



# Idaho CERCLA Disposal Facility Expansion Project Update

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ICDF Expansion Project

U.S. Department of Energy, Idaho Operations Office

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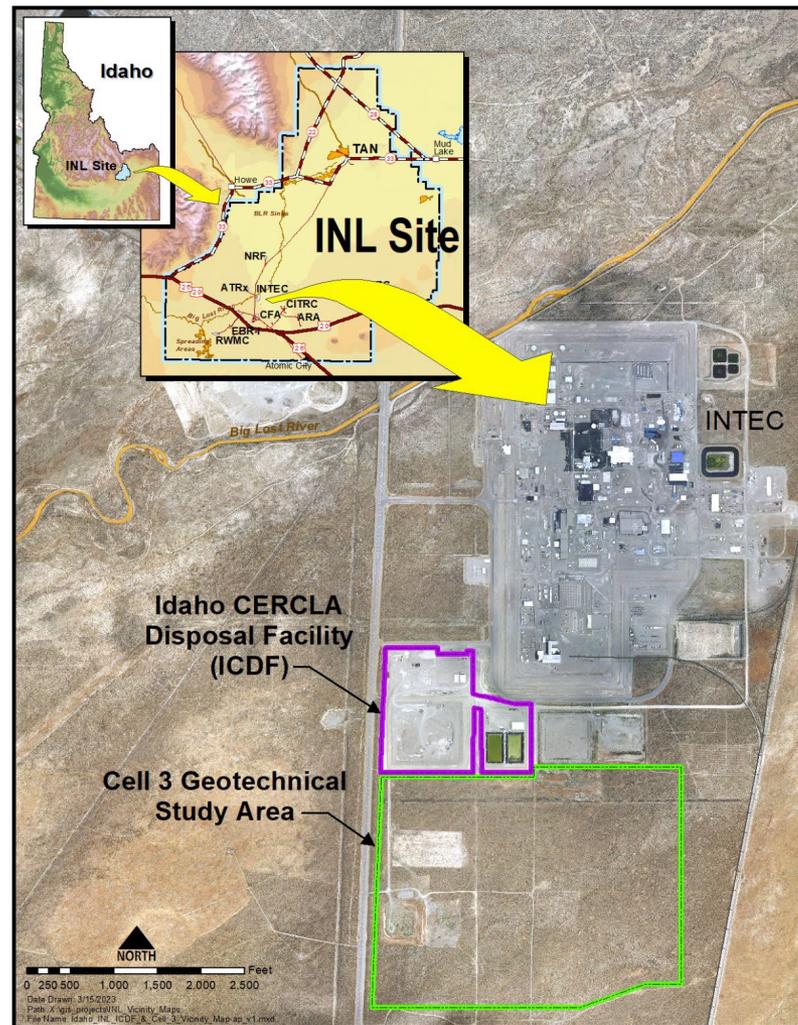
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# ICDF Purpose

- Onsite disposal of WAG 3 (INTEC) and CERCLA generated waste at INL
- Central containment of waste for long-term protection of human health and environment
- Reduces risk of contaminant exposure to human and ecological receptors



# ICDF Operational History

End of Fiscal Year	Net Volume of Waste Disposed of at the ICDF Landfill		ICDF Landfill Capacity Filled (%)
	Annual (m <sup>3</sup> )	Cumulative (m <sup>3</sup> )	
Begin	0.00E+00	0.00E+00	0
2003	3.18E+03	3.18E+03	2
2004	7.34E+04	7.66E+04	22
2005	5.85E+04	1.35E+05	34
2006	2.04E+04	1.55E+05	39
2007	2.76E+04	1.83E+05	47
2008	3.53E+04	2.18E+05	52
2009	2.13E+04	2.40E+05	56
2010	1.70E+04	2.57E+05	60
2011	2.45E+04	2.81E+05	63
2012	2.58E+03	2.84E+05	64
2013	1.30E+01	2.84E+05	64
2014	2.96E+03	2.87E+05	68
2015	3.34E+03	2.90E+05	69
2016	1.75E+03	2.92E+05	70
2017	3.10E+03	2.95E+05	72
2018	1.59E+03	2.97E+05	74
2019	1.54E+03	2.98E+05	73
2020	5.07E+03	3.03E+05	75
2021	3.79E+03	3.07E+05	76
2022	4.04E+03	3.11E+05	77



# ICDF Operational History (cont.)



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# ICDF Operational History (cont.)

