

East Tennessee Technology Park Zone 1 Final Soils Proposed Plan Status

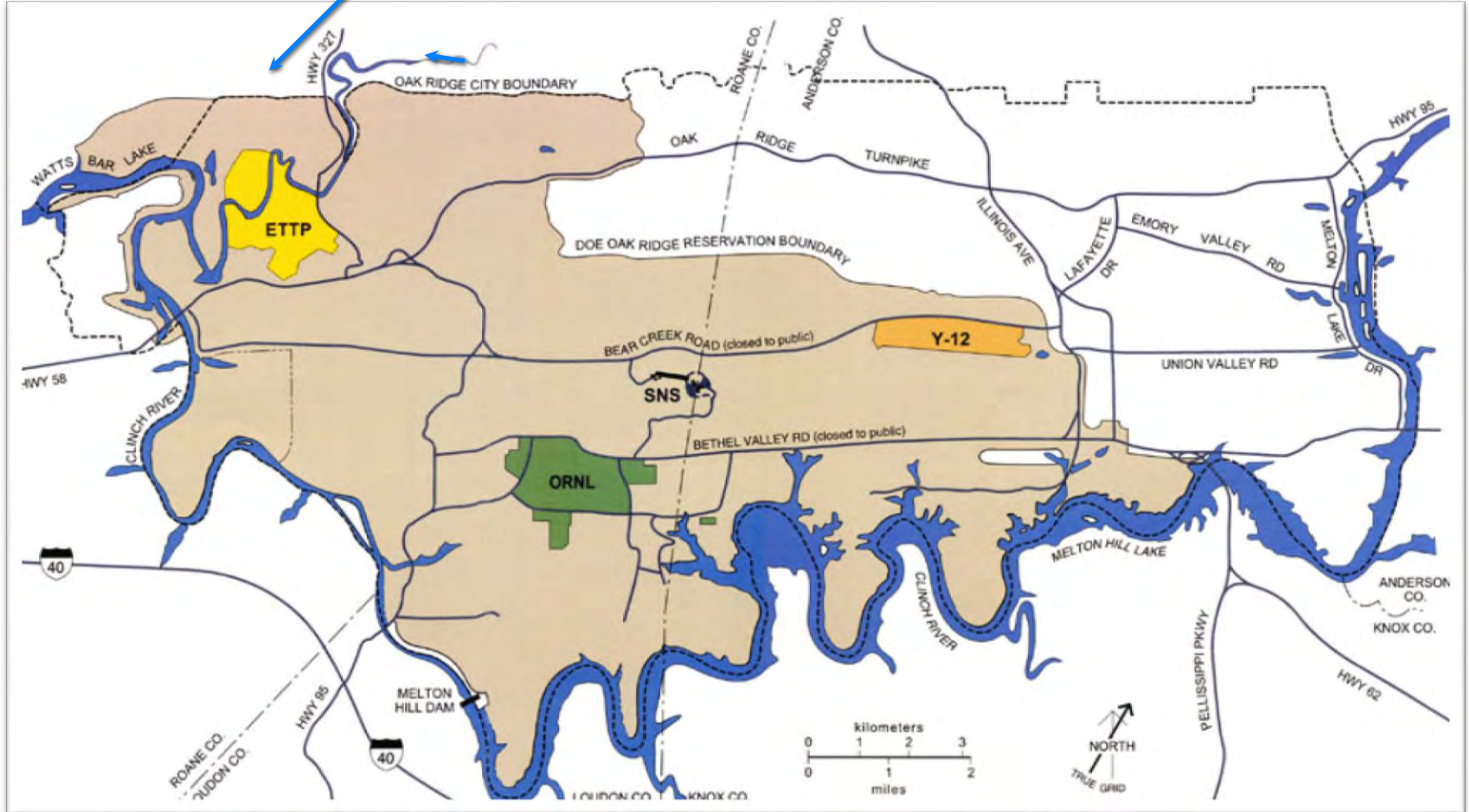
Wendy Cain

Portfolio Federal Project Director

**SSAB Meeting
January 14, 2015**

ETTP Site Location

East Tennessee Technology Park

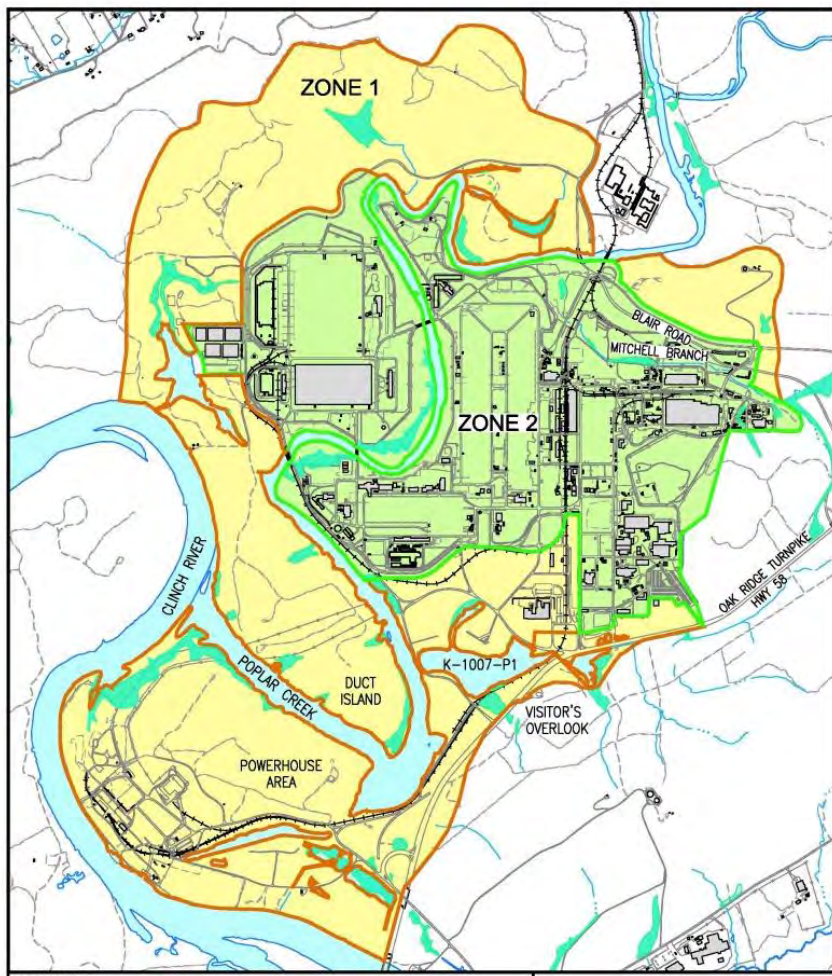


East Tennessee Technology Park

ETTP End State: Achieving reuse as a Commercial Industrial Park



Regulatory Background



- ETPP was split into two areas to address soil remediation to protect humans
 - Zone 1 – 1,400 acres surrounding the industrial portion of the site.
 - Zone 2 – 800 acres in the main plant industrial areas.
- Original Sitewide RI/FS included all of ETPP (Zone 1 & Zone 2) and addressed all media
 - Sitewide ROD project was postponed in 2008 to conduct a groundwater treatability study
 - Agreement in 2010 to proceed with an accelerated Zone 1 Final ROD for all media

CERCLA PROCESS

Preliminary Assessment

Site Investigation Work Plan & Site Investigation

Remedial Investigation Work Plan (RIWP)

Remedial Investigation/Feasibility Study (RI/FS)

Proposed Plan (PP)

Record of Decision (ROD)

Remedial Design Work Plan (RDWP)

