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ON-SITE DISPOSAL FACILITY (OSDF) PRELIMINARY DESIGN PACKAGE AT FERNALD - AGENDA AND HANDOUTS FROM PUBLIC MEETING ON JANUARY 24, 1996

01/24/96

DOE-FN PUBLIC
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AGENCA

Agenda for the Public Workshop to Discuss the On-Site Disposal Facility (OSDF) Preliminary Design Package at Fernald

The Plantation – Harrison, Ohio
January 24, 1996
7:00 to 9:00 pm

I.	Introduction	Gary Stegner U.S. DOE
II.	Status of the On-Site Disposal Facility Design	Rod Warner U.S. DOE
III.	Definition of the Preliminary Design Package	Rod Warner
IV.	Review of the Design Criteria Package (DCP)	Rod Warner
V.	Introduction of the Models	Nancy Weatherup FERMCO
VI.	Review of Selected Drawings	Nancy Weatherup
VII.	Status of Intermediate Design Submittal	Nancy Weatherup

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PUBLIC WORKSHOP
ON-SITE DISPOSAL FACILITY PRELIMINARY DESIGN PACKAGE AT FERNALD

January 24, 1996

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OSDF DESIGN SCHEDULE

Submit Preliminary Design Review Package to EPA
December 22, 1995

Submit Intermediate Design Review Package to EPA
April 12, 1996

Submit Pre-Final Design Review Package to EPA
June 28, 1996

Issue Final Design Review Package to EPA
October 14, 1996

ON-SITE DISPOSAL FACILITY
KEY DESIGN CRITERIA

- Design for 2,000 year storm event
- Design for 2,400 year earthquake event
- Design to be effective for up to 1,000 years to the extent reasonably achievable (and at least 200 years)
- Design to be stable considering all potential mechanisms of slope instability

ON-SITE DISPOSAL FACILITY

The function of the OSDF is to isolate waste from the environment throughout the facility design life. This is achieved by:

- external hydrologic control
- internal hydrologic control
- geotechnical stability
- resistance to erosion
- resistance to biointrusion

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DESIGN CRITERIA PACKAGE
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1. General Description

- 1.1 Purpose and Organization
- 1.2 Project Scope
- 1.3 Major Components of the OSDF
- 1.4 Design Interfaces
- 1.5 Sources of Information
- 1.6 Project Deliverables
- 1.7 Revision of this DCP
- 1.8 References

2. Design Criteria

- 2.1 OSDF Location
- 2.2 OSDF Layout
- 2.3 OSDF Performance
- 2.4 Liner System
- 2.5 Leachate Management
- 2.6 Final Cover System
- 2.7 Test Pad Program
- 2.8 Surface-Water Mgmt
- 2.9 Erosion/Sediment Control
- 2.10 Support Facilities/Utilities
- 2.11 Borrow Area
- 2.12 Impacted Material Mgmt

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DESIGN CRITERIA PACKAGE
PROJECT DELIVERABLES

3.1 General Requirements

- 3.1.1 Introduction
- 3.1.2 Reports
- 3.1.3 Calculations
- 3.1.4 Drawings
- 3.1.5 Specifications
- 3.1.6 Cost Estimates
- 3.1.7 Value Engineering

3.2 Description of Design Deliverables

- 3.2.1 Design Criteria Package
- 3.2.2 Calculations, Drawings, and Specifications
- 3.2.3 Liner Comp. Study Report
- 3.2.4 Soil Liner Test Program Report
- 3.2.5 Soil-Geosynthetic Interface Tesing Report
- 3.2.6 Project Support Plans
- 3.2.7 Cost Estimates
- 3.2.8 Value Engineering Report
- 3.2.9 Design Report
- 3.2.10 Response Documents

