

**LANDFILL OPERABLE UNIT OF THE
TONAWANDA LANDFILL VICINITY PROPERTY**
Tonawanda, New York

PROPOSED PLAN
Formerly Utilized Sites Remedial
Action Program

Public Meeting
October 15, 2015



 
U.S. ARMY US Army Corps of Engineers
BUILDING STRONG®

Good evening. Please be seated; once everyone is seated, we will begin the meeting.

My name is _____ and I am the Outreach Program Specialist for the United States Army Corps of Engineers Buffalo District.

I would like to introduce to you, Lieutenant Colonel _____ the Commander of the United States Army Corps of Engineers Buffalo District.

Good evening!

Thank you for attending our public meeting for the Landfill Operable unit of the Tonawanda Landfill Vicinity Property.

As many of you are aware, during 2007 the Corps received significant public comments on our initial “No Action” preferred alternative for the vicinity property. Careful consideration of those comments prompted additional investigations of the Landfill Operable Unit by the Corps under the Formerly Utilized Site Remedial Action Program (or FUSRAP).

The Landfill Operable Unit, in its current condition, presents no unacceptable risk to human health or the environment. However, the potential for future unacceptable risk exists if hundreds of years of natural erosion at the site expose buried FUSRAP-related contaminants.

Meeting Agenda

- Welcome and Introductions
- Review
 - ▶ Program
 - ▶ Landfill Operable Unit
 - ▶ Activities to Date
- Proposed Plan
- Public Comments



2



The most important part of tonight's meeting is receiving your input on the Corps' preferred alternative of "Targeted Shallow Removal and Off-site Disposal" to address that potential unacceptable future risk. Your comments will be factored into the final decision for remedial action at the Landfill Operable Unit.

We ask that you save your comments tonight until the end of the presentation, so they can be accurately recorded. If you have a comment you would like recorded tonight, please make sure that you have checked the box on the card that you filled out when you came in. Arleen, has cards if you need one. You may also submit your comments in writing by November 14.

Before we move from this slide, I would like to introduce the key members of the project team - the Team leader for the Environmental Project Management Team, Tonawanda Landfill Vicinity Property Project Manager and the Project Engineer. Additional members of the team are here; if they could please all stand...thank you. If you have any questions after the formal comments are recorded, we will be available at the posters.

I'd like to recognize the elected representatives that are here tonight (list names)
And our partnering agency representatives

_____ EPA
_____ NYSDEC

Next, _____ will give you an overview of Tonawanda Landfill Vicinity Property.

Formerly Utilized Sites Remedial Action Program (FUSRAP) Objectives

Identify and evaluate sites



Clean up and control radioactive material



Protect human health and the environment



3

BUILDING STRONG®

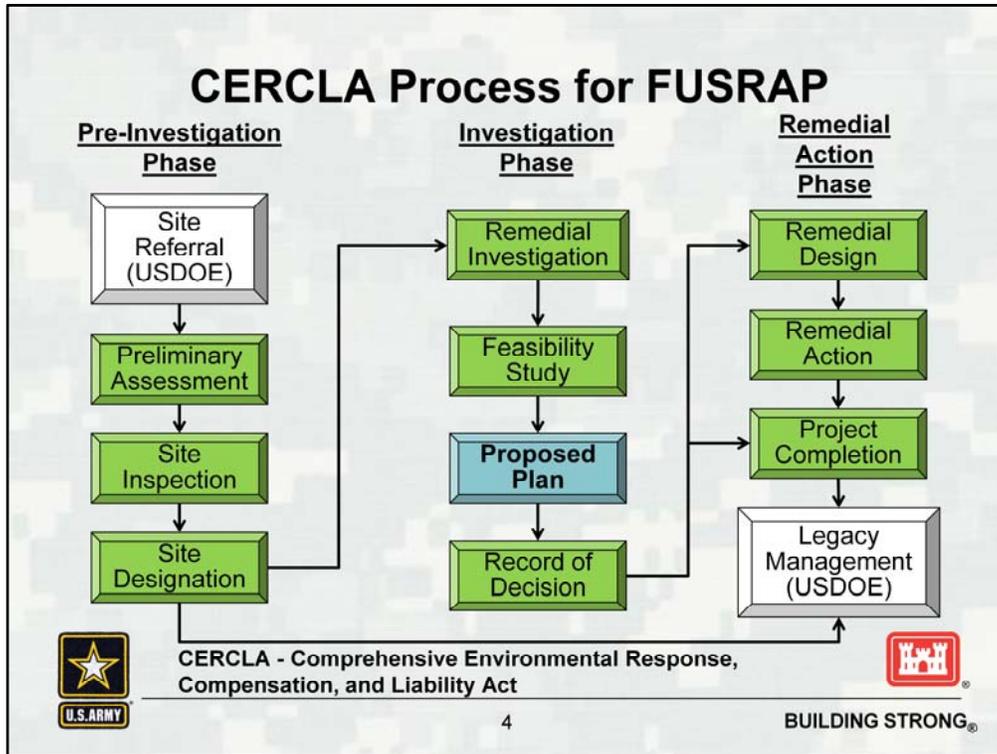
Thank you Sir.

Before getting into the specifics, I would like to explain the federal program that is being used to address Tonawanda Landfill Vicinity Property.

The Formerly Utilized Sites Remedial Action Program, or FUSRAP, was initiated in 1974 to identify, investigate, and if necessary, clean up or control sites throughout the United States contaminated as a result of Manhattan Engineer District or early Atomic Energy Commission activities.

The objectives for FUSRAP are identified on this slide.

Our number 1 priority while performing activities at the site is the safety of the community, site workers, and the environment.

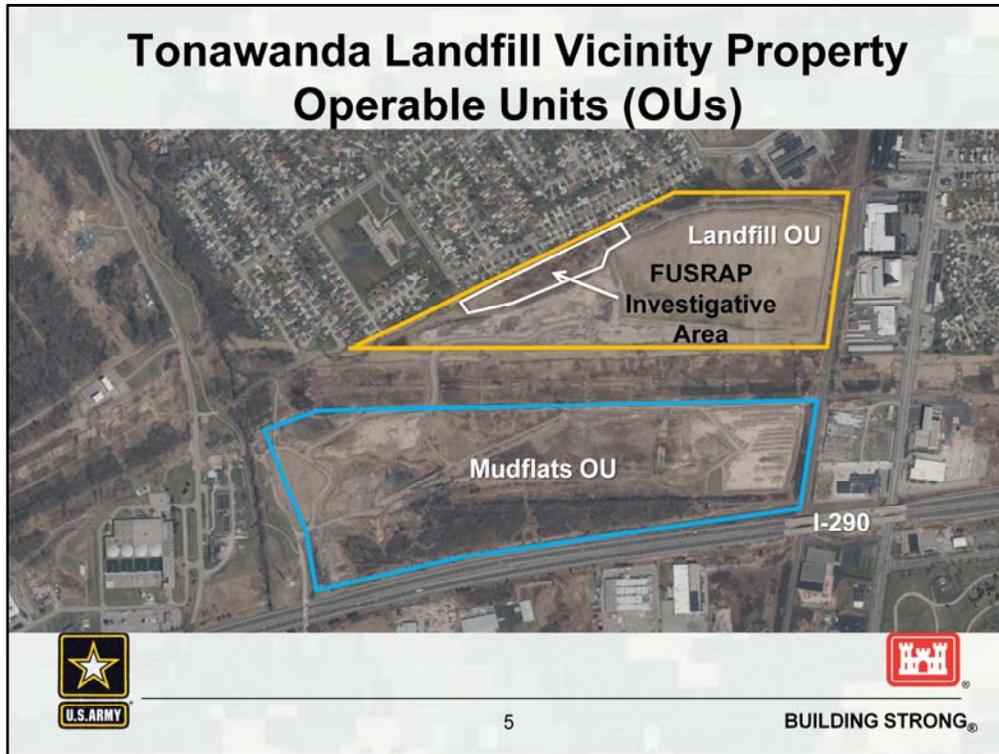


When implementing FUSRAP, the Corps of Engineers follows the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) using the process that is outlined on the screen.

Tonight, we are here, at the proposed plan step. We've been at this step before, which is why your input is so important to us. The last time we were at this step the input we received from you gave us information we previously were not aware of, which led us to further investigations, an updated risk assessment, a feasibility study and our current proposed plan.

The proposed plan is not the final decision on FUSRAP action at the vicinity property.

A final decision on the Tonawanda Landfill Vicinity Property Landfill Operable Unit will not be made until after all public comments have been considered. The final selected remedy will be documented in the record of decision.