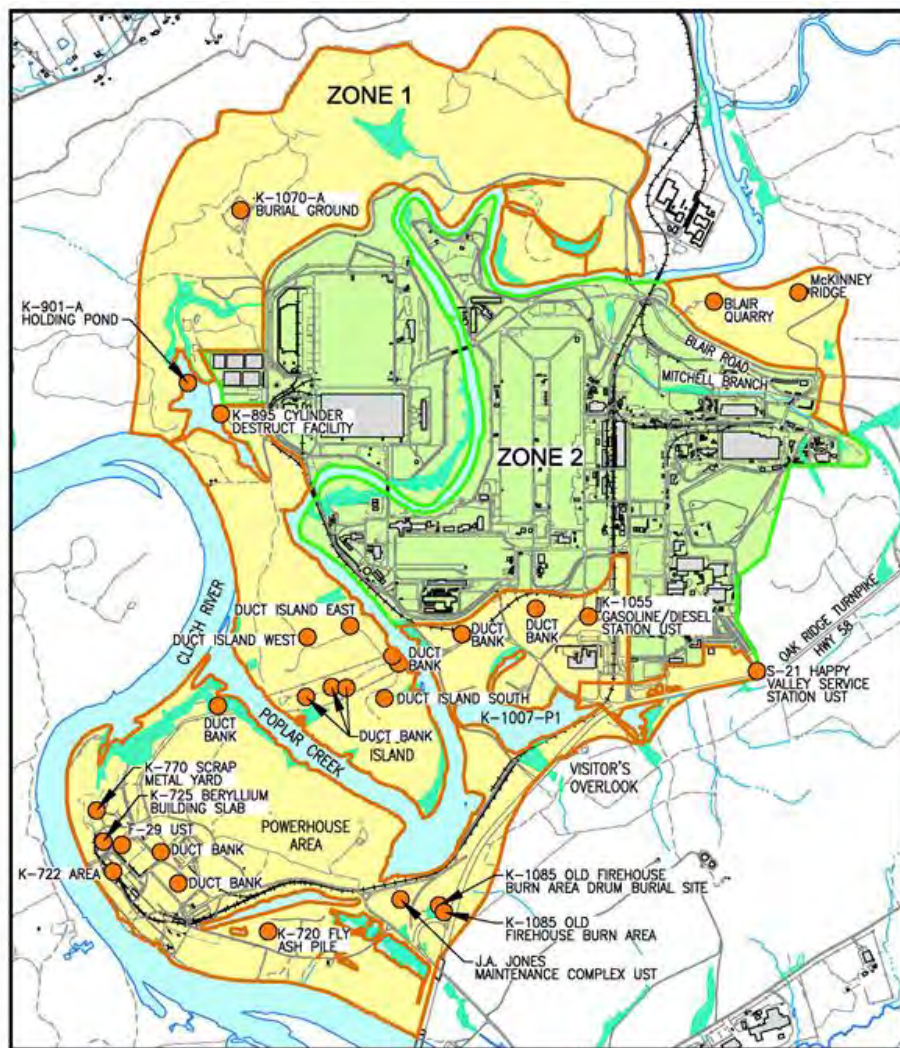
Remedial Design Report (RDR)

Remedial Action Work Plan (RAWP)

Post Construction Report

- 2013
 - EPA invoked informal dispute on the D2 RI/FS
 - Agreement to defer Zone 1 surface water and groundwater to the Sitewide ROD and proceed with Zone 1 Final Soils ROD
- 2014
 - D3 RI/FS issued and approved by TDEC
 - D1 Zone 1 Final Soils Proposed Plan issued
 - D2 Zone 1 Final Soils PP issued in November