Materials Test Reactor Vessel -Jan. 2011



Advanced Test Reactor Hot Cell #1 - Sept. 2011



Grouting Containers - Feb. 2009



AMWTP Cake Boxes Bins - July 2018



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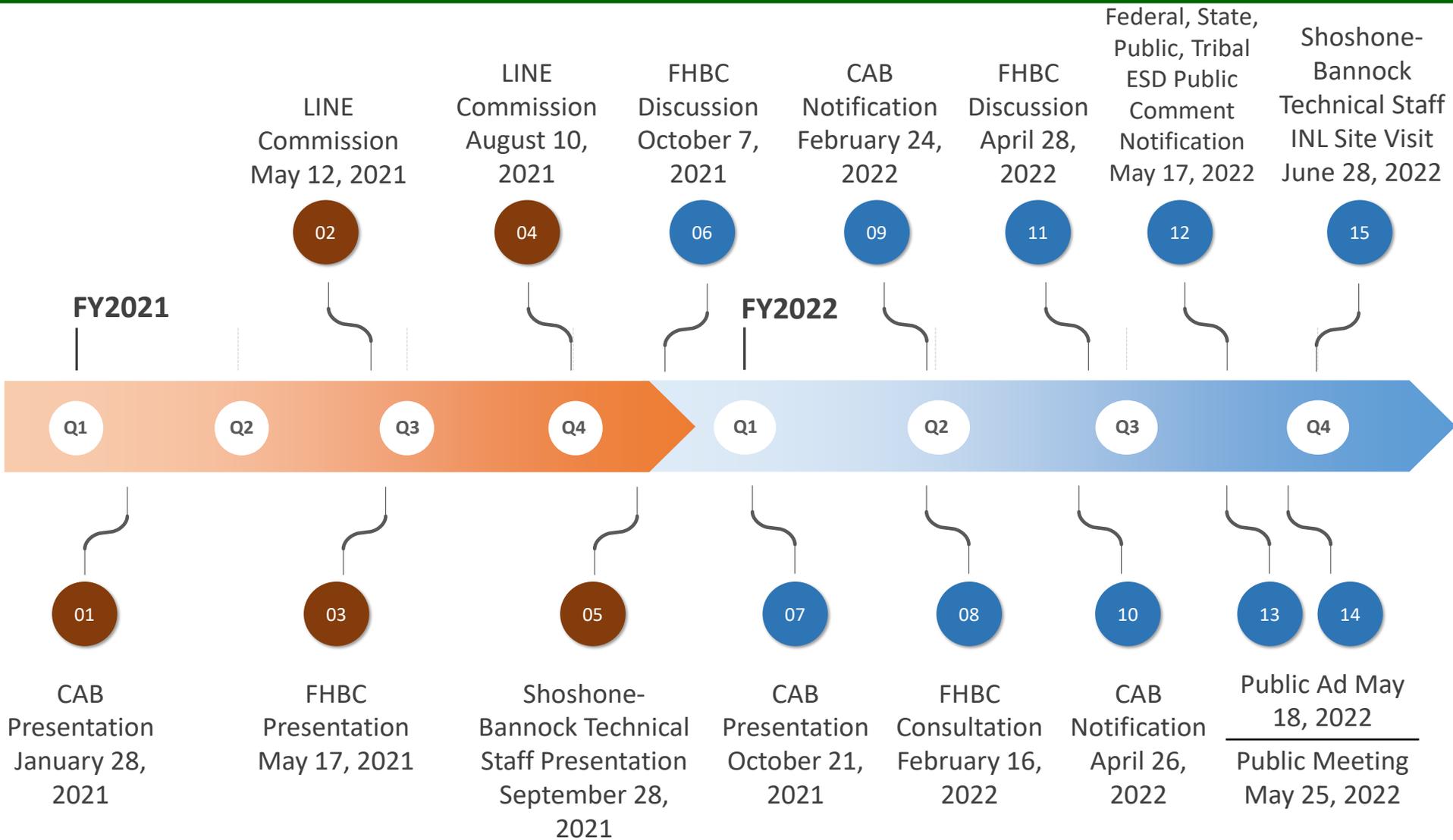
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# Explanation of Significant Differences (ESD)