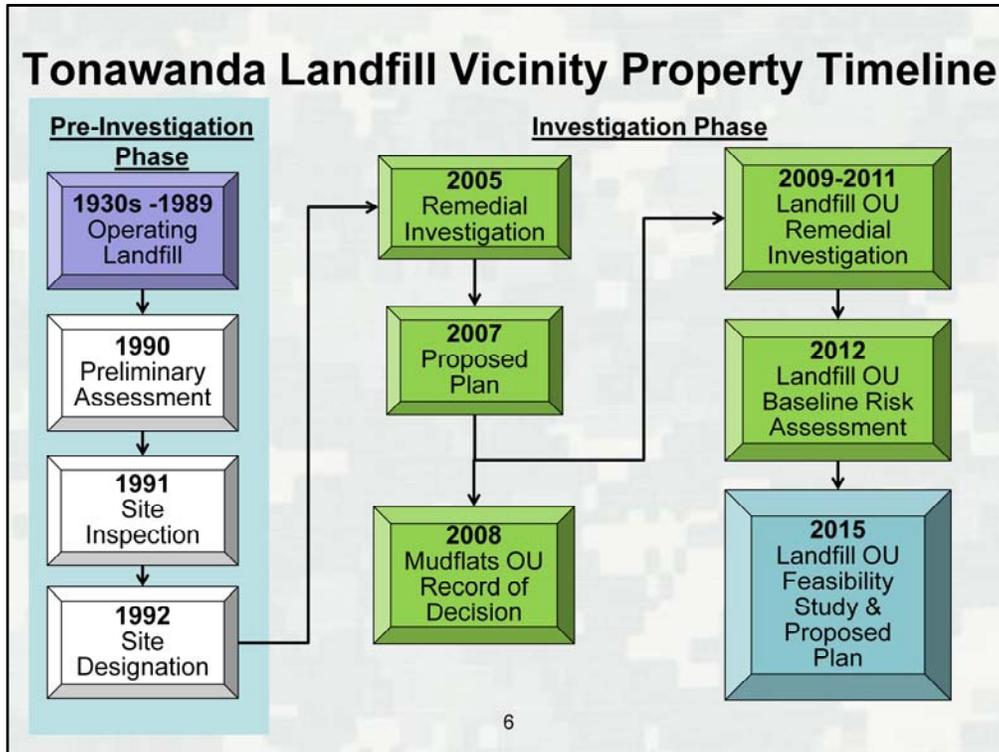
The Tonawanda Landfill Vicinity Property consists of two parcels owned by the Town of Tonawanda; the Landfill Operable Unit or OU, and the Mudflats Operable Unit (now known as the North Youngmann Commerce Center). In 2008, the Corps signed a No Action Record of Decision for the Mudflats Operable Unit.

Tonight’s focus is the Landfill Operable Unit of the Tonawanda Landfill Vicinity Property. The Landfill Operable Unit comprises approximately 55 acres located at the northern end of East Park Drive, and is bordered by a residential area within the City of Tonawanda to the north and northwest, a railroad line to the east, and a parcel containing National Grid transmission lines to the south.

The Landfill OU is owned by the Town of Tonawanda and houses a New York State-regulated municipal landfill that was operated by the Town of Tonawanda from the mid-1930s through October 1989.

The town is currently in the process of capping and closing the landfill under New York State regulations.

The general FUSRAP investigative area, which is a small portion of the Town’s municipal landfill footprint, is highlighted in white.



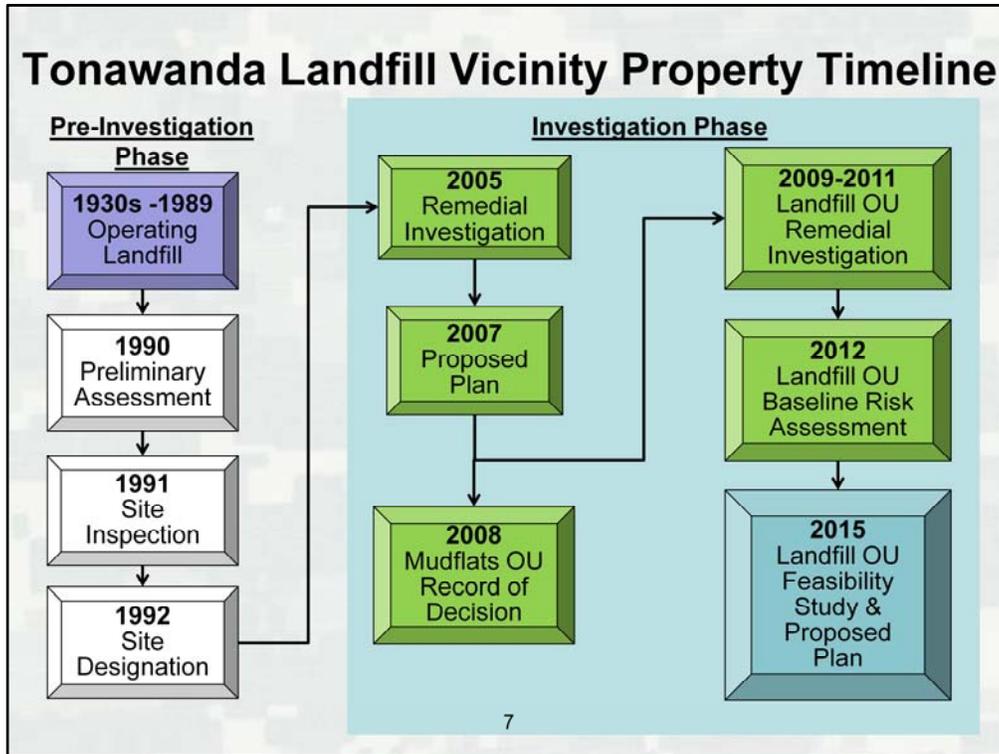
The landfill vicinity property site operated as a landfill from the 1930s until its closure in 1989. The Town of Tonawanda used the property to dispose of ash generated by the town’s incinerators, construction/demolition debris, and yard waste collected from town residents.

From 1942 to 1946 the former Linde Air Products, which is located on Sheridan Drive in the Town of Tonawanda, processed uranium ores under contract to the Manhattan Engineer District at its ceramics plant.

During 1990, the Department of Energy performed a mobile gamma-scan survey of the Town of Tonawanda Landfill to determine if any FUSRAP-related material had been transported from Linde.

The DOE conducted a limited radiological investigation in September 1991 and detected above background levels of uranium, radium and thorium in the landfill.

Based on the results of these investigations, the impacted areas of the landfill and mudflats were designated together as a Vicinity Property of the Linde FUSRAP site by the DOE in 1992.



Following transfer of FUSRAP to the Corps of Engineers, we conducted investigations and published a remedial investigation report in 2005. The risk assessment concluded that the landfill could be safely closed with FUSRAP impacted soils left in place under a properly maintained landfill cap.

During 2007, the Corps of Engineers released a proposed plan for the vicinity property, which recommended no action for the FUSRAP-related material (radium, thorium, and uranium).

As I mentioned earlier, this is where your input is most important. Following the public comment period on the 2007 proposed plan, the Corps of Engineers signed a no-action record of decision for the Mudflats OU based on the determination that risks from FUSRAP-related constituents of concern in that OU were within acceptable regulatory limits. Because of the information you provided, the Corps of Engineers conducted additional sampling in the Landfill OU from 2009 through 2011 to confirm the extent of FUSRAP-related material in the Landfill OU.