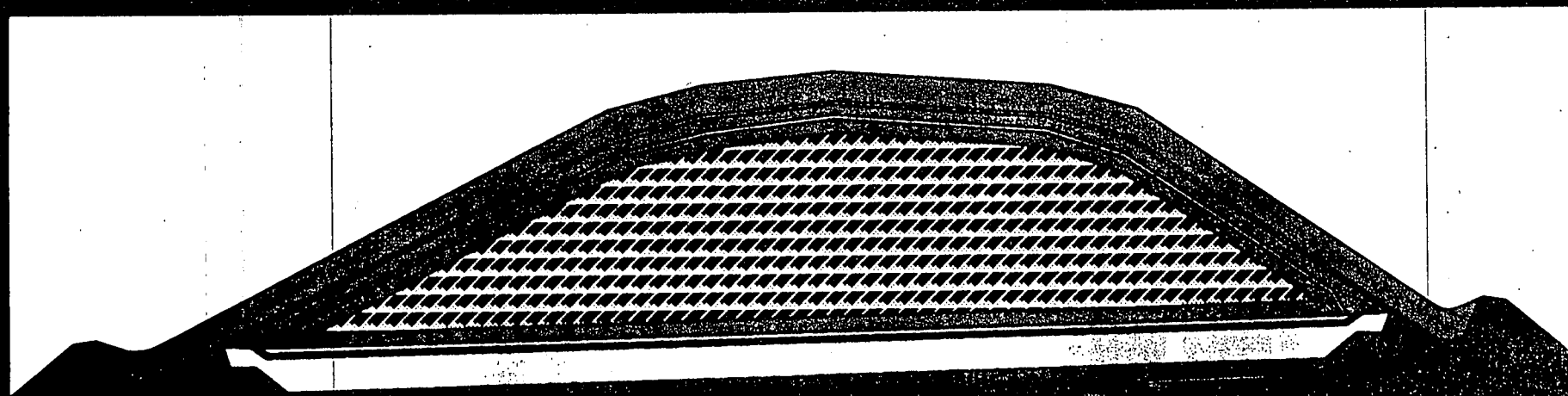
OSDF MODELS

"To Scale" Model - Illustrates the completed OSDF
1 inch on the model = 140 feet in reality

Operating Scenario Model - Illustrates the OSDF in three phases of construction
1 vertical inch on the model = 30 feet in reality
1 horizontal inch on the model = 50 feet in reality

Cross-Section Model - Illustrates cap and liner system
2 vertical inches on the model = 1 foot in reality