- Increase Existing Landfill (Phase 1)
  - Add 140,000 m<sup>3</sup> waste capacity for potential use
  - No change in cover/cap design
  - Meets ARARs (Applicable Relevant and Appropriate Requirements)
- Add New Landfill (Phase 2)
  - Same design as existing landfill
  - Adds 530,000 m<sup>3</sup> to future disposal capacity
  - Same cover/cap design
  - Meets ARARs
- Extend Operational Life of ICDF Complex
  - From 2025 to 2050

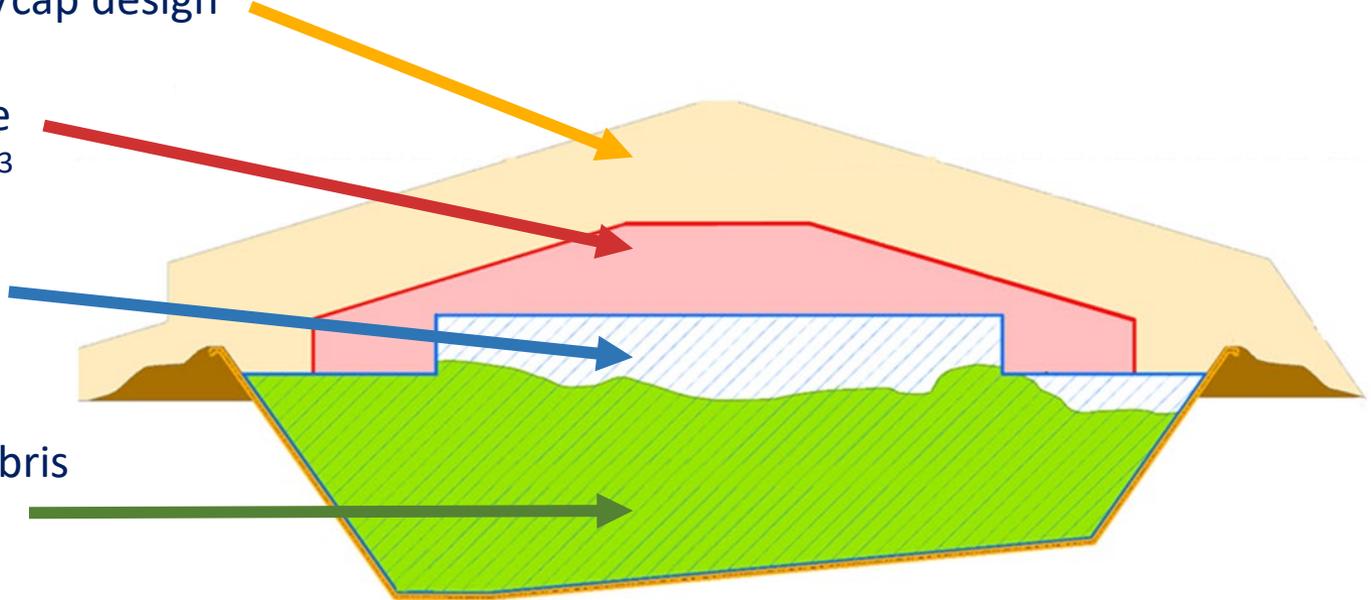


# ICDF ESD Public & Tribal Engagement Timeline



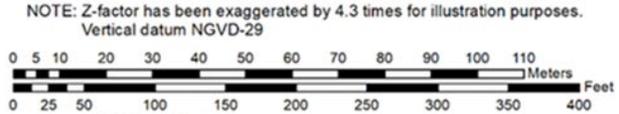
# Phase 1 Expansion

- No change in cover/cap design
- Add potential waste capacity  $\approx 140,000 \text{ m}^3$
- Remaining disposal capacity  $\sim 80,000 \text{ m}^3$
- Placed Soils and Debris Waste  $\sim 310,000 \text{ m}^3$



