal	N/A
4	Partial Excavation, Off-Site Disposal	
5	Partial Excavation, On-Site Disposal	N/A
6	Containment	Preferred



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Alternative 2: Complete Excavation with Off-Site Disposal



- Remove all soils necessary to meet cleanup criteria
- Ship off-site for disposal 150,000 cubic yards of material
- Backfill excavated area with 1 foot of soil
- Land use controls not necessary
- Five-year reviews not necessary
- Cost is 113 million dollars



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Alternative 4: Partial Excavation with Off-Site Disposal



- Remove all accessible soils (soils not under 10 feet or more of landfill material) and soils outside the landfill containment system necessary to meet cleanup criteria
- Ship off-site for disposal 116,000 cubic yards of material
- Backfill excavated portions with 1 foot of soil
- Contain remaining portions with a minimum of 4 feet of cover
- Land use controls necessary
- 5-year reviews necessary
- Cost is 80 million dollars



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Alternative 6: Containment (Preferred Alternative)

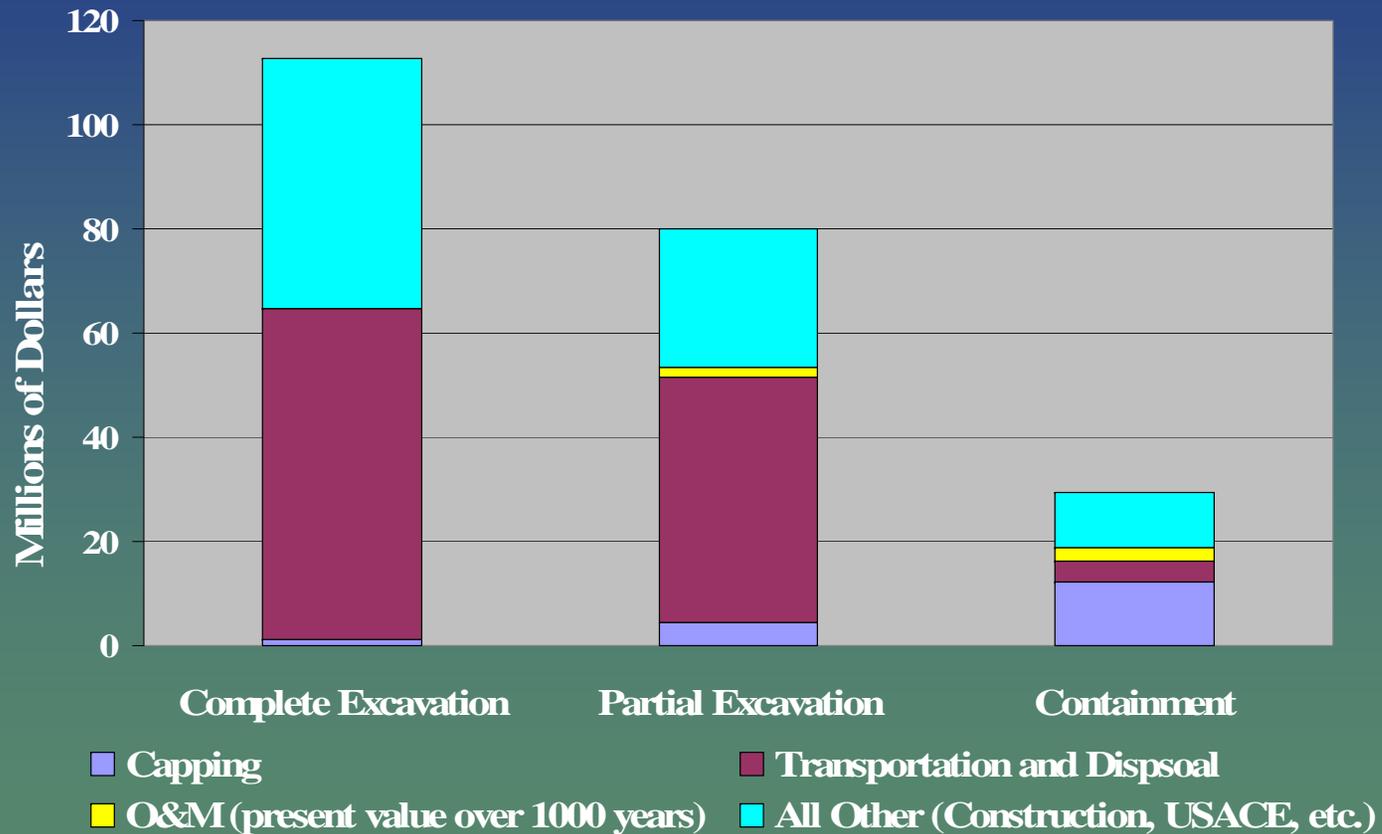


- Remove all soils outside the landfill containment system necessary to meet cleanup criteria
- Ship off-site for disposal 8,000 cubic yards of material
- Contain Areas A, B and C with minimum of 4 ft of cover
- Land use controls necessary
- 5-year reviews necessary
- Cost is 30 million dollars



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Breakdown of Costs for Seaway Action Alternatives





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Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Evaluation Criteria

Threshold