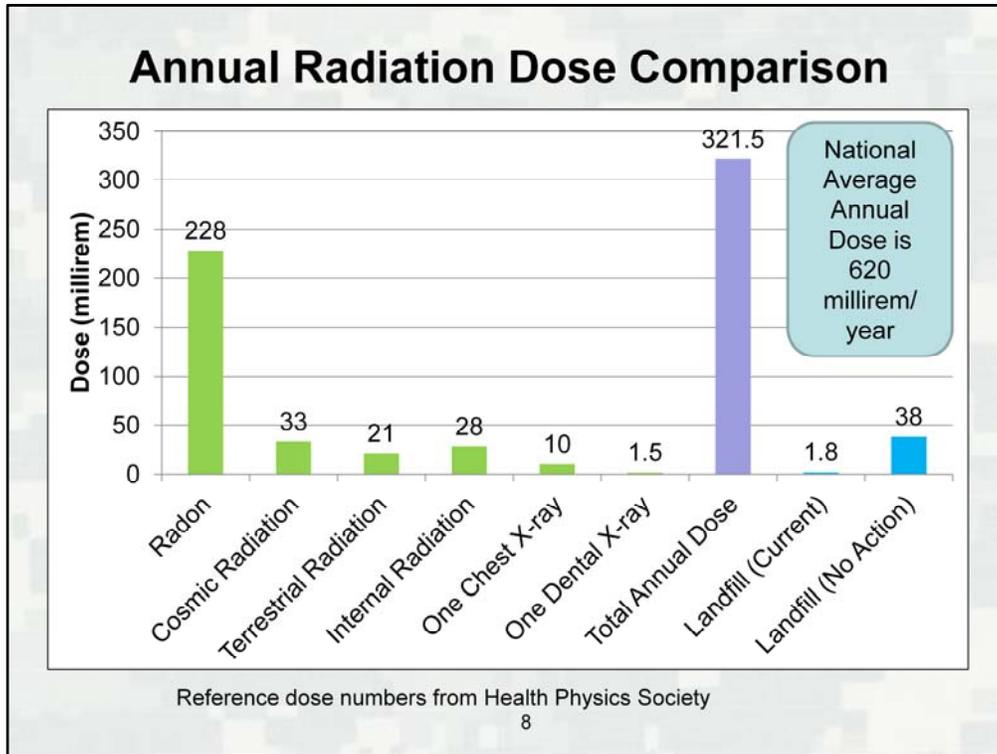
In 2012 the Corps of Engineers updated and publicly released the baseline risk assessment, which will be explained further on the next few slides.

First I will wrap up this slide. Today we are here. We recently released these two reports. The feasibility study develops and evaluates remedial alternatives to address potential future human health risks associated with FUSRAP-related contaminants in soil at the Landfill Operable Unit of the Tonawanda Landfill Vicinity Property. The proposed plan summarizes the evaluation of remedial alternatives conducted in the feasibility study and presents the Corps of Engineers' preferred alternative.

I will now turn the presentation over to

so that he can walk you through a discussion of the

updated baseline risk assessment.



Thank you hello, I am the project manager for the site.

The purpose of this slide is to help convey the potential risk associated with FUSRAP-related material buried in the Landfill Operable Unit.

A millirem is a measure of radiation dose to humans.

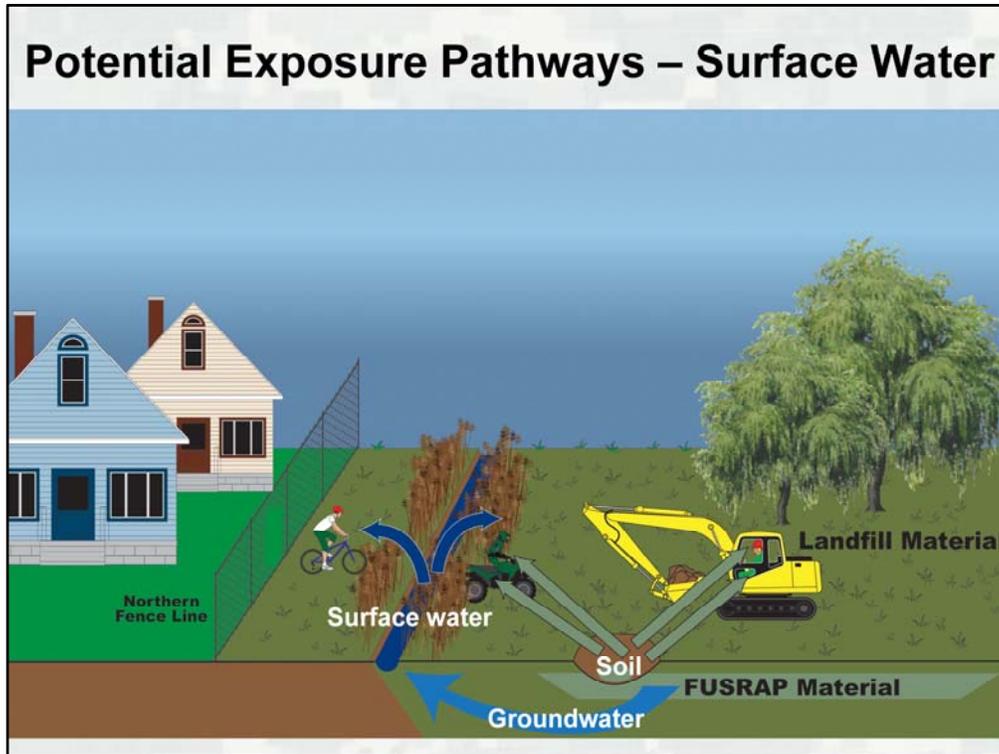
The purple bar on the graph represents my approximate radiation dose for the past year.

The majority of my exposure is from background sources, which are represented by the first four green bars, (for example, ground, which is terrestrial, and space, which is cosmic. I also received a chest x-ray, which added 10 millirem and a dental x-ray, which added approximately 1.5 millirem to my annual dose. So if we add the green bars up, my approximate total annual dose for the year was 321.5 millirem, which is less than the national average annual dose of 620 millirem per year.

Based upon the data collected for our updated baseline risk assessment, under current conditions a youth spending time regularly on the landfill for a year would receive an additional dose of 1.8 millirem to his or her annual dose, this blue bar, which is a little bit more than the dose I received when I had my dental x-ray.

If no action were taken to prevent erosion of soil over the areas that are contaminated with FUSRAP-related material, 600 years into the future a youth spending time regularly on the landfill for a year would receive an additional dose of 38 millirem to his or her annual dose, this blue bar, which is around the same dose received from cosmic radiation annually.

This potential future exposure exceeds federal regulations, which is why we are addressing the site.



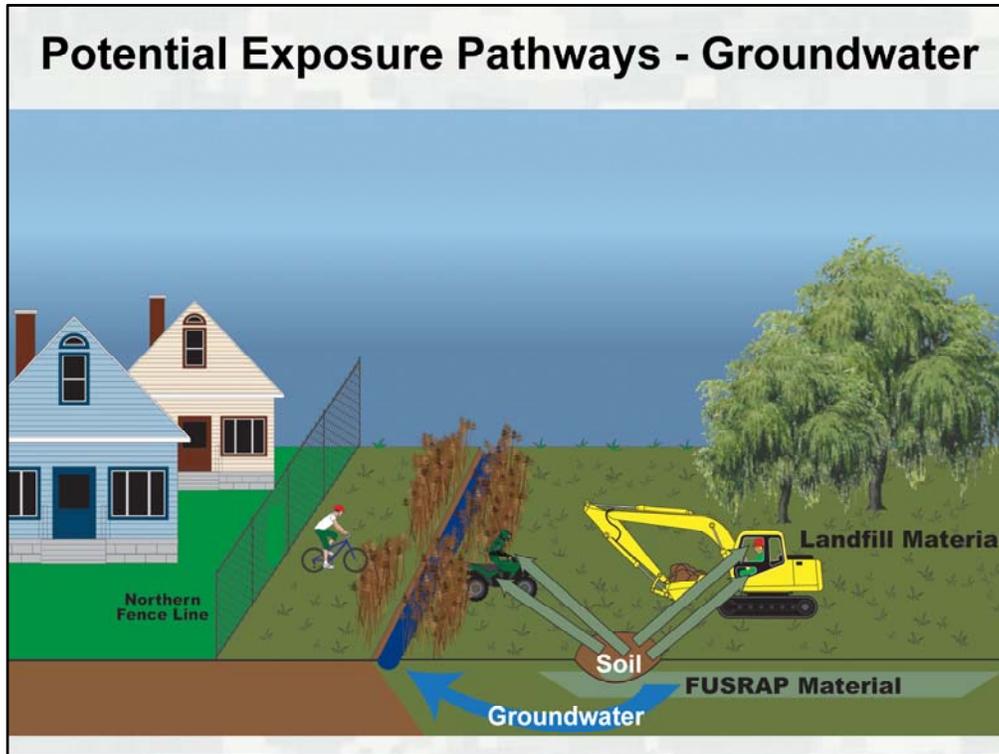
We updated the human health risk assessment based upon public input, to include the risk to people spending some time on the landfill.

Soil, surface water, and groundwater are the media that a person on the site could potentially come into contact with that were evaluated.

For the current use of the Landfill OU, the risks to human health from potential exposures to FUSRAP-related material are within the acceptable limits established by the USEPA.