**ICDF Landfill Waste Placement Utilization Profile (North to South)**

- Existing landfill planned disposal capacity  $\approx 390,000 \text{ m}^3$
- Proposed debris waste placement capacity  $\approx 140,000 \text{ m}^3$
- Soils and Debris Waste placed as of FY-2019  $\approx 290,000 \text{ m}^3$
- Primary geomembrane liner
- Planned ICDF landfill cover
- Land surface



GIS Analyst: Dan Mahnami  
Date Drawn: 3/15/2021  
Path: X:\gis\_projects\icdf\maps\Landfill\_Utilization\_EDP\2020\_WPU\_EDP\Graphics  
File Name: Lrf\_30\_49548\_Profile\_Scenario\_w\_Cap\_Rep2019-af\_v2.mxd



Profile Cross-section (September 22, 2019)

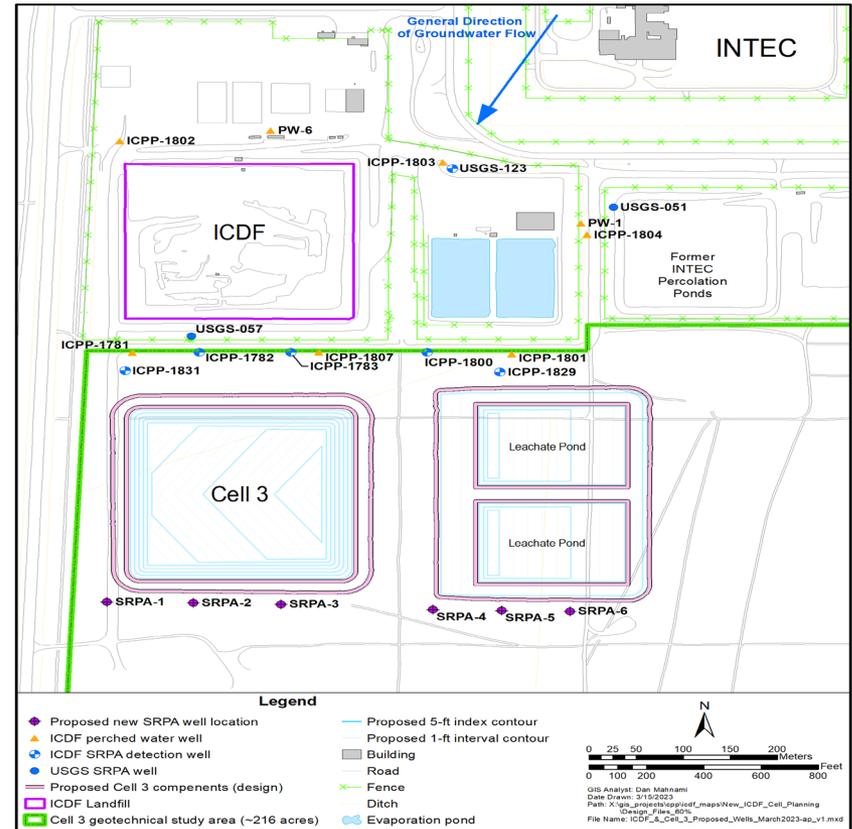
# Phase 2 Expansion

- Design
  - Conceptual Design Report (November 2022)
  - 60% Design for Site Preparation (April 2023)
  - 60% Design for Landfill and Evaporation Ponds Construction (June 2023)
  - Remedial Design/Construction Work Plan (RD/CWP) for Landfill and Evaporation Pond Construction (September 2023)
- Construction
  - Site Preparation Activities (August 2023)