No



Yes

Balancing



Modifying



Alternative(s)

Protective of
human health
and environment

Complies
with
regulations

Long-term
effectiveness
and permanence

Short-term
effectiveness and
environmental impacts

Reduction in
toxicity, mobility, or
volume through treatment

Implementability

Cost

State
Acceptance

Community
Acceptance



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Comparative Analysis of Soils Action Alternatives

Criteria	2- Complete	4- Partial	6- Containment
Long-Term Effectiveness and Permanence	5	5	5
Treatment	1	1	1
Short-Term Effectiveness	2	3	4
Implementability	2	3	4
Cost (Millions)	\$113	\$80	\$30
State Acceptance	TBE	TBE	TBE
Community Acceptance	TBE	TBE	TBE

TBE – To Be Evaluated

Criteria rated from 0 to 5, where 5 is most favorable



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Containment

Preferred Alternative

Alternative 6: Containment

Remedial Action will include:

- **FUSRAP-related material within the landfill will be contained under a minimum of four feet of various types of soil, fabric, and geomembranes**
- **FUSRAP-related material outside the landfill will be excavated and shipped offsite to achieve cleanup criteria**

After the remedy is in place:

- **Maintain remedy**
- **Maintain land use controls and conduct five-year reviews**



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Summary of Preferred Alternative

- Protective of Human Health and the Environment now and in the future

Selection Criteria:

- Has high degree of effectiveness and permanence
- Presents the lowest risk to workers and the community during the remediation
- Much more cost effective than the other action alternatives
- Least complicated to implement

