Hanford Update

Liquid Effluent Retention Facility

The soil/bentonite material that was used to line the basins was rolled and compacted, six inches at a time, to a depth of at least three feet on the bottoms and sides of each basin.

What is the Liquid Effluent Retention Facility?

The Liquid Effluent Retention Facility (LERF) consists of three liquid retention basins located in the 200 East Area of the Hanford Site. Each basin is capable of holding 6.5 million gallons of liquid.

What will the LERF do?

The basins are part of an overall plan to treat and dispose of potentially toxic, dangerous, and radioactive wastes from Hanford's double-shell underground waste storage tanks. Waste will be pumped out of the underground tanks and into the 242-A Evaporator, where the volume will be reduced through evaporation before being returned to the tanks.

The liquid condensate that results from this process will be transferred through an underground pipeline for temporary storage in the basins of the LERF. Two of the three 1.7-acre basins will be dedicated to receive the evaporator liquid condensate, while the third will be set aside for contingency capacity.

The basin will be used to store the liquid waste until a treatment facility is opened in late 1994 to receive the condensate directly.

The Liquid Effluent Retention Facility and its associated piping systems are designed and constructed to last a minimum of 30 years.

LERF construction began in the spring of 1990 and is due to be completed prior to the restart of the 242-A Evaporator.

How is the LERF constructed?

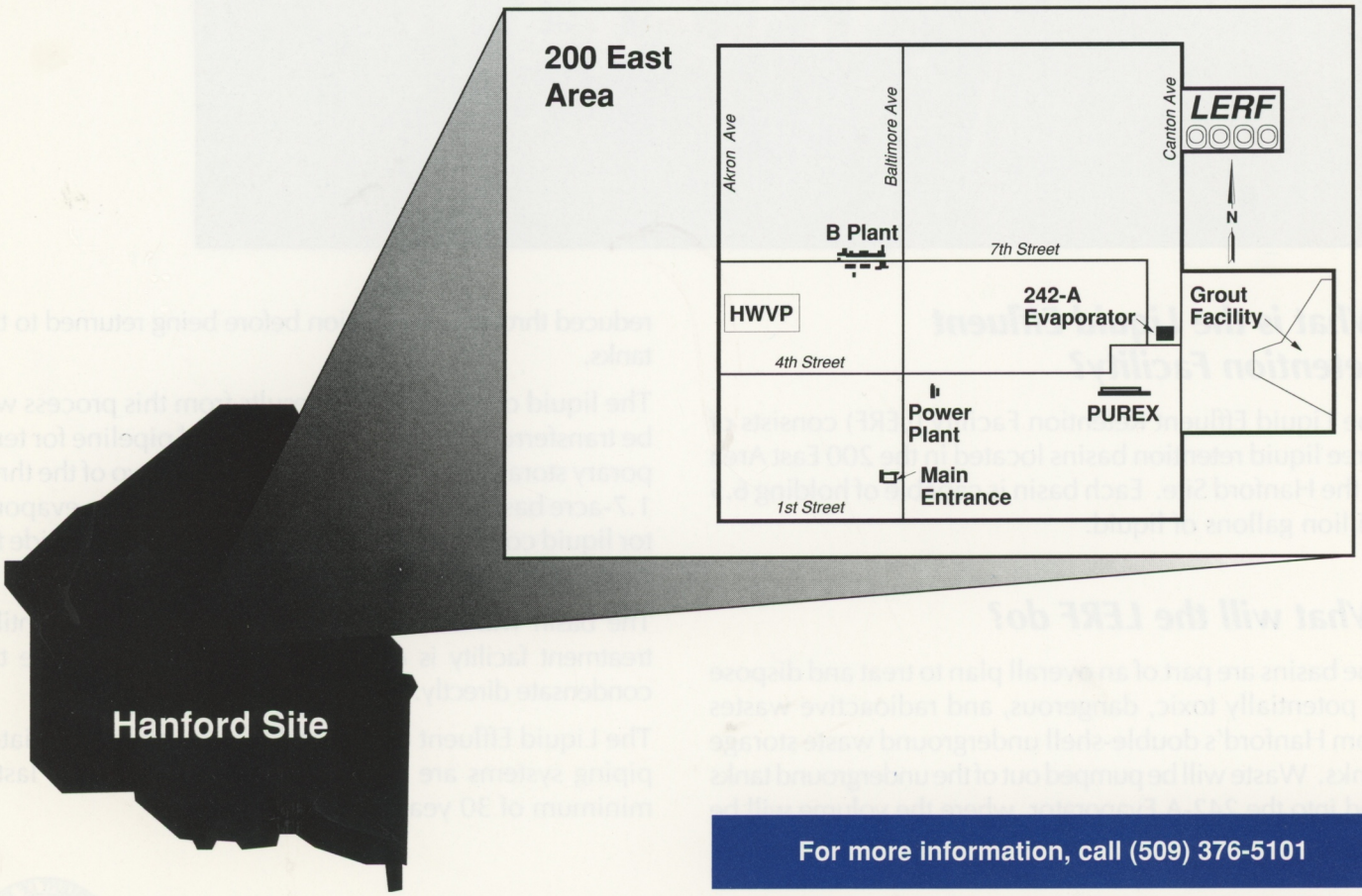
The three basins of the LERF are constructed with two flexible membrane liners, each consisting of multiple layers of high-density plastic and a clay mixture, plus leak detection instrumentation, a gravel leachate collection system, and a floating cover.

In addition, each basin contains a special material–soil/bentonite–that prevents the liquid from passing through. Hanford engineers have determined that it would take close to 50 years for liquid to penetrate the material that is layered on the bottom and sides of each basin.

What is the schedule for operating the LERF?

The LERF will be operationally tested and ready before the restart of the 242-A Evaporator. As part of the Tri-Party Agreement, which governs Hanford cleanup, discharge to the LERF of evaporator condensate is to cease by December 1994 and removal of all hazardous waste residues is due by June 1995.

After the basins are no longer needed to store liquids received from the evaporator, other uses for the facility will be explored.



For more information, call (509) 376-5101

Prepared by Westinghouse Hanford Company Communications Department

Printed on recycled paper

Environmental Excellence HANFORD

★ U. S. Government Printing Office: 1993-791-322