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UCOR
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Oak Ridge LLC

SAFELY DELIVERING THE DEPARTMENT OF ENERGY'S VISION
FOR THE EAST TENNESSEE TECHNOLOGY PARK MISSION

UCOR-4981

Heritage Center Closure Plan, East Tennessee Technology Park, Oak Ridge, Tennessee

This document is approved for public release per review by:

Signature on file — 2/15/17

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Heritage Center Closure Plan, East Tennessee Technology Park Oak Ridge, Tennessee

Date Issued—February 2017

Prepared for the
U.S. Department of Energy
Office of Environmental Management

URS | CH2M Oak Ridge LLC
Safely Delivering the Department of Energy's Vision
for the East Tennessee Technology Park Mission
under contract DE-SC-0004645

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APPROVALS

Heritage Center Closure Plan, East Tennessee Technology Park, Oak Ridge, Tennessee	UCOR-4981
	February 2017

USQD Review Determination	☐ USQD ☐ UCD ☒ CAT X ☒ Exempt (Select Criteria 1-3 below.) USQD/UCD/CAT X No.: USQD-MS-CX-REPORTS-1074, Rev. 6
Exemption Criteria	☐ (1) Non-Intent Change ☐ (2) DOE-Approved Safety Basis Document ☐ (3) Chief Accounting Officer, Internal Audit, Labor Relations, General Counsel, Outreach & Public Affairs, or Project Controls Services OR ☐ (4) Document identified in USQD-MS-CX-REPORTS-1074
USQD Preparer:	Signature on file (Name) — 2/15/17 (Date)
Exhibit L Mandatory Contractor Document	☒ No (No PCCB Reviewer Signature Required.) ☐ Yes (Requires review by the Proforma Change Control Board.)
PCCB Reviewer:	N/A (Name) — N/A (Date)

Prepared and Concurred by: Kevin Ironside — 2/16/17

Kevin Ironside, Closure Manager
URS | CH2M Oak Ridge LLC

Approved by: Sherry Browder — 2/16/17

Sherry Browder, Reindustrialization Manager
URS | CH2M Oak Ridge LLC

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REVISION LOG		
Revision Number	Description of Changes	Pages Affected
0	Initial issue of document.	All

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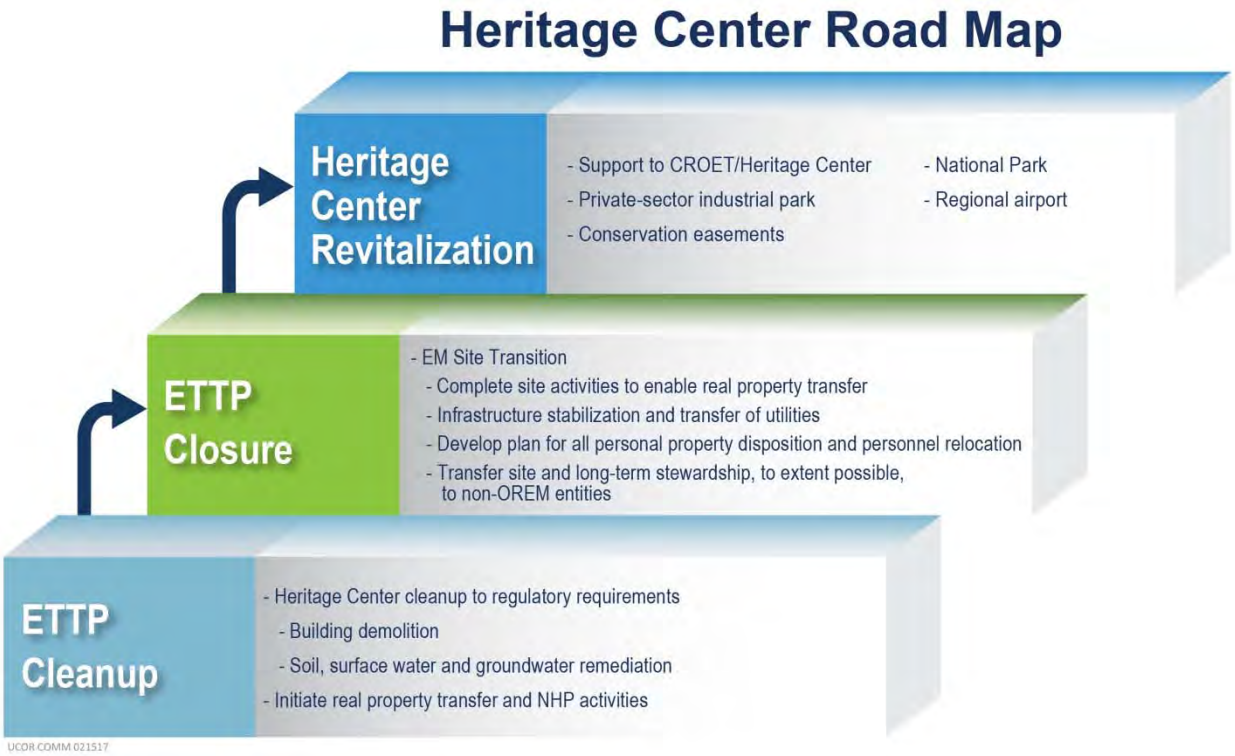
VISION