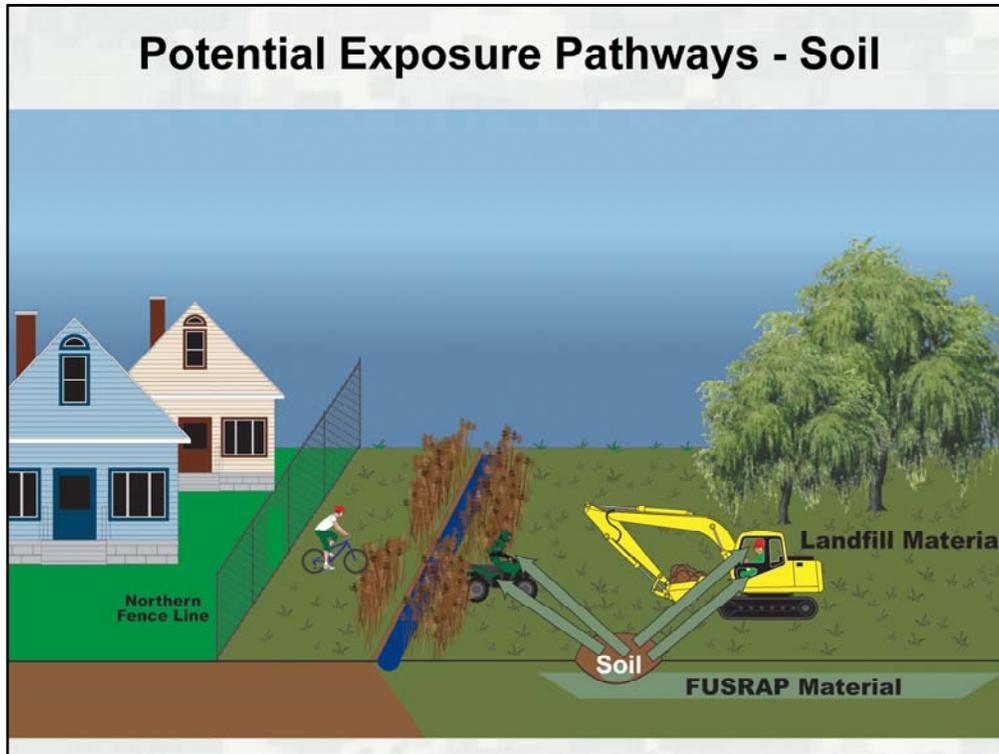
Surface water, which is found in the northern drainage ditch, within the FUSRAP investigative area, is temporary in nature and is not a source of potential drinking water nor an ecological habitat. Incidental ingestion of surface water is within regulatory risk limits.

Surface water is not a media of concern.

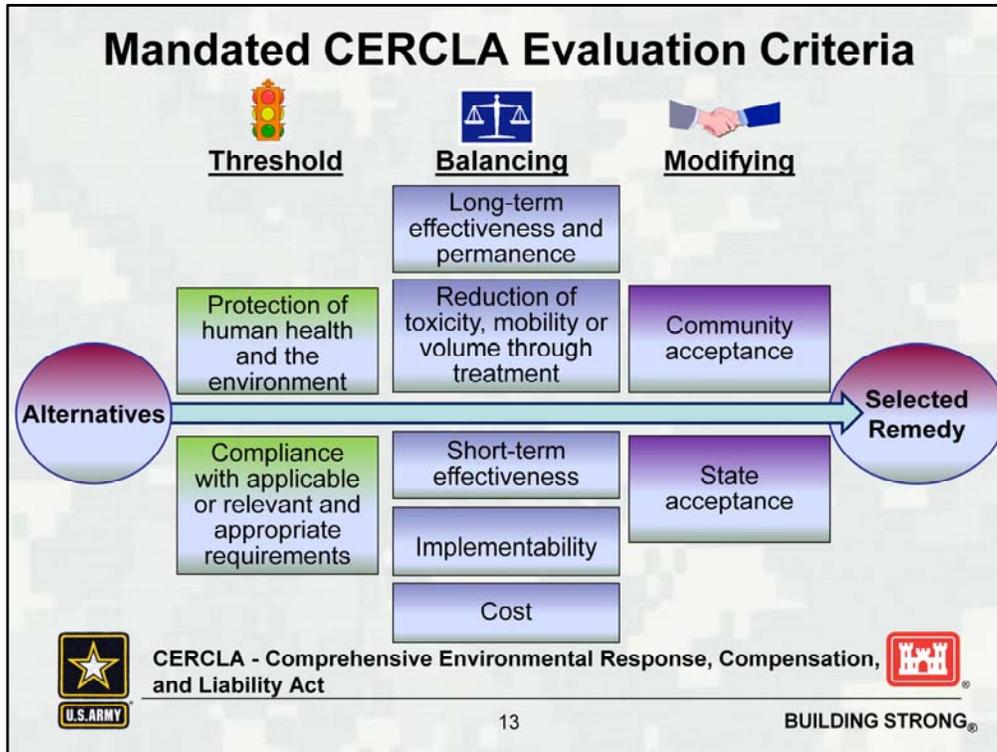


The groundwater is not currently a drinking water source, and it is unlikely that it would be in the future due to the availability of fresh drinking water from off-site sources like the upper Niagara River.

The groundwater at the site is not considered a media of concern.



FUSRAP-related constituents are primarily buried under more than 2 feet of soil. If the soil covering the FUSRAP-related material is not maintained and allowed to naturally erode over time the FUSRAP-related material will slowly become exposed after approximately 600 years. At that time, it would produce an unacceptable risk to people who spend time directly on the landfill surface. As you recall on the bar graph that was shown earlier this was 38 millirem per year. This additional exposure would be to a youth that spends two hours a day every day on the landfill for a year.



These nine criteria are used to move from the alternatives in the feasibility study to a selected remedy.

First, both threshold criteria must be met by any remedial alternative for it to be considered a viable remedy.

Then the five balancing criteria are used to weigh major trade-offs among the alternatives, and represent the primary criteria upon which the detailed analysis was based.

The remaining two of the nine CERCLA criteria, referred to as modifying criteria, are typically evaluated following the public comment period on the proposed plan, and will be addressed during preparation of the record of decision.

, our project engineer, will now present the feasibility study alternatives and the Corps of Engineers preferred alternative.

Remedial Alternatives

1. ~~No Action~~ - (screened out)
2. Single-layer Capping of FUSRAP-related Material
3. Targeted Shallow Removal and Off-site Disposal of FUSRAP-related Material
4. Deep Excavation and Off-site Disposal of FUSRAP-related Material



Thank you The alternatives that were developed and evaluated from the Feasibility Study were considered in the proposed plan.

Alternative 1 – No action – is required in CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan to provide a baseline for evaluation of other alternatives. Alternative 1 has been screened out in the CERCLA process because it is not protective of human health and the environment.

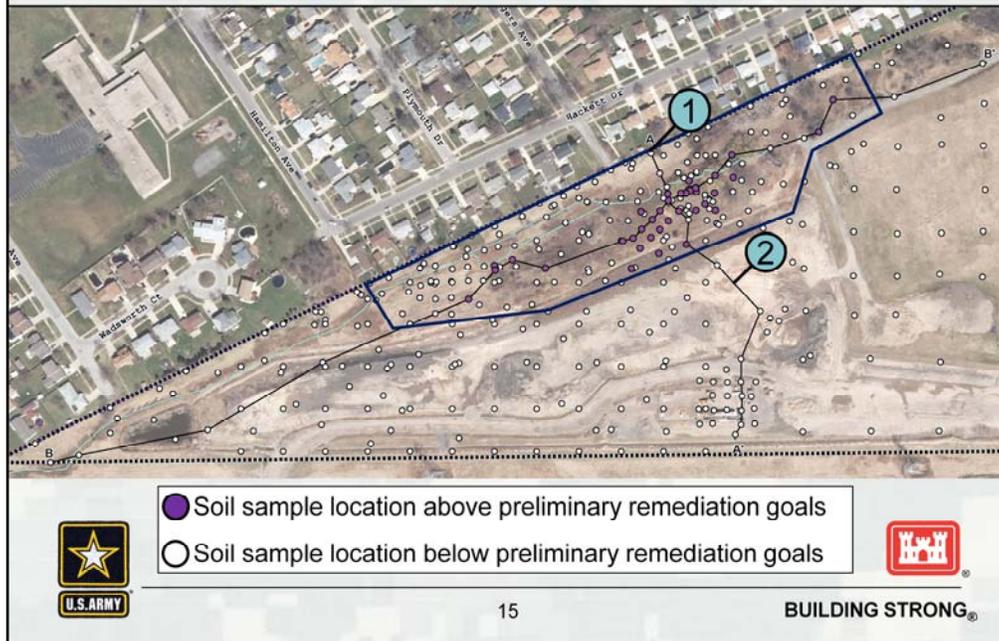
Alternative 2 – the single layer Capping of FUSRAP-related material consists of the construction of a clay cap with vegetative cover over the contaminated soils

Alternative 3 (our preferred alternative) – Targeted Shallow Removal and Off-site Disposal of FUSRAP-related Material consists of removal of contaminants within the top five feet and off-site disposal of contaminated soils and debris.