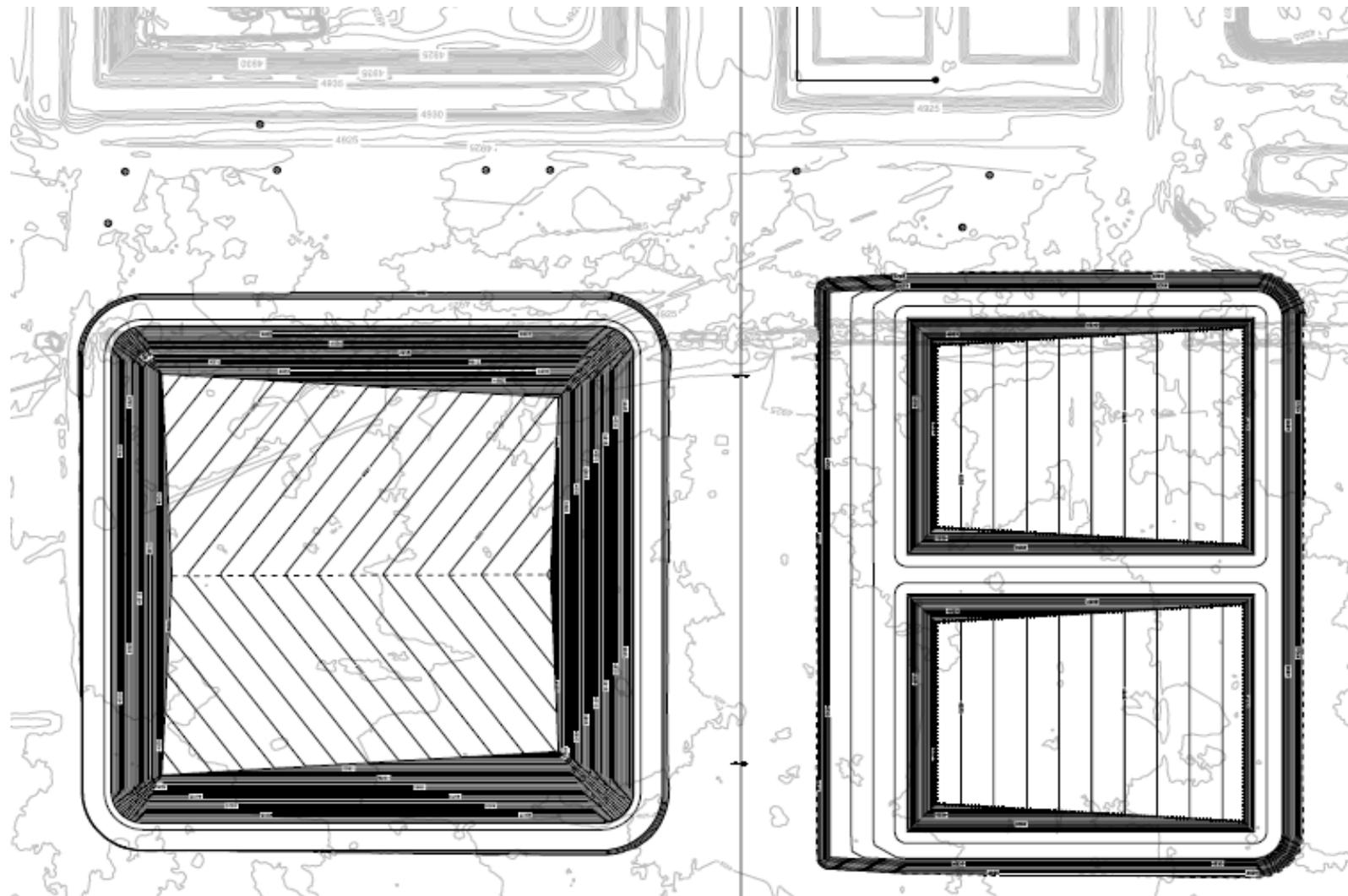


# ICDF Cell 3 Design

- Located near existing ICDF facilities (reusing existing infrastructure)
- ICDF Cell 3 will be directly south of Landfill Cells 1&2 (same size as previous and lowered berm height)
- New Evaporation Ponds directly south of existing evaporation ponds (increased size for leachate management)
- All four evaporation ponds will be interconnected for efficient leachate/water management