Previous Zone 1 Actions

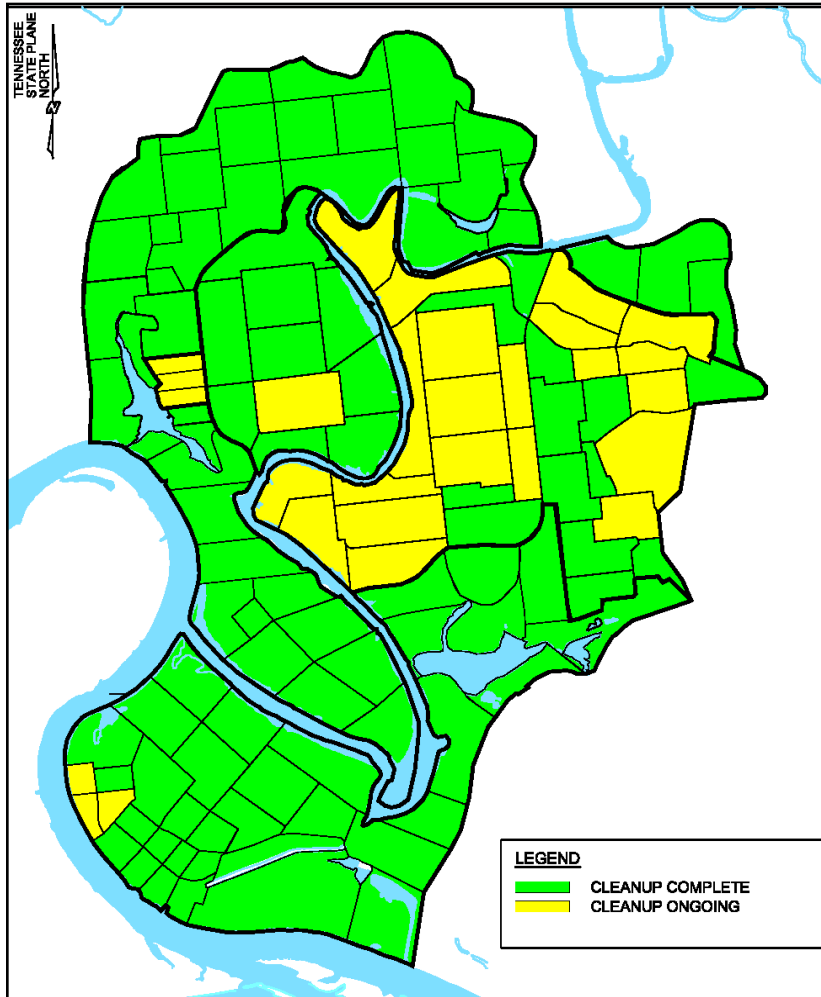


- K-1070-A Burial Grounds
- K-1085 Old Firehouse Burn Area
- Duct Bank Remediation
- K-720 Fly Ash Pile
- K-901-A Holding Pond Fish Kill/Cylinder Removal
- Demolition of Powerhouse Cooling Towers and Buildings
- Zone 1 Interim Soils ROD Remediation
- K-1007-P1 Pond Ecological Enhancement
- Voluntary Ecological Soils Remediation

Zone 1 Interim ROD

- Interim ROD (IROD) signed in 2002
- Established soil cleanup goals for worker protection and protection of groundwater
- Goal was unrestricted Industrial use in upper 10 feet soil
 - Identified 80 exposure units (EUs)
 - No maximum remediation level exceedance
 - No average remediation level exceedance across EU
 - Cumulative risk $<1 \times 10^{-4}$ incremental life-time cancer risk (ICLR) and Hazard Index (HI) of 1
- Identify and remove sources of groundwater contamination

Zone 1 IROD Remediation



Interim ROD goals met in most areas

- 1,396 soil sample locations
- 80,037 yd³ soil removed, 61,400 yd³ scrap/debris removed
- 1,269 acres released (71 EUs) for industrial use

Areas not meeting interim ROD Goals

- Contractors Spoil Area
- K-720 Fly Ash Pile
- K-770 Scrap Yard Area
- Duct Bank Corridor

Deferred to Zone 1 Final RI/FS for additional evaluation

Zone 1 Final RI/FS

- Builds on Sitewide Remedial Investigation
- Incorporates Zone 1 Interim ROD remedial actions
- Evaluates results of voluntary soil remediation for ecological protection
- Performed risk assessments for industrial workers, recreational users and terrestrial wildlife
- Developed alternatives for areas not meeting Zone 1 Interim ROD goals and to protect terrestrial wildlife

RI Conclusions

- Unrestricted industrial use is also protective of recreational use; therefore cleanup levels for unrestricted industrial use are also protective of recreational use
- Potential risks:

Site	Contamination	Site Risk Summary
Contractors Spoil Area	PAHs, metals, VOCs currently capped	Potential risk to industrial users and terrestrial wildlife if cap fails
K-770 Area	Only contamination is asbestos	Potential risk to industrial and recreation users
K-720 Fly Ash Pile	Metals	Potential risk to adjacent surface water if cap fails
Duct Bank Corridor	Metal sludges were grouted in place	Potential risk to industrial user
Duct Island East & West capped areas	Metals and PCBs currently covered	Potential risk to terrestrial wildlife if cover fails
K-901 Drainage Area	Chromium	Potential risk to terrestrial wildlife