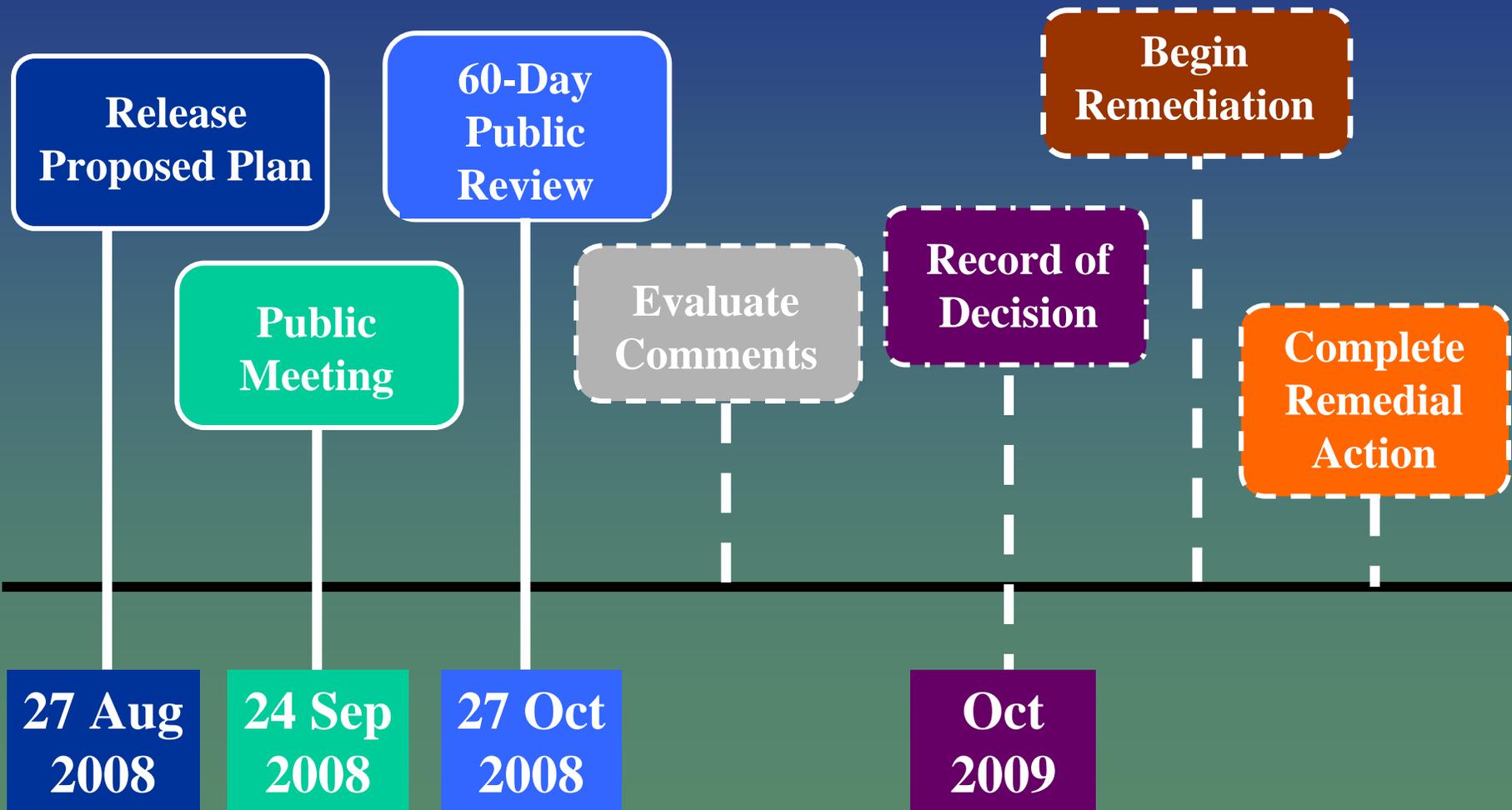
Assurances:

- Land use controls to prevent future access to and disturbance of materials
- Long-term surveillance and maintenance performed
- Review of site conditions and cap integrity every five years



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Project Schedule





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Comments



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Ground Rules Comments

- Stenographer will be recording proceedings
- One person speaks at a time
- Please use the microphone when speaking
- State your name and affiliation
- Speakers are limited to five minutes to allow everyone an opportunity to speak
- Limit subject to the Seaway FUSRAP site



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Written Comments

Written comments should be postmarked by
October 27, 2008 and mailed to:

U.S. Army Corps of Engineers
FUSRAP Team - Seaway
1776 Niagara Street
Buffalo, New York 14207

email us at: fusrap@usace.army.mil



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Responses to Comments/ Administrative Record

- We will respond to all oral and written comments after the public comment period has closed.
- They will become part of the official record and be placed in the Administrative Record

Administrative Record Locations:

Tonawanda Public Library
333 Main St
Tonawanda, NY

By Appointment

US Army Corps of Engineers
1776 Niagara St
Buffalo, New York 14207
(716) 879-4438



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For More Information

FUSRAP Questions

- By phone: 716-879-4438
800-833-6390
- By e-mail: fusrap@usace.army.mil
- By writing: U.S. Army Corps of Engineers
FUSRAP Team
1776 Niagara Street
Buffalo, NY 14207
- On the web: www.lrb.usace.army.mil/fusrap



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Thank You
for
your participation