# Orientation of the ICDF Landfill Cell 3 and New Evaporation Ponds



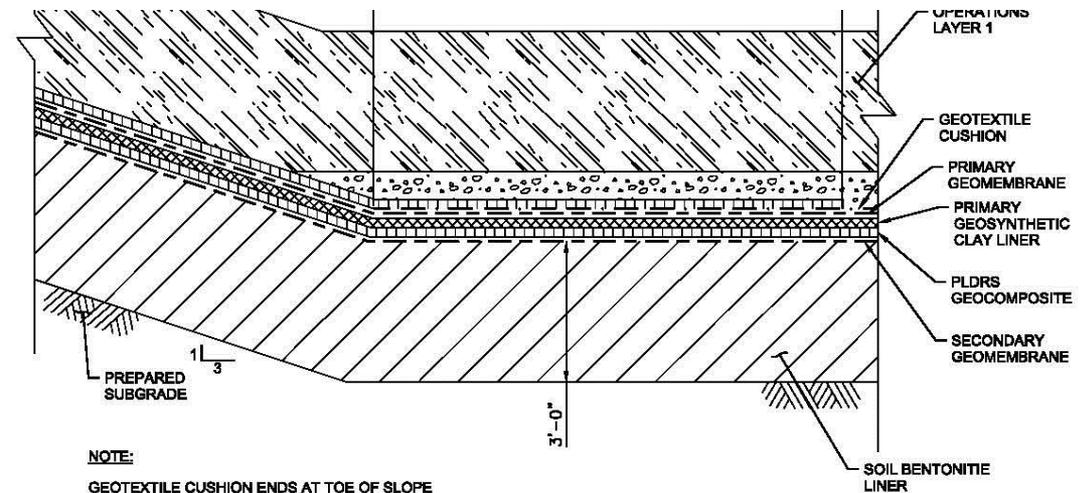
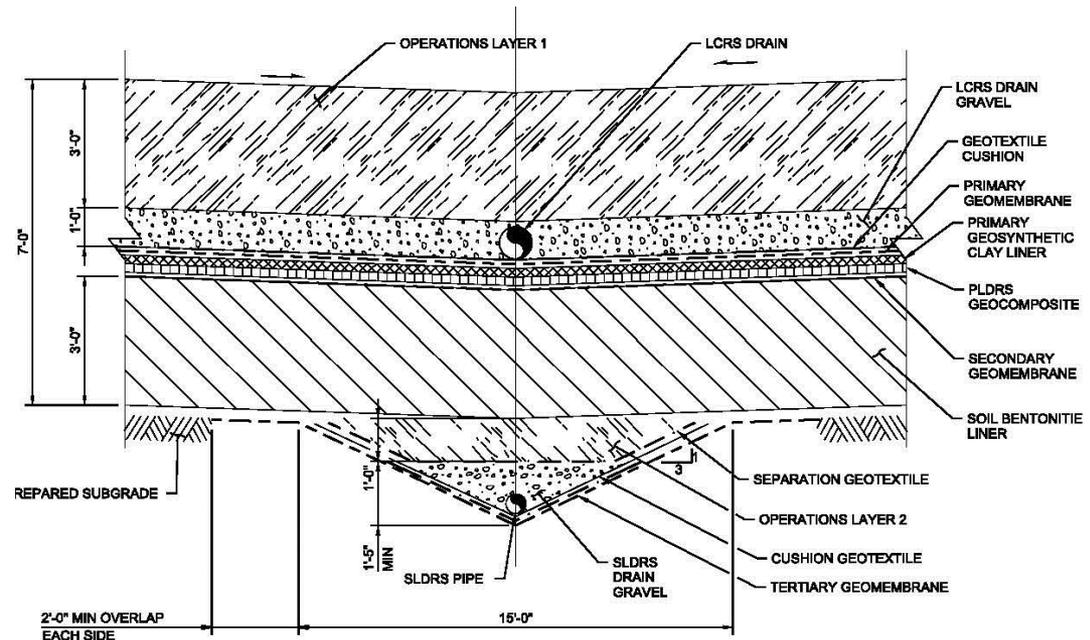
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# Landfill Cell 3 Liner System

- Exceeds Resource Conservation and Recovery Act (RCRA) Subtitle C requirements
  - Additional geomembrane and geosynthetic clay liner materials
  - Secondary Leachate Detection and Recovery System
- Liner System Operates Better than Required
  - Allowable Action Leakage Rate is ~1,700 gallons per day (from LCRS into PLDRS)
  - Actual Leakage has been ~400 gallons per year



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# Questions?



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