Key Issues to be Addressed by ETTP Zone 1 Soils ROD

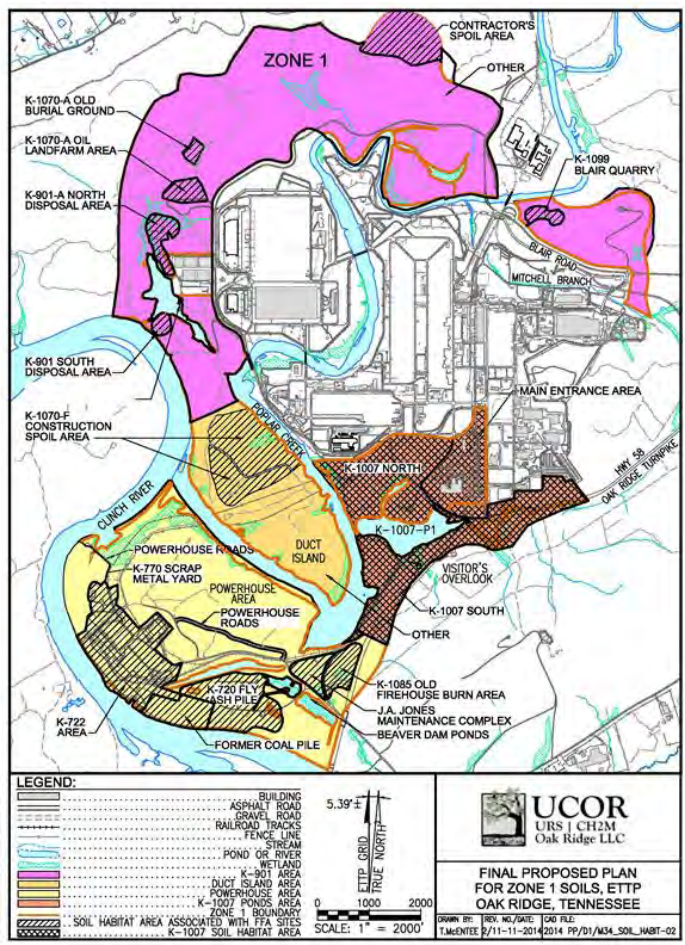
- Remedy for areas not meeting the interim ROD goals
- Selection of Final Land Use Controls for Zone 1
- Path forward for areas of ecological interest

Remedial Action Objectives

- Future industrial use (at a minimum of 10 feet of depth) of the majority of Zone 1 by protecting future industrial workers from exposure to contamination in soils (same as interim goal); alternatively protect future recreational users from exposure to contaminants in soils.
- Protect local-level terrestrial wildlife receptors populations from contamination in surface soils over habitat areas.
- Protect underlying groundwater and nearby surface water from contamination in soils (same as interim goal).

1. No Action
2. Additional Land Use Controls (LUCs)/Cover for K-770, Contractors Spoil Area (CSA), K-720 and Duct Bank Areas, and removal of small ecological risk areas
3. Additional LUCs/Cover for CSA, K-720 and Duct Bank Areas, removal of K-770 and small ecological risk areas
4. Additional LUCs/Cover for CSA and Duct Bank Area, removal of K-770, K-720, and small ecological risk areas.

Preferred Alternative (2)

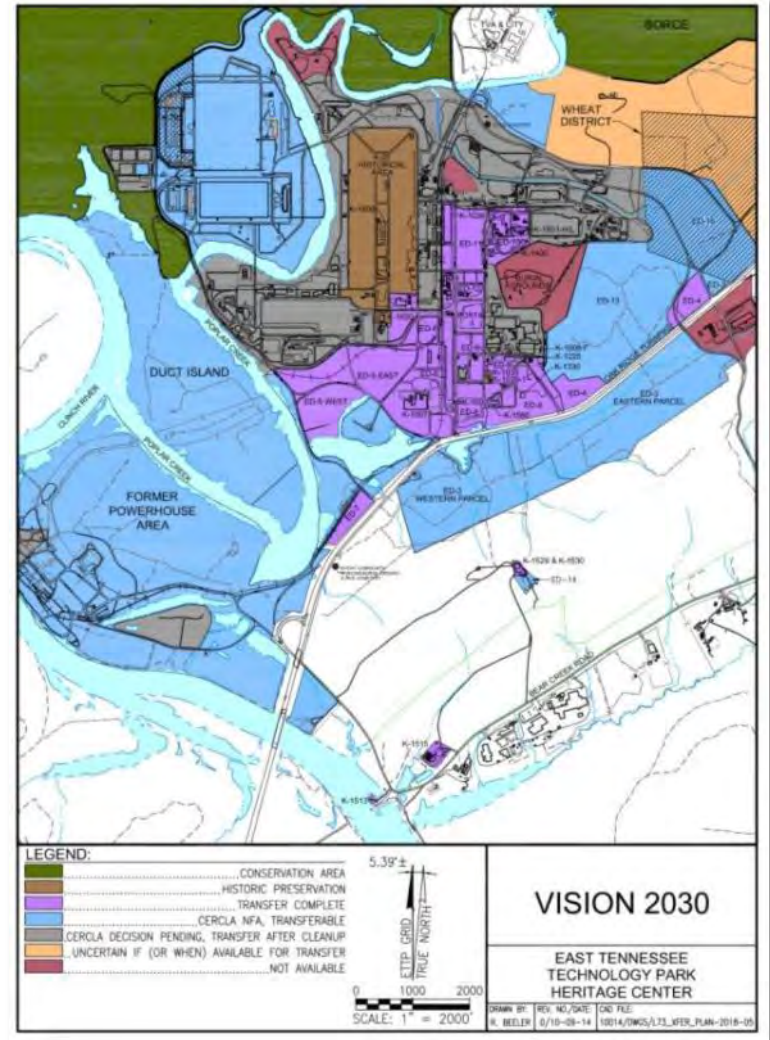


- Cover K-770 Area to prevent exposure to asbestos
- Remove small ecological risk areas to protect terrestrial wildlife; additional characterization
- Maintain covers at Contractors Spoil Area, K-720 Fly Ash Pile and K-770 Area
- Land Use Controls
 - Prevent residential use
 - Control use of waste management areas: Contractors Spoils Area and K-720 Fly Ash Pile
 - Control access below 10 ft (below 2 ft in Duct Bank Corridor and K-770 Area)
 - Groundwater use restrictions

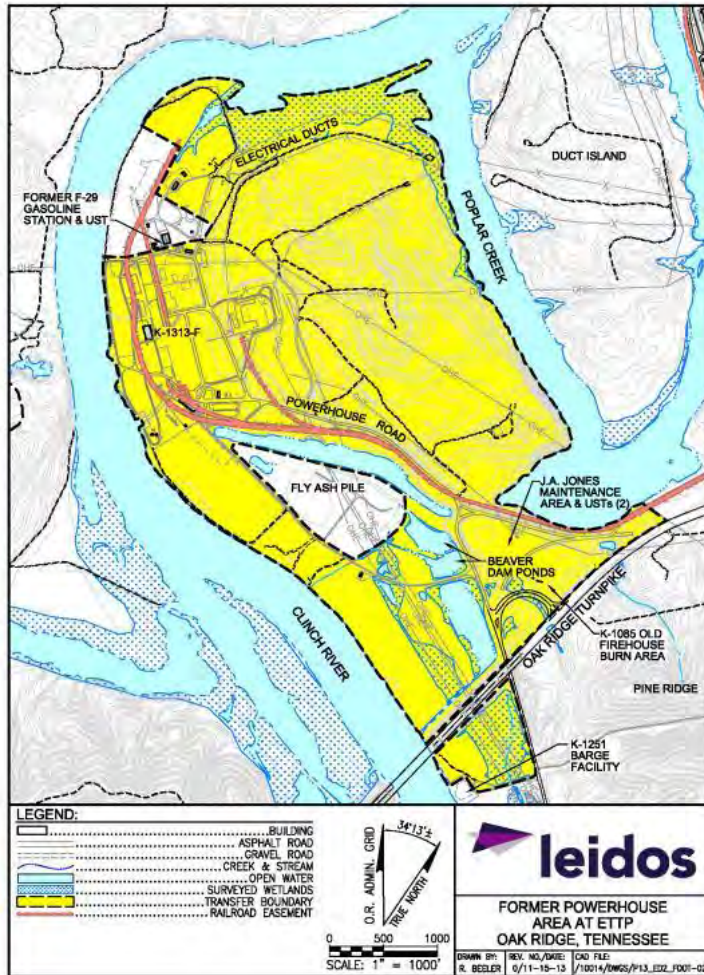
Rationale for Preferred Alternative

- Provides best trade-off of cost (\$3.9 M capital), effort and level of protection and permanence
- Effectively controls access to areas of residual contamination
- Provides cost-effective permanence by not relying on covers for protection of ecological receptors at Duct Island

- Transferred assets (to date)
 - Over 700 acres
 - 14 buildings (332,000 ft²)
 - Site infrastructure, roads and services transfer to City of Oak Ridge
- Leased assets:
 - 530 acres leased to five Private Companies
- 20 private companies operating at ETTP along-side UCOR
- Over 400 acres planned for disposition by 2017

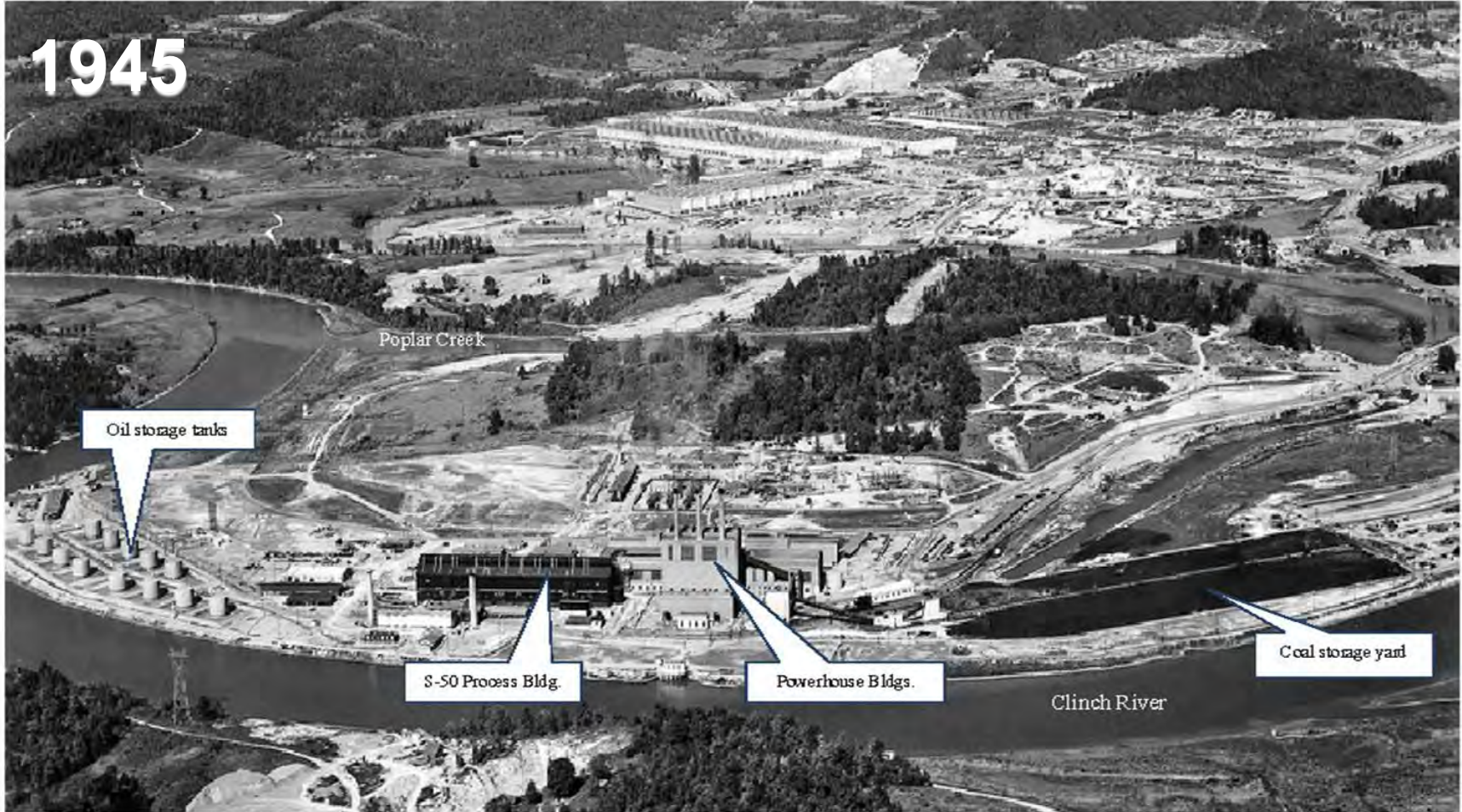


Former Powerhouse Area



- Largest parcel at over 400 acres
- 44 Acres have been requested by CROET (ED-15)
- Access to, Highway 58, rail, and Clinch River make it desirable

Powerhouse Area



Today



- Address Regulator comments and revise Zone 1 Final Soils Proposed Plan (February 2015)
- Regulator approval of the Zone 1 Final Soils Proposed Plan (April)
- Public comment period/public meeting (April - May)
- Continue working with regulators to develop and test process for lifting land use controls for incorporation into the ROD for future use to facilitate reindustrialization
- Regulator approval of the Zone 1 Final Soils ROD (December)
- Implement selected remedial action (January 2016)
- Future ETTP Sitewide ROD to address all groundwater and surface water