Through partnership and collaboration with key stakeholders, the East Tennessee Technology Park will be transformed into a private sector industrial park, promoting economic growth while protecting the natural ecosystem and preserving the rich history of the area.

FOREWORD

The cleanup, closure, and revitalization of the 2200-acre Heritage Center at the East Tennessee Technology Park (ETTP) depicted in the figure below is a common goal shared by the U.S. Department of Energy (DOE) Oak Ridge Office of Environmental Management (OREM), the Community Reuse Organization of East Tennessee (CROET), the City of Oak Ridge (COR), Anderson and Roane counties, the Tennessee Department of Environment and Conservation (TDEC), the U.S. Environmental Protection Agency (EPA), the Oak Ridge Site-Specific Advisory Board (ORSSAB), and many other area stakeholders.



Cleanup, closure, and revitalization of the Heritage Center at the East Tennessee Technology Park.

This Closure Plan describes the cleanup and closure activities URS | CH2M Oak Ridge LLC (UCOR) will execute to comply with the following OREM objectives:

- Complete all demolition and remedial actions consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) agreements.
- Implement historic preservation activities.
- Leave facilities and site infrastructure in a condition that enables transfer of the site to non-Federal entities such as CROET and the COR for reindustrialization and future use.
- Develop a plan for ensuring long term surveillance, maintenance, and other stewardship functions after site cleanup is completed.
- Develop a plan for all property disposition/transfers.
- Develop a plan for "exiting" the site.
- Execute activities in a safe and cost efficient manner.

In support of these objectives, UCOR will comply with CERCLA and perform activities that will enable the future use of the site as a private sector, mixed-use industrial park, while preserving the rich history of the site via a national park and other historic preservation efforts and a gateway to robust and diverse conservation areas, including the 3000-acre Black Oak Ridge Conservation Easement (BORCE). A portion of BORCE (470 acres) is within the Heritage Center 2200-acre footprint.

Cleanup of the Heritage Center site began in the late 1980s in a partnership with TDEC, EPA, the citizen-based ORSSAB, and other interested stakeholders. The cleanup is guided by publicly supported Records of Decision (RODs) issued in 2002 and 2005 under CERCLA. A Final Sitewide ROD is under development that will identify the final cleanup and environmental monitoring activities required for the site. Nothing in this Closure Plan supersedes either the process or final decisions that will emerge from the Final Sitewide ROD.

As cleanup continues, there are other activities, termed "closure activities," that must also occur to achieve DOE's stated vision, which includes reducing DOE's long-term stewardship costs and allowing the site to be safely reused. These activities include things such as stabilization of the remaining site infrastructure to ensure it meets regulatory requirements, relocation of people (primarily DOE cleanup contractor personnel) from the site, disposition of excess property and equipment, and removal of other DOE cleanup supporting functions and activities that will no longer be required.

Thus, the purpose of this Closure Plan is to serve as a strategic roadmap to complete the remaining cleanup and closure activities at ETTP. Many actions and activities have been identified that must be addressed to complete cleanup and closure. However, it should be noted that a number of critical decisions (and resulting activities) will result in updates to this Closure Plan. Examples of critical decisions include: (1) the phased relocation of personnel, materials, and equipment from the site; (2) the timing and details of a proposed regional general aviation airport (proposed regional airport) to be constructed by the Metropolitan Knoxville Airport Authority (MKAA) at the site; (3) decisions resulting from the issuance of the Final Sitewide ROD; and (4) cost/benefit analysis associated with acquiring functions necessary to support the ongoing and future cleanup mission at the Y-12 Nuclear Security Complex (Y-12) and Oak Ridge National Laboratory (ORNL). As such, this Closure Plan is a "living plan" that will undergo revision as these and other future decisions are made.

CONTENTS

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FIGURES

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TABLES

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ACRONYMS

BORCE	Black Oak Ridge Conservation Easement
CAS	Central Alarm Station
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	*Code of Federal Regulations*
CICO	Classification and Information Control Office
CMP	Comprehensive Monitoring Plan
CNF	Central Neutralization Facility
CNS	Consolidated Nuclear Services
COR	city of Oak Ridge
CRF	Central Receiving and Distribution Facility
CROET	Community Reuse Organization of East Tennessee
CUI	controlled unclassified information
D&D	decontamination and decommissioning
DMC	Document Management Center
DNAPL	dense non-aqueous-phase liquid
DOE	U.S. Department of Energy
EAL	Emergency Action Level
EM	Environmental Management
EMWMF	Environmental Management Waste Management Facility
EPA	U.S. Environmental Protection Agency
EPHA	Emergency Planning Hazards Assessment
ESD	Explanation of Significant Difference
ETTP	East Tennessee Technology Park
EU	Exposure Unit
FFA	Federal Facility Agreement
FIMS	Facility Information Management System
FOR	Field Operating Record
FRC	Federal Records Center
FY	Fiscal Year
GSA	government services agency
IH	Industrial Hygiene
IRC	Inactive Records Center
IT	Information Technology
LLW	low-level waste
LTS	long-term stewardship
LUC	land use control
LTS	long-term stewardship
MKAA	Metropolitan Knoxville Airport Authority
MOA	memorandum of agreement
MRO	Medical Review Officer
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act of 1969
NFA	No Further Action
NHP	National Historical Park
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service

NSPS	National Strategic Protective Services
O&M	operation and maintenance
O	Order
OPMO	Organizational Property Management Officer
OREM	Oak Ridge Office of Environmental Management
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Office
ORR	Oak Ridge Reservation
ORSSAB	Oak Ridge Site-Specific Advisory Board
ORUD	Oak Ridge Utility District
PCB	polychlorinated biphenyl
PCCR	Phased Construction Completion Report
PF	Protective Force
PMB	Performance Measurement Baseline
PP	Proposed Plan
PRISM	Property and Resource Information Systems Module
PSS	Park Shift Superintendent
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
S&M	surveillance and maintenance
SDC	Satellite Document Center
SHPO	State Historic Preservation Office
SME	subject matter expert
SOMD	Site Occupational Medical Director
TDEC	Tennessee Department of Environment and Conservation
TS	Treatability Study
TSDRF	treatment, storage, disposal, and recycle facility
UCOR	URS | CH2M Oak Ridge LLC
UE	Unlimited Exposure
UST	underground storage tank
UU	Unlimited Use
WMO	Waste Management Organization
Y-12	Y-12 National Security Complex

1. OVERVIEW

The purpose of the Heritage Center Closure Plan is to serve as a strategic roadmap and high-level execution plan for URS | CH2M Oak Ridge LLC (UCOR) to complete the remaining cleanup and closure activities at East Tennessee Technology Park (ETTP) in Oak Ridge, Tennessee, and to comply with the Department of Energy (DOE) Oak Ridge Environmental Management (OREM) stated vision for Heritage Center. However, it should be noted that not all work required completing cleanup and closure is currently included in the current DOE/UCOR contract. Accordingly, OREM will need to make decisions regarding who executes work not currently in the DOE/UCOR contract.

1.1 BACKGROUND AND STATUS

The DOE OREM program is responsible for the environmental cleanup of the Oak Ridge Reservation (ORR), which is comprised of approximately 34,000 acres and three distinct plant sites. The sites include ETTP, formerly the Oak Ridge Gaseous Diffusion Plant; ORNL; and Y-12 (see Fig. 1).

ETTP encompasses the following two main areas:

- The Heritage Center site, where uranium enrichment operations were conducted using gaseous diffusion technology, that includes 470 acres of Black Oak Ridge Conservation Easement (BORCE).
- The Horizon Center Industrial Park, a 1000-acre greenfield site.

Uranium enrichment facilities on the 2200-acre Heritage Center site date back to the World War II Manhattan Project. The site produced fissionable material for the world's first nuclear weapon as well as subsequent Cold War defense missions and enriched uranium for the commercial nuclear power industry from 1945 to 1985. Because of these operations, ETTP has a legacy of radiological and chemically contaminated buildings, soil, sediment, and groundwater that requires remedial actions to reduce risk to human health and the environment.

In 1992, DOE entered into a Federal Facility Agreement (FFA) with Tennessee Department of Environment and Conservation (TDEC) and U.S. Environmental Protection Agency (EPA) to implement remedial actions on ORR under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) process (DOE/OR-1014, *Federal Facility Agreement for the Oak Ridge Reservation*).

OREM is responsible for environmental restoration of this site through the decontamination and decommissioning (D&D) of site structures and remediation of contaminated environmental media, including soils, surface water, sediments, and groundwater. To effectively manage and execute this responsibility, the Heritage Center site has been subdivided into the following areas:

- Zone 1 – 1400 acres surrounding the industrial portion of the site
- Zone 2 – 800 acres in the main plant industrial areas

Fig. 1. East Tennessee Technology Park (Heritage Center).

An Interim Record of Decision (ROD) was issued in 2002 for Zone 1 remediation activities, which included the removal of contaminated soil and burial ground sources and the disposal of contaminated surface debris piles for the protection of industrial workers to a depth of 10 ft (DOE/OR/01-1997&D2, *Record of Decision for Interim Remedial Actions for Selected Contaminated Areas Within Zone 1, East Tennessee Technology Park, Oak Ridge, Tennessee*). Currently, DOE, via its cleanup contractor(s), has cleaned up about 1300 of the 1400 acres in Zone 1 or has determined that the areas meet cleanup standards for industrial use.

In 2005, a ROD was issued for the remediation of Zone 2 to address soil and subsurface structures within the main plant area (DOE/OR/01-2161&D2, *Record of Decision for Soil, Buried Waste, and Subsurface Structure Actions in Zone 2, East Tennessee Technology Park, Oak Ridge, Tennessee*). To date, DOE, via its cleanup contractor(s), has completed cleanup activities in about 370 of the 800 acres in Zone 2.

The final Zone 1 ROD has been issued to the regulators for review with the remedial actions anticipated to be completed by 2020 (DOE/OR/01-2711&D1, *Record of Decision for the Final Soil Actions in Zone 1 at East Tennessee Technology Park, Oak Ridge, Tennessee*).

Final cleanup actions involving surface water, sediment, and groundwater at the Heritage Center site will be addressed in a sitewide ROD that is anticipated to be issued to the regulators in 2020.

1.2 HERITAGE CENTER VISION

Through partnership and collaboration with key stakeholders, the Heritage Center site at ETTP will be transformed into a private sector industrial park, promoting economic growth while protecting the natural ecosystem and preserving the rich history of the area.

Realization of the vision involves three key phases: cleanup, closure, and revitalization. The execution of these phases is outlined in the following three distinct plans: (1) the Cleanup Plan reflected in the Project Execution Plan and Performance Measurement Baseline (PMB) pursuant to the contract between DOE OREM and UCOR, (2) this Closure Plan, and (3) the Revitalization Plan being developed by the Community Reuse Organization of East Tennessee (CROET).

1.2.1 Cleanup

The Heritage Center site cleanup entails the completion of all demolition activities and remedial actions consistent with CERCLA agreements as detailed in Sect. 1.1, Background and Status.

In 2016, UCOR completed demolition of the site's fifth and final gaseous diffusion facility, Bldg. K-27. This marked the first time that an entire uranium enrichment complex was demolished, eliminating environmental hazards and paving the way for future economic development.

1.2.2 Closure

Closure activities, the focus of this plan, leave facilities and infrastructure in a condition that enables transfer of the site to non-federal entities, and reduce DOE long-term stewardship (LTS) costs. Closure activities include the following:

- Infrastructure stabilization (site utilities, roads, stormwater, etc.)
- Disposal or transfer of government property
- Disposition of waste
- Relocation of most DOE contractors and support functions offsite
- Transfer of the majority of the site property to non-federal entities for development of a private sector industrial park

1.2.3 Revitalization

The Revitalization Planning effort was initiated in 2016 and identifies development options for the Heritage Center after closure and transfer of real property are completed. During the revitalization phase, DOE will complete the transfer of land and useable properties to CROET as this non-profit economic development entity pursues establishment of a private sector industrial park. Additionally, the remaining infrastructure (electrical, water, sewer, and roads) will be transferred to the COR. It is anticipated that these entