

U.S. Department of Energy

Oak Ridge Office of Environmental Management
(OREM)

Y-12 National Security Complex Portfolio Plan

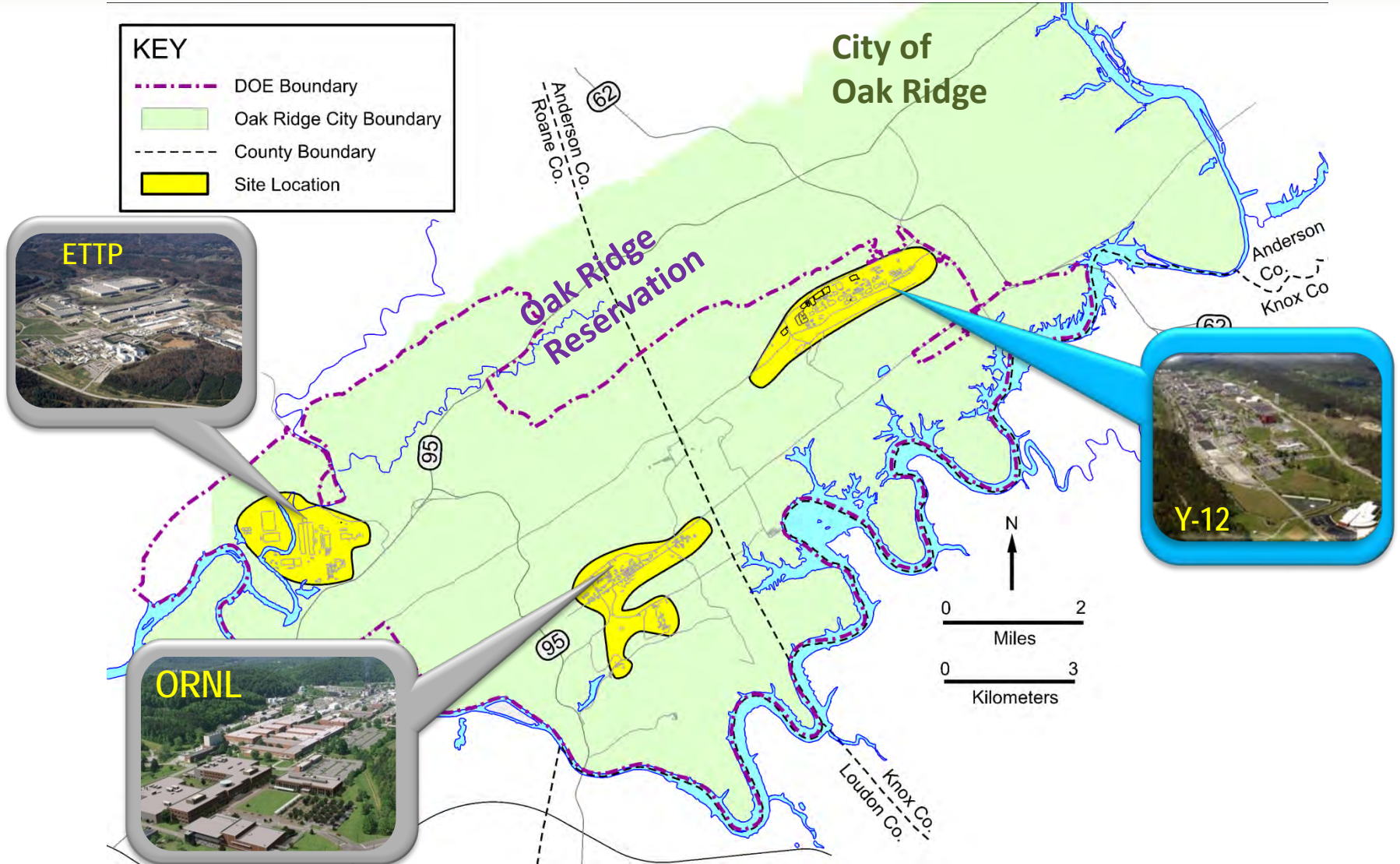
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Y-12 National Security Complex
And Transuranic Waste Projects



April 2013

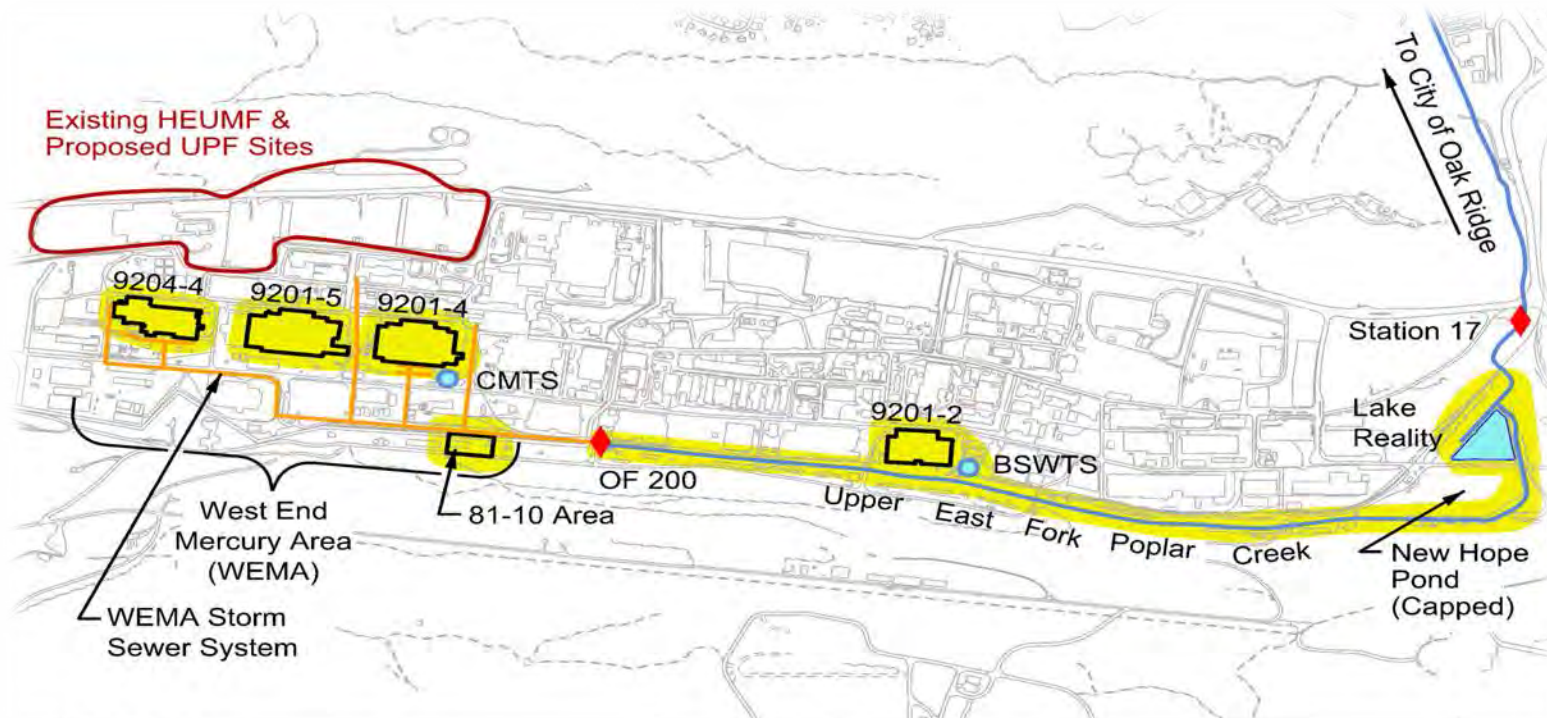


Y-12 National Security Complex (Y-12)



Y-12 Cleanup Objectives...

- Reduce mercury flux leaving site and entering public waters
- Remove or stabilize mercury sources (buildings and soil/sediment)
- Remove and dispose of excess, deteriorating facilities
- Remediate land and make available for future needs and missions



Legend

	Water Boundary
	Building
	Mercury Contamination
	Storm Drain

Acronyms

BSWTS	- Big Spring Water Treatment System
CMTS	- Central Mercury Treatment System
HEUMF	- Highly Enriched Uranium Materials Facility
OF	- Outfall
UPF	- Uranium Processing Facility

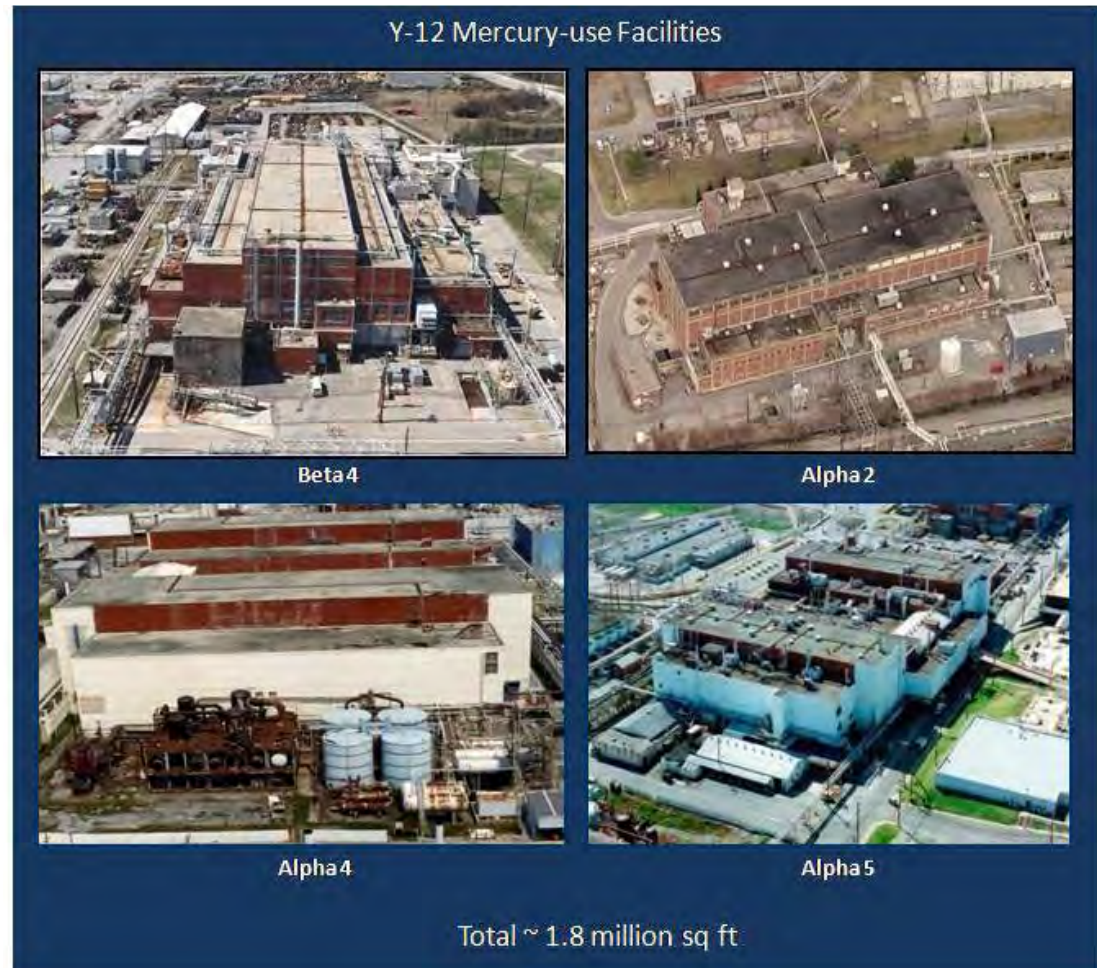
The Y-12 Portfolio Strategy...

- Near term - mercury flux reduction and disposal capacity expansion
- Mid term – Begin D&D of former mercury use buildings and soil remediation
- Long term
 - Begin D&D of balance of contaminated excess facilities and soil/sediment remediation
 - Final surface water and ground water decisions followed by their implementation



Y-12 cleanup challenges

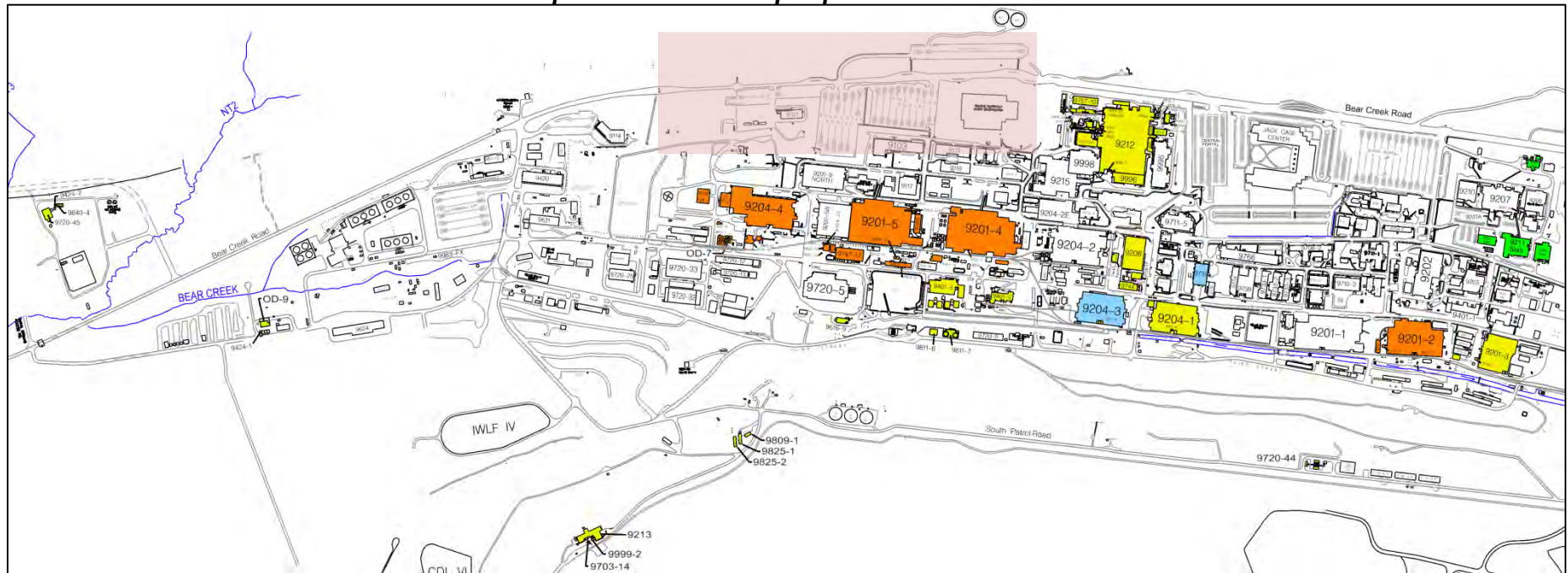
- More than 20 million pounds of mercury were used in early processing of lithium; over 700,000 pounds suspected to have been released to the environment
- Four large former mercury-use facilities to be demolished; possibly large volumes of soil to be treated
- Mercury flux leaving site needs to be reduced
- Cleanup to occur along side ongoing missions and within high security footprint



Y-12 facilities demolition

Number of Facilities	99
Demolition Area (sq ft)	3,398,980
Deactivation Only (sq ft)*	292,815

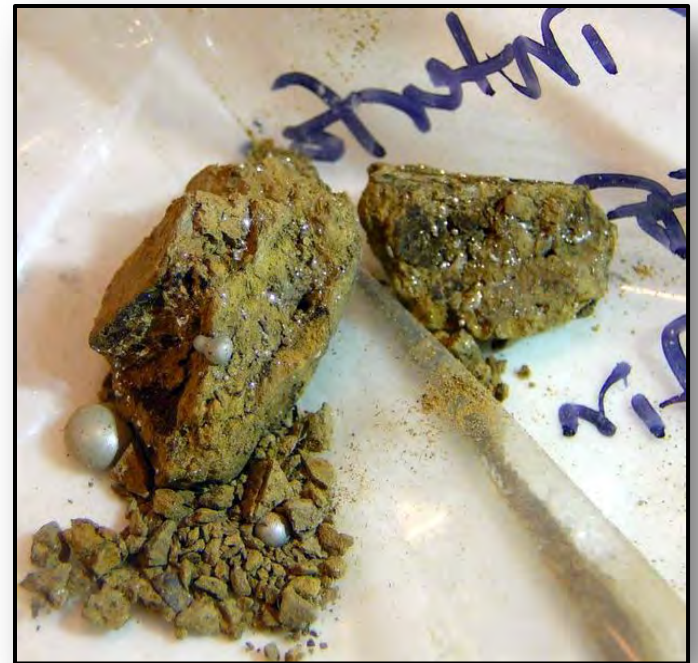
** To be kept for historical purposes*



- Mercury-Use Facilities to be Demolished
- Balance of Facilities to be Demolished
- Historical Preservation Facilities
- Demolition Completed
- Mission Critical Construction Area

Soil and other remediation projects

- **Upper East Fork Poplar Creek Area (main plant)** – soil around buildings and sediment in creek are contaminated with mercury; will be excavated and may require treatment prior to disposal (multiple projects)
- **Bear Creek Valley (west of the main plant area)** – several locations where waste previously disposed require remediation (multiple projects)
- **Chestnut Ridge (area to the south of main plant area)** – area soils require remediation
- **Future Record of Decisions**



Near-term projects in Y-12 Portfolio Plan

Proposed OF 200 Mercury Treatment Facility

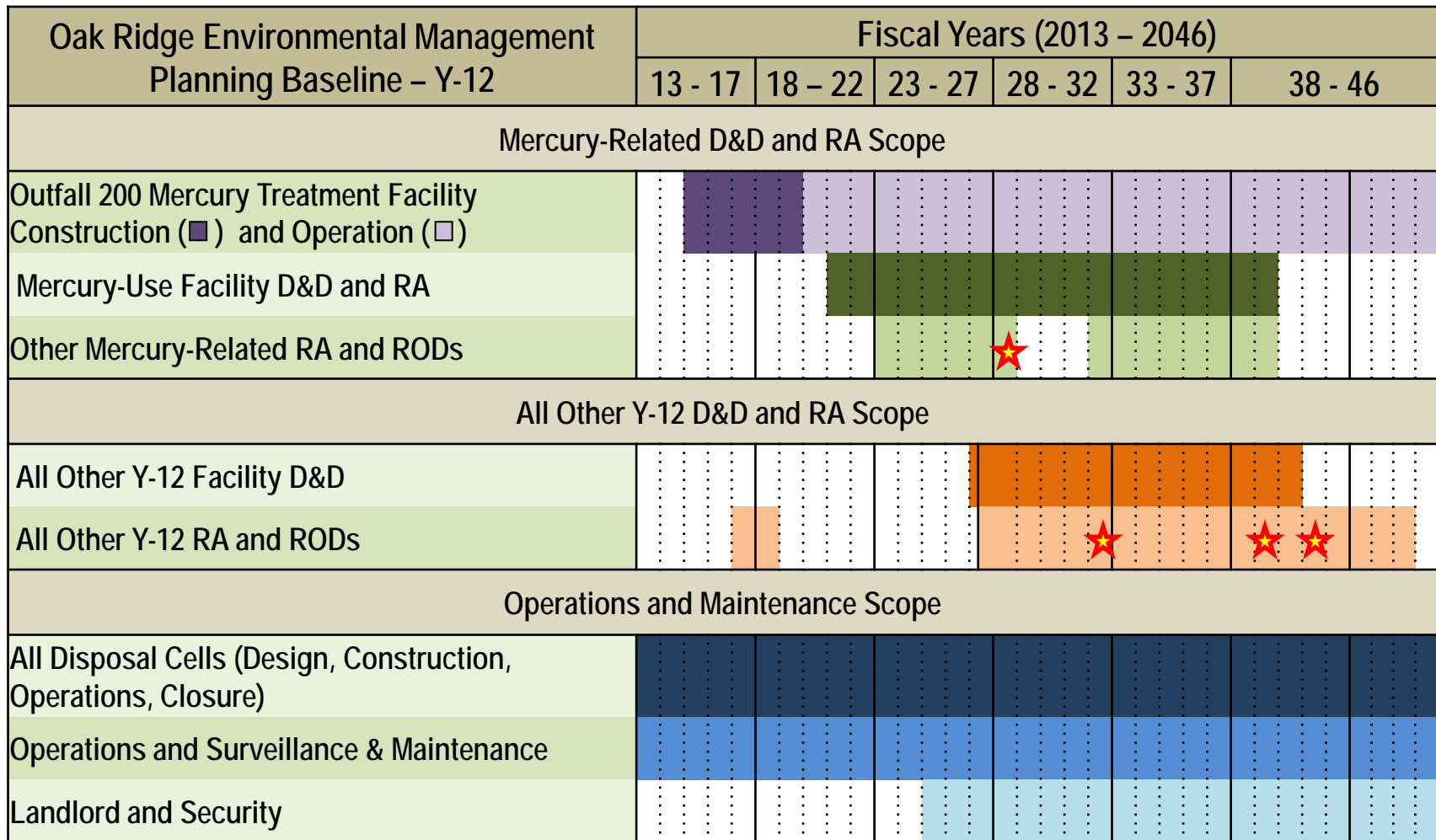
- Conceptual design recently completed
- Proposed design parameters
 - Treat to 200 parts per trillion mercury in effluent, goal specified in the Interim ROD
 - Capacity 1,500 gallons per minute
 - Allows for further expansion – modular and scalable design
- Design and construction project to begin in FY 2015
- Mercury remediation goals
 - Reduce mercury flux leaving creek and entering public waters
 - Provide future mercury reduction capabilities for wastewater projected to be generated during large-scale demolition



Proposed On-Site Disposal Facility for CERCLA waste

- Provide capacity for demolition debris and soil waste after existing disposal site is filled
- Projected to be needed in ~ FY 2020

Schedule for the Y-12 Portfolio Plan



★ = Records of Decision (RODs)

Completion of the Y-12 Portfolio Plan

- Removal and disposition of existing legacy waste and material
- Demolition of all excess, contaminated facilities
- Completed remedial actions, including finalized records of decision for groundwater and surface water
- Release of acreage for future re-development in critical areas

