

2 CDF DESCRIPTION

2.1 Facility Setting

The CDF site consists of about 168 acres of land in East Chicago (Lake County) formerly occupied by an oil refinery, which was owned and operated by Sinclair Oil Corporation and subsequently acquired by Energy Cooperative Industries (ECI). Sinclair Oil Corporation was later purchased by Atlantic Richfield Company (ARCO). ECI operated for approximately 20 years at the site, which is located just north of the Lake George Canal. The site is bordered on the east by Indianapolis Boulevard, on the north by the Cline Avenue extension, and to the west by the former Baltimore and Ohio (now CSX) railroad. ECI filed for Chapter 11 bankruptcy reorganization in 1987 and went into liquidation in 1989. In response to a bankruptcy court order in 1990, operations ceased at the site and the refinery, including oil tanks, pipelines, hazardous waste storage areas, a hazardous waste incinerator, and buildings, were completely demolished above ground. The site was leveled, cleared of debris, covered with topsoil and seeded; however, there was no remediation of sub-surface on-site contamination.

2.2 Facility Description

The CDF, when constructed, will cover about 95 percent of the site north of the Lake George Canal. It will be constructed of earthen dikes using material brought in from off site. Dikes will be constructed to a final height of approximately 33 feet above the existing ground surface. The entire dike will be constructed of compacted clay. A soil bentonite slurry wall has been constructed beyond the outside toe of the dike to a clay strata approximately 33 feet below ground surface. See Figure 2-1.

A groundwater collection system will be constructed on the inside of the bentonite slurry wall. This groundwater collection system, composed of perforated drain pipes along three sides of the CDF site, will be connected to sump pits and an on-site wastewater treatment system.

Approximately 4.8 million cubic yards of sediment will be dredged using a mechanical (clamshell) dredge with modifications to the bucket to minimize resuspension of contaminated sediments into the water column. The dredged material will be lowered into barges or scows and transported to a location near the CDF site, where water will be added to create a desired consistency that will enable it to be slurried into the CDF disposal cells. The CDF facility will be divided into two disposal cells and a smaller water equalization basin.

Dredged sediment slurry deposited in the CDF will be offloaded at the north side of the CDF and gravitationally flow toward the south. Trenches will be dug in the dredged material along the dikes to facilitate dewatering. An adjustable weir will be installed in each cell to control the distribution of water. A pump in each decant structure will pump the water from the decant structure to the equalization basin. The effluent from the equalization basin will also be treated at the on-site wastewater treatment system.

The wastewater treatment system effluent will be discharged to the Lake George Branch of the IHSC, pursuant to a National Pollutant Discharge Elimination System (NPDES) permit issued by the Indiana Department of Environmental Management (IDEM). After the CDF is filled (i.e., in approximately 30 years), it will be capped with three feet of clay, six inches of sand drainage layer, and two feet of clean fill; overlain by six inches of topsoil; and seeded. Post-closure

groundwater monitoring will be conducted to ensure that the integrity of the CDF is maintained to prevent releases to the environment.



**View from the South of the CDF Site (North of Canal) Prior to Construction;
Lake Michigan in Background**

Figure 2-1: CDF Facility Layout Plan