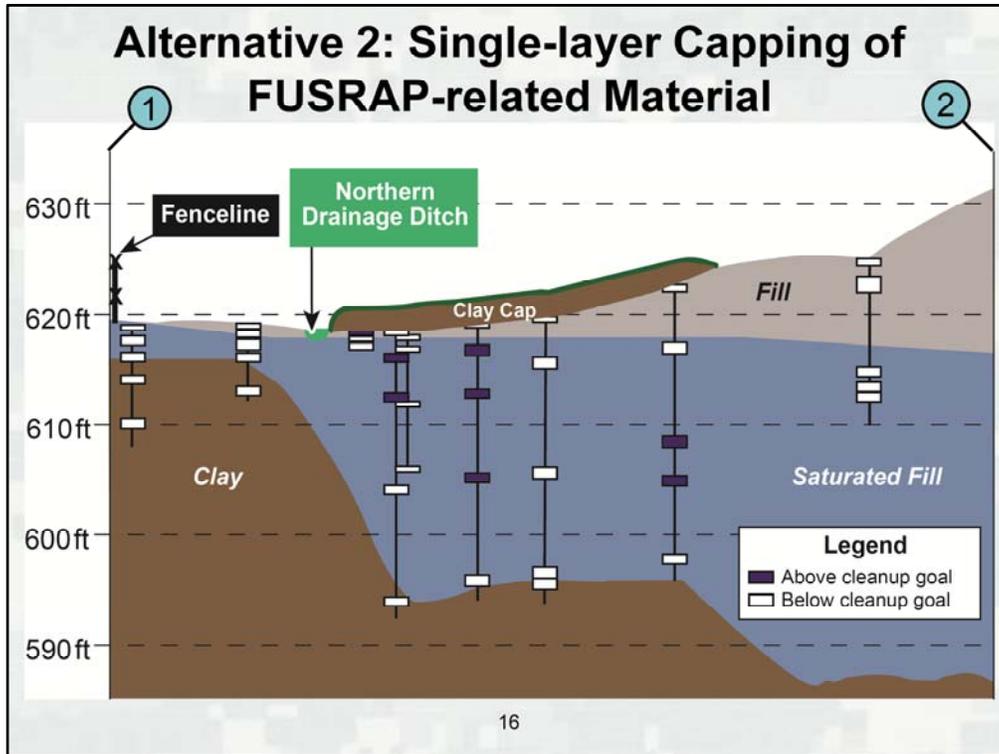
Alternative 4 – Deep Excavation and Off-site Disposal of FUSRAP-related Material consists of the excavation and off-site disposal of contaminated soils and debris.

We will elaborate on these alternatives in the upcoming slides.

Soil Sampling in the Landfill OU



This is the same graphic you saw earlier. On the following slides we are going to show you a cross section slice from point 1 to point 2.



This is point 1 and this is point 2 from the previous slide.

This slide shows the conceptual representation of the Capping Alternative. The purple rectangles show samples that were determined to be above cleanup goals, while the white rectangles represent samples that were below cleanup goals. While the gray area is fill within the landfill, the blue shaded area represents the fill layer that is saturated and shows the average groundwater level in the area. The drainage ditch is shown in green and the cap is shown above the fill.

Alternative 2 eliminates potential future exposure by using a 2-foot layer of clay and a vegetative soil layer as a barrier between people and FUSRAP contaminated soils that exceed the cleanup goals.

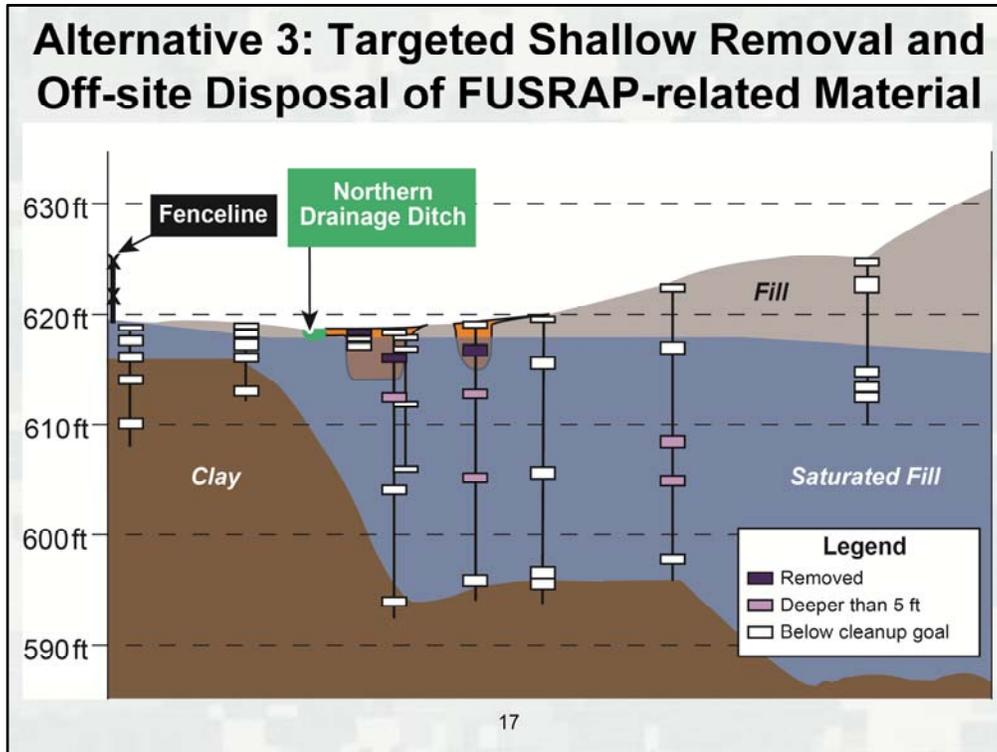
Alternative 2 requires land-use controls and long-term monitoring and maintenance of the cap over 1,000 years to maintain protectiveness.

The ability of this alternative to maintain its protectiveness must be reviewed every five years.

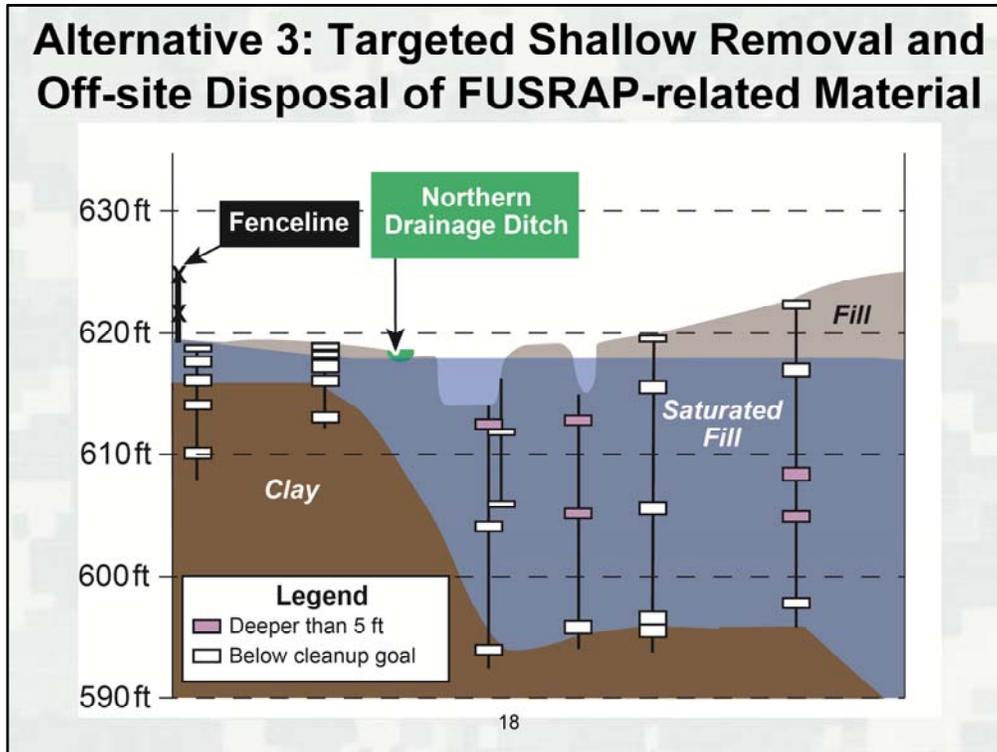
It is estimated that remediation would take 18 months after award of the remediation contract.

The alternative is readily implementable and provides the lowest risk to workers and the public during construction.

However, the cap we place over the FUSRAP material could interfere with the town's closure plans for the landfill.