ON-SITE DISPOSAL CELL
CROSS SECTION EAST-WEST



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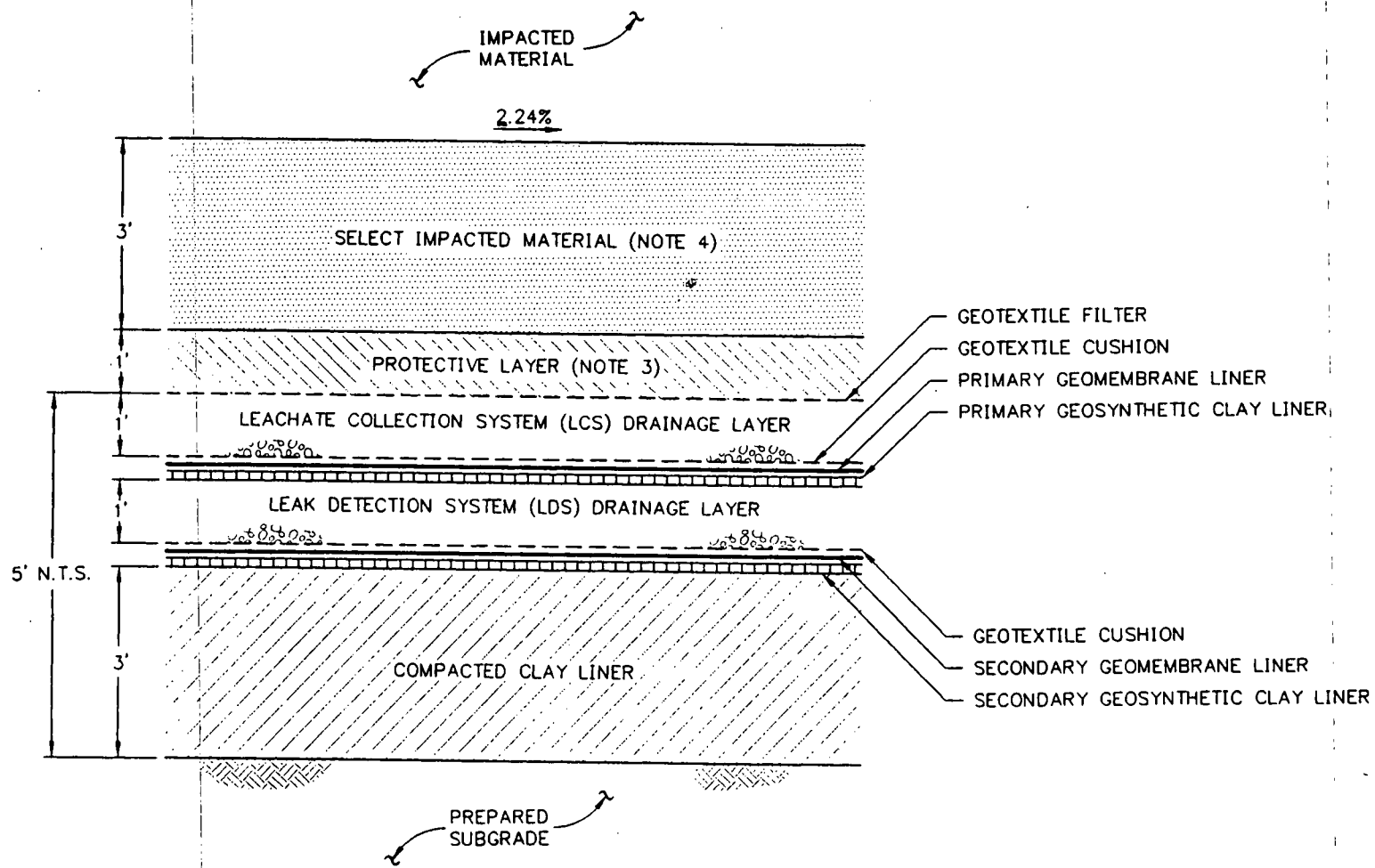
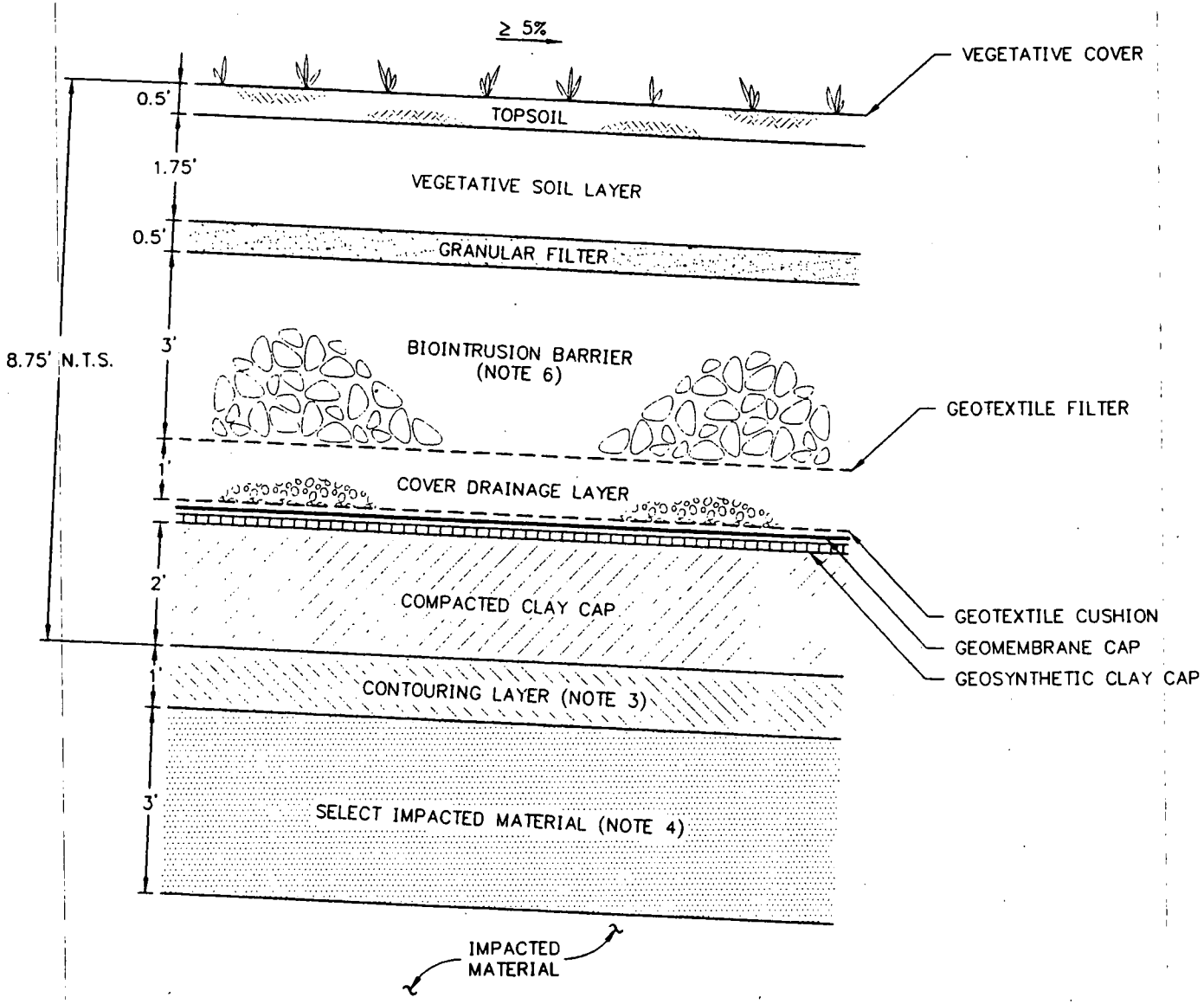


DETAIL OF LINER SYSTEM ON CELL BASE



DETAIL OF FINAL COVER SYSTEM

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ON-SITE DISPOSAL FACILITY
SCOPE OF WORK

✓ Alignment Meeting
✓ Preparation of Design Criteria Package
✓ Development of Clay Liner Test Pad Plan
✓ Development of Geomembrane Liner/Leachate Study Plan
✓ Preparation of 30% Design Package

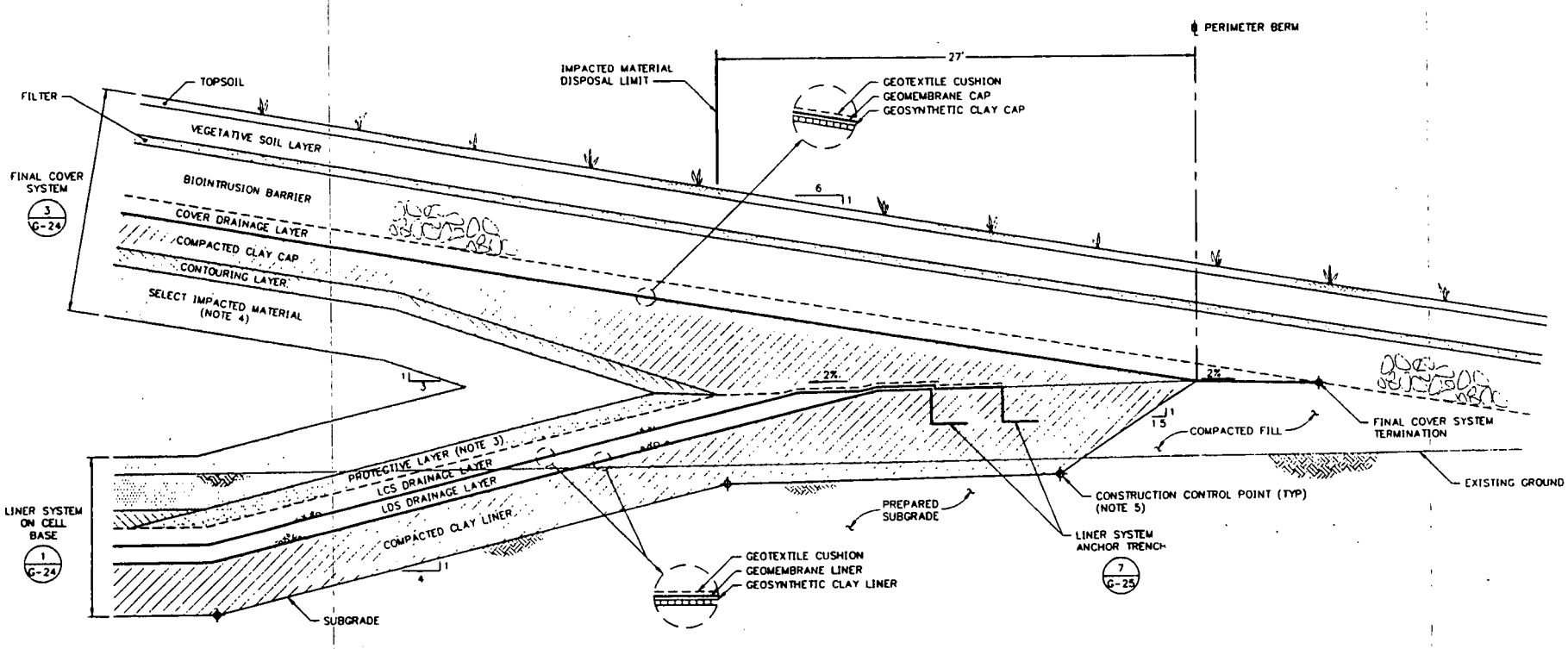
→ Preparation of Remedial Action Work Plans
→ Preparation of 60% Design Package

- Preparation of 90% Design Package
- Implementation of Clay Liner Test Pad Program
- Implementation of Geomembrane Liner/Leachate Study
- Preparation of Final Design Package
- Preparation of CFC Design Package

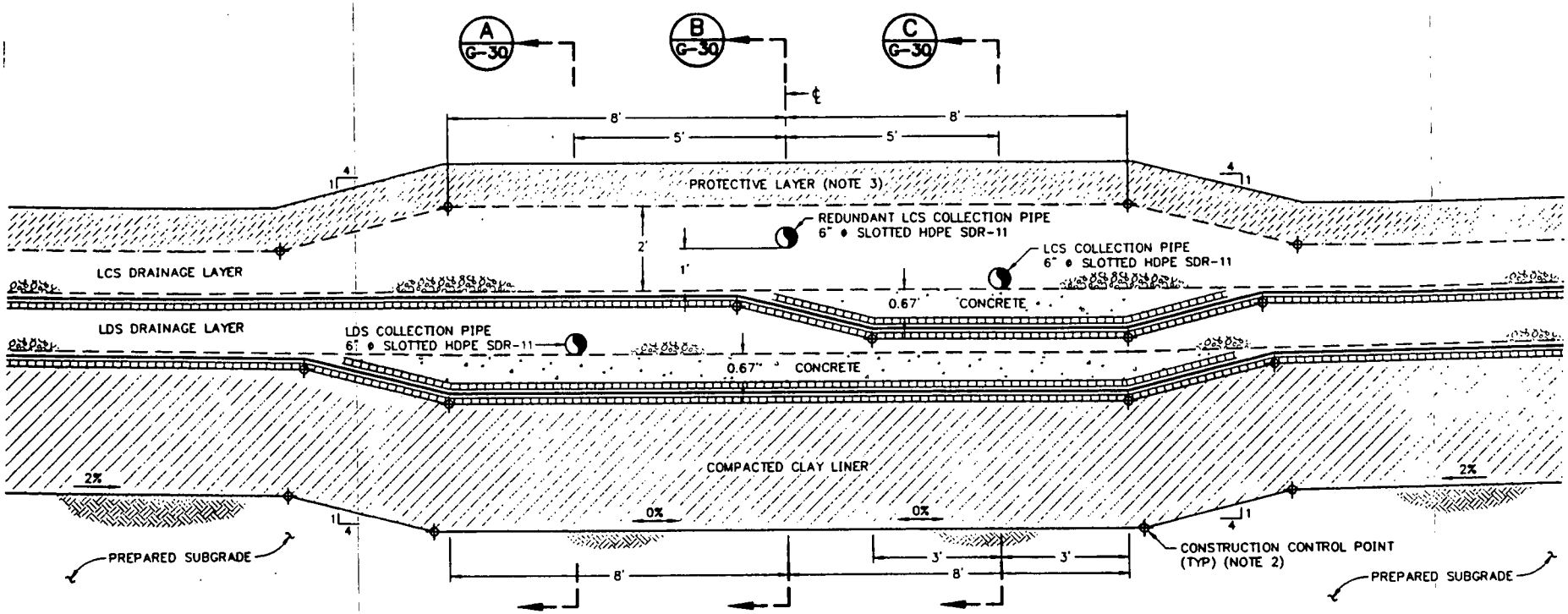
INTERMEDIATE DESIGN PACKAGE

- Submittal to EPA on April 12, 1996
- Includes more detailed design, specifications, and drawings than Preliminary Design
- Includes near-final calculations
- Remedial Action Work Plan will be submitted to EPA with the Intermediate Design Package

ADDITIONAL INFORMATION



DETAIL OF FINAL COVER SYSTEM AND LINER SYSTEM TIE-IN



SECTION OF LCS AND LDS CORRIDOR AT CELL OUTLET

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- 3.2 Seismic Site Response Analysis
- 3.3 Seismic Performance Evaluation

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- 5.1 Leachate Generation Rate

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- 10.2 Cover Drainage Layer Capacity
- 10.3 Filter Material Selection and Design
- 10.4 Biointrusion Barrier Design
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