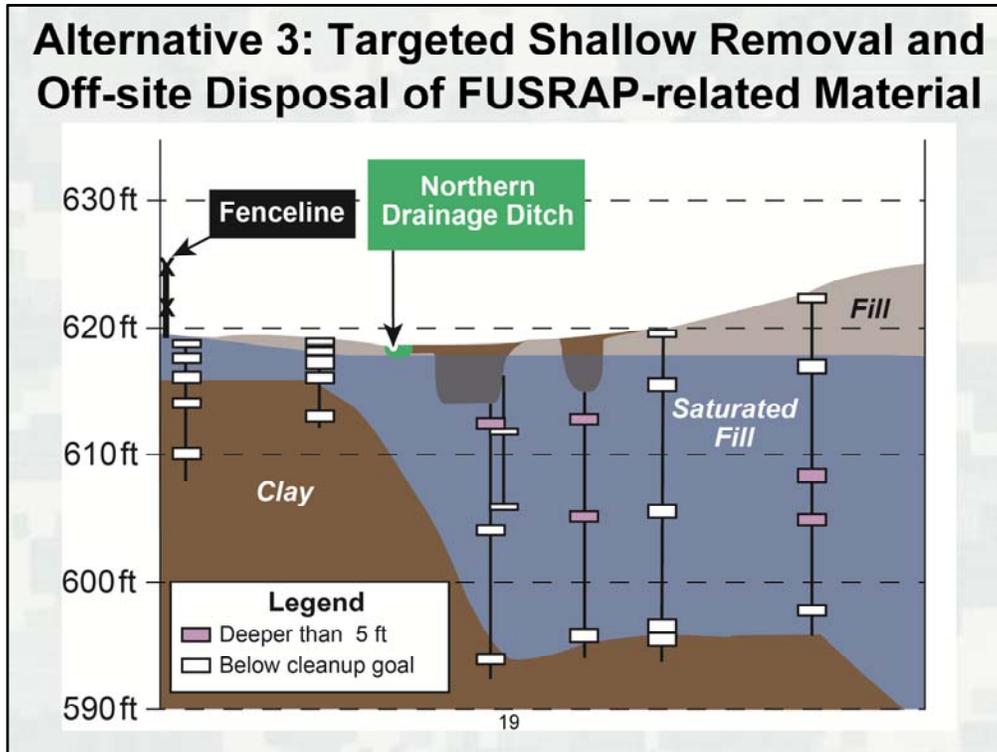


This slide shows the conceptual representation of the targeted shallow removal alternative. The dark purple rectangles show samples that were determined to be above cleanup goals that will be removed in the remedial action, the light purple rectangles show samples above the cleanup goals that will be left in place because they are located more than 5 feet from ground surface, while the white rectangles represent samples that were below cleanup goals. The blue shaded area represents layer of fill that is saturated and shows the average groundwater level in the area. The orange shaded areas that are outlined in black are representations of the material that will be removed over the course of the remedial action under this alternative.



Again this slide shows the conceptual cross section representation of the targeted shallow removal alternative, this time with the targeted areas having been excavated. Soils exceeding cleanup goals within the top 5 feet would be removed and disposed of off site. It is estimated that nearly 1,500 cubic yards of FUSRAP-related material will need to be disposed off site. This equates to approximately 115 truckloads of material. Water encountered during excavation will be managed, treated, and disposed.

Why five feet? Because that is the depth that eliminates potential future exposure by removing FUSRAP-contaminated soils that could become exposed by natural erosion.

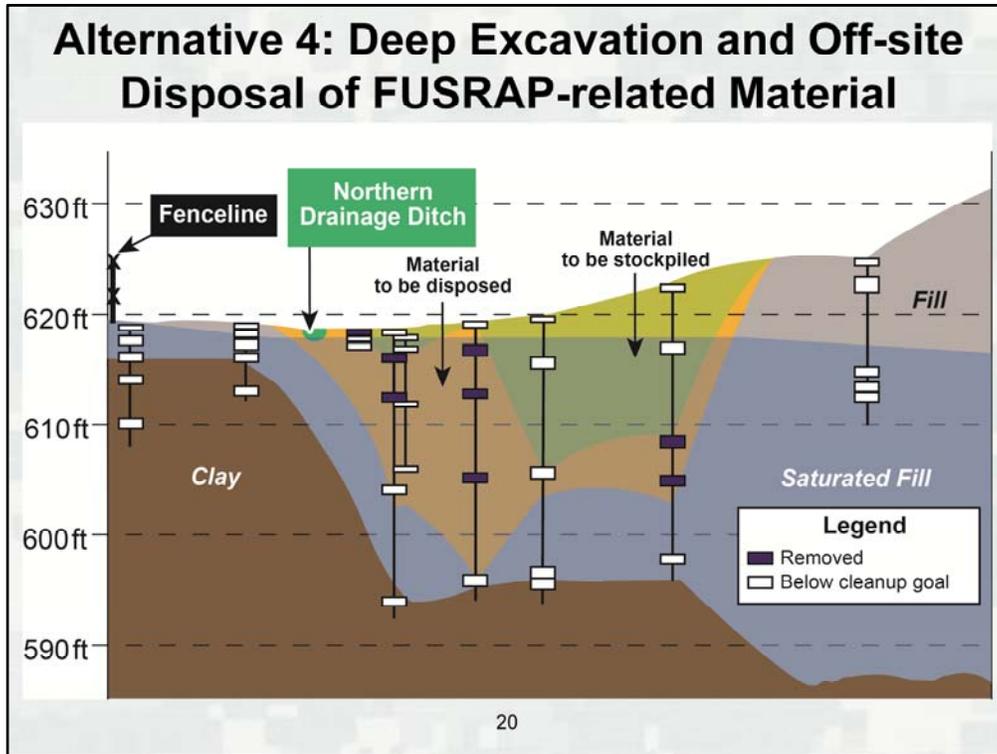


Again this slide shows the conceptual representation of the targeted shallow removal alternative. Clean backfill would be placed in the excavations.

Alternative 3 requires land-use controls and long-term site inspections; and like Alternative 2, it will be reviewed to ensure that protectiveness is being maintained every five years.

It is estimated that remediation would take 17 months after award of the remediation contract.

The potential for increased short-term risks to human health and the environment during excavation and handling of contaminated soils is low.

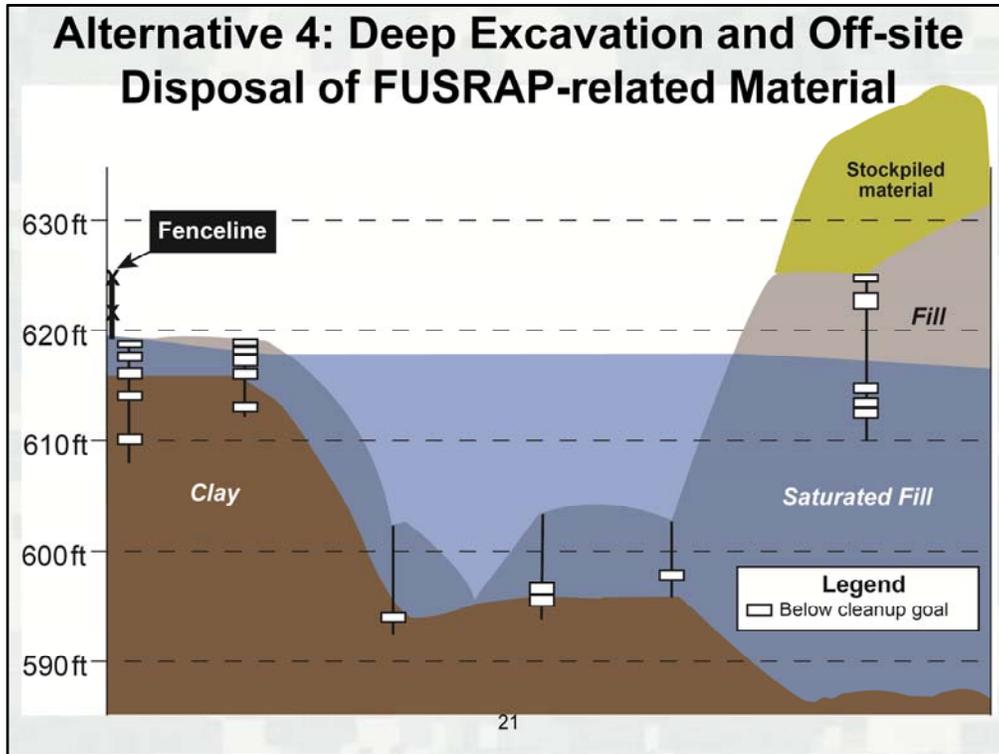


Alternative 4 consists of deep excavation and off-site disposal of FUSRAP-contaminated soil and debris.

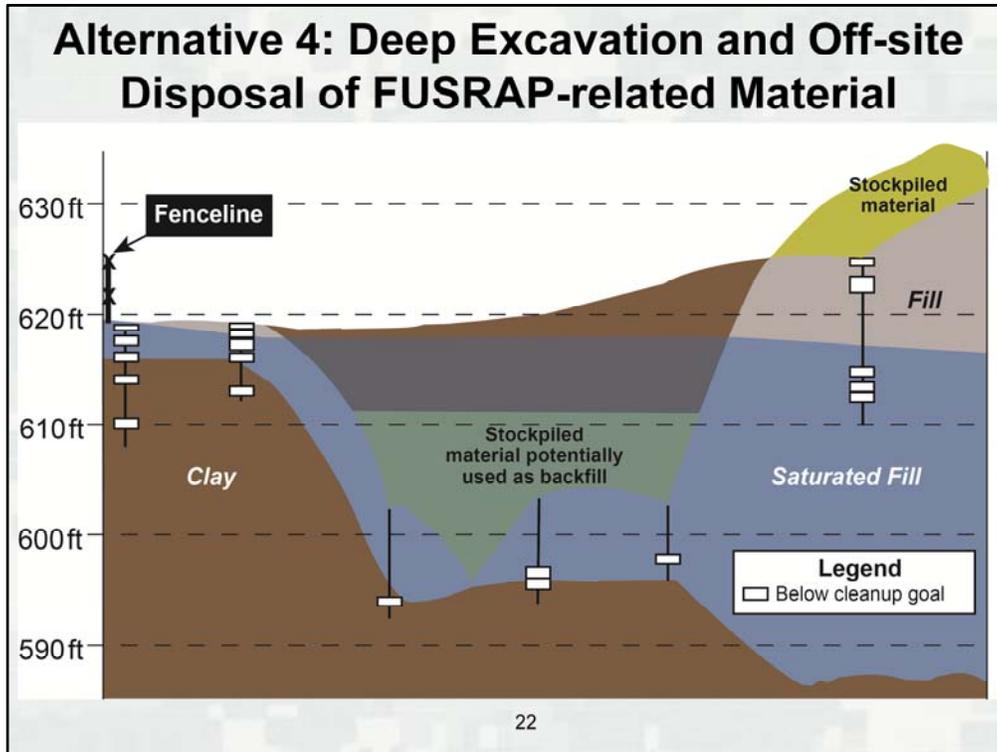
This slide shows the conceptual representation of the deep removal alternative. The dark purple rectangles show samples that were determined to be above cleanup goals that will be removed in the remedial action, while the white rectangles represent samples that were below cleanup goals. The blue shaded area represents fill that is saturated and shows the average groundwater level in the area. The orange shaded areas are representations of the material that will be removed over the course of the remedial action. The light green area represents unimpacted material that will be stockpiled within the landfill OU over the course of the remedial action.

The volumes of both the FUSRAP-material that is being removed and the non-FUSRAP material that is being stockpiled are each 10 times greater than that excavated in Alternative 3.

Alternative 4 eliminates all potential future exposure by removing all FUSRAP-contaminated soils that exceed the cleanup goals. There would be no need for long-term monitoring or maintenance with this alternative.



Again, this slide shows the conceptual representation of the deep removal action, this time with the material above cleanup goals excavated. To reach the buried FUSRAP-impacted material, we have to remove non-FUSRAP landfill material above and next to it. Because the excavation will be deeper than five feet, to safely remove the material the sides of the excavation will be sloped to prevent collapse. This causes an increase in the amount of landfill material to be stockpiled during excavation, shown as this green area. Water encountered during excavation will be managed, treated, and disposed.



This slide shows the conceptual representation of the deep removal action, this time with the areas that were removed having been backfilled to grade. Non-FUSRAP landfill material that were removed in order to safely reach the buried FUSRAP material may be placed back in the excavation or left for final disposition by the site owner. The decision regarding whether to place the material back in the excavation or leave it for the site owner (e.g., the Town) to deal with separately will be made after consultation with the New York State Department of Environmental Conservation.

The excavation will be backfilled with clean soils and re seeded.

It is estimated that remediation would take 28 months after award of a remediation contract.

While this is a viable alternative, it presents greater challenges and risks than our preferred alternative without providing any greater overall protection. Some of these challenges include soil instability during deep excavation and large volumes of contaminated groundwater. Handling chemically impacted material and water presents worker risk, very loose landfill wastes present an excavation collapse risk, stockpiling of large quantities of non-radiologic waste on surface for potential placement back into landfill presents a public exposure risk (unsightliness, odor, discharges to land/water).

Comparative Analysis

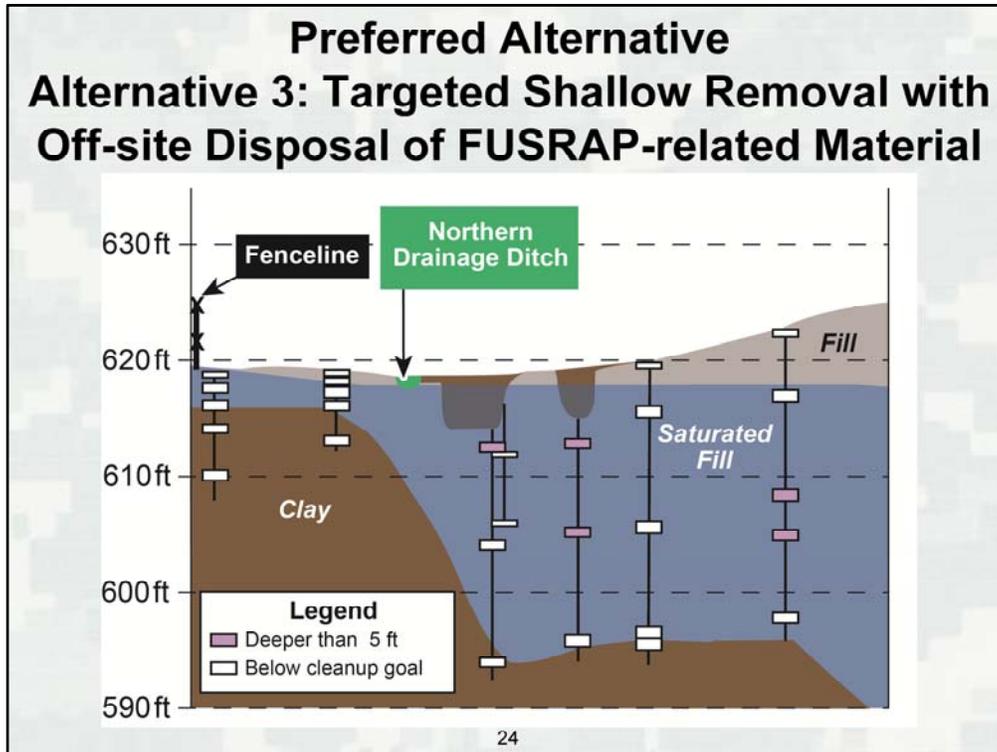


Criteria	Alt 2: Single-layer Capping of FUSRAP-related Material	Alt 3: Targeted Shallow Removal and Off-site Disposal of FUSRAP-related Material	Alt 4: Deep Excavation and Off-site Disposal of FUSRAP-related Material
Long-term Effectiveness and Permanence	Low	Moderate	High
Reduction of Toxicity, Mobility or Volume Through Treatment	None	None	None
Short-term Effectiveness	High	Moderate	Low
Implementability	Moderate	High	Low
Total Cost (Present Worth)	\$10.6 Million	\$12.2 Million	\$55.4 Million



This table is similar to the table on page 4 of the fact sheet that was handed out, although it does not show Alternative 1, the no action alternative. It shows a comparison of the three remedial alternatives based upon the five balancing criteria. The alternatives are ranked from high to low with high being the best.

Based on the comparative analysis performed in the feasibility study, Alternative 3 is the best overall alternative, is protective of human health, meets federal regulations and is highly implementable.



Alternative 3 is the Corps of Engineers' preferred alternative.

Key features of the alternative are:

- All soils within the first 5 feet below ground surface exceeding cleanup goals would be removed and disposed of.
- Clean backfill would be placed within the shallow excavations.
- The federal government would implement and maintain land-use controls as necessary
- The federal government would conduct annual site inspections and review the overall protectiveness of the remedy every 5 years
- Total cost (Present-worth) is \$12.2 million

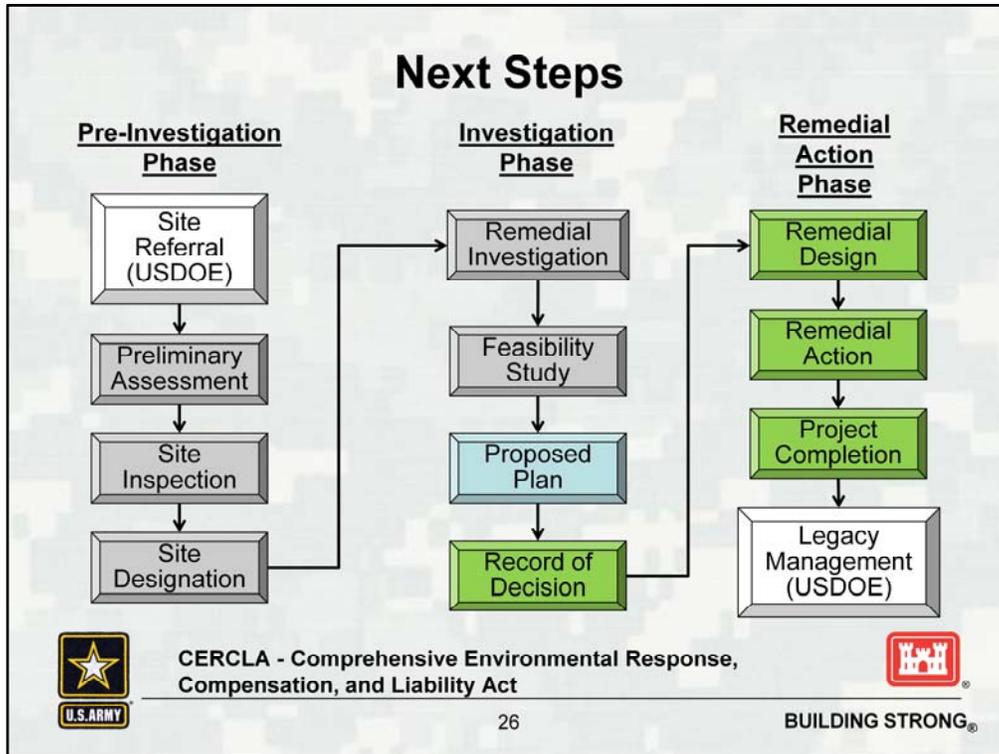
Preferred Alternative Alternative 3: Targeted Shallow Removal with Off-site Disposal of FUSRAP-related Material



25

Advantages of Alternative 3 are:

- Protective of human health and the environment, and complies with regulations
- Low risk to workers and the community during remediation
- Readily implementable in a short timeframe
- Does not have the risks of deep excavation within a landfill
- Cost effective in addressing future exposure risk

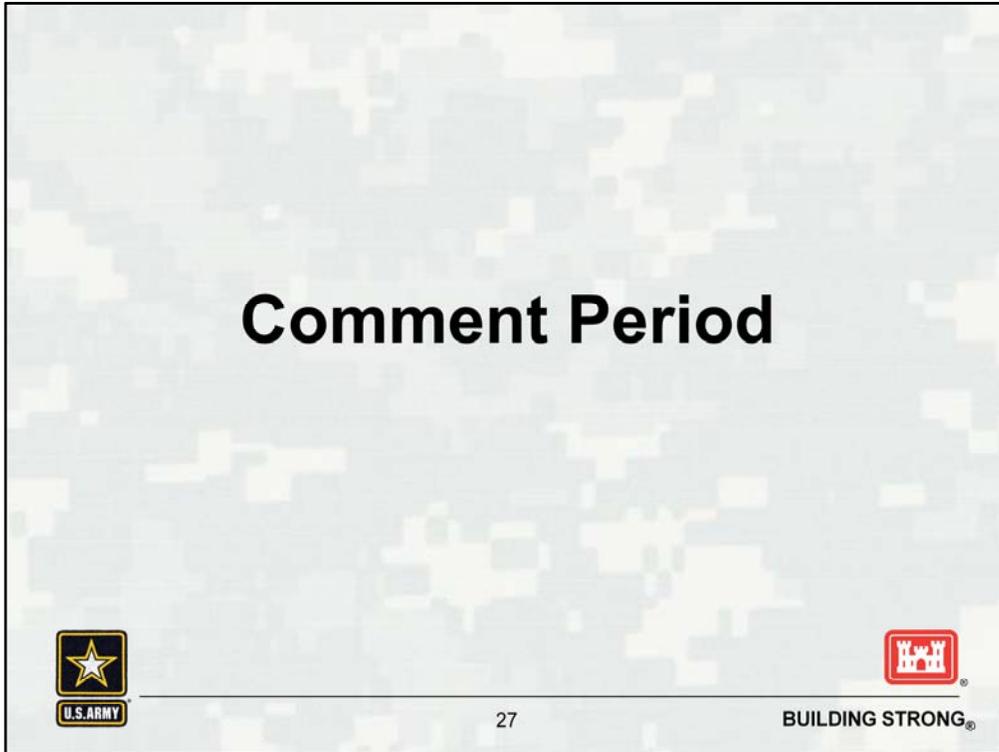


The public comment period for the proposed plan started on September 14, and will end on November 14, 2015.

After consideration of all comments received, the Corps of Engineers will select a final remedy to address the FUSRAP-related material in the Landfill Operable Unit. This selection will be documented in the record of decision.

The record of decision is currently scheduled for completion in 2017.

Start of the remedial design and remedial action will be dependent on the completion of other sites currently undergoing cleanup, and the availability of funding in the national program.



Place holder, moves back toward the podium

Operating Principles for Commenting

- 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 proposed plan



28

BUILDING STRONG®

Thank you

I would now like to open the meeting for formal comments to be entered into the public record.

When you came in you received a sign-in card with a box on it that indicates you wish to speak.

We will begin with elected officials and then call up those people who indicated on the sign-in card that they wanted to make a comment; and then, time permitting, we will open the floor to others who wish to make a comment.

I just want to reiterate the operating principles we have on the screen.

Please only one person speaking at a time. Please use the microphone so that we can accurately record your comment.

Please state your name and affiliation before providing your comment

To allow everyone that wishes to the opportunity to speak, please limit your comments to five minutes. Arleen will be watching the clock and will let you know if it is time to wrap up your comment.

Thank you. I would now like to call to the microphone_____

Thank you for your comments. Is there anyone else who would like to make a formal comment tonight?

Written Comments

Written comments should be postmarked by November 14, 2015, and mailed to:

U.S. Army Corps of Engineers, Buffalo District
Special Projects Branch
Environmental Project Management Team
1776 Niagara St.
Buffalo, NY 14207-3199

or send an email by close of business November 14, 2015 to:

fusrap@usace.army.mil

please include "Tonawanda Landfill Vicinity Property" in the subject line.



29

BUILDING STRONG®

This concludes the formal comment portion of the public meeting. Please feel free to view the displays and talk with our staff in the open house area.

Remember that there are other ways to give us your comments:

- You may write them down and leave them with us tonight.
- You may mail your comments to us at the address on the slide.
- You may also email them to the address listed on the slide.

Ensure that your comments are mailed or emailed by November 14.

Your comments and all responses to them will become a part of the official administrative record which can be viewed at the Corps office in Buffalo.

Thank you for coming tonight and we do appreciate your taking the time to attend tonight and your desire to give us feedback. We value your input during this decision-making process.

Responses to Comments/ Administrative Record

- We will respond to oral and written comments on the proposed plan in the responsiveness summary of the record of decision
- Your comments will become part of the official record and be placed in the administrative record

Administrative Record Locations

Online:

www.lrb.usace.army.mil/Missions/HTRW/FUSRAP/TonawandaLandfill.aspx

By Appointment:

U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207
800-833-6390 (Option 4)



Responses to your comments will be provided in the responsiveness summary that is part of the record of decision.

The administrative record for the Tonawanda Landfill Vicinity Property is available on our website. The administrative record contains major reports and the supporting documentation used for our decision making for the vicinity property.

For More Information

FUSRAP Questions

By phone: 800-833-6390 (Option 4)

By e-mail: fusrap@usace.army.mil

By writing: U.S. Army Corps of Engineers, Buffalo District
Special Projects Branch
Environmental Project Management Team
1776 Niagara Street
Buffalo, NY 14207

On the web:

www.lrb.usace.army.mil/Missions/HTRW/FUSRAP.aspx



If you would like additional information, please use one of these methods to contact us.

**Thank you
for
your participation**



32



BUILDING STRONG®

Thank you again! The team will be available at the posters for a few minutes. Please drive safely on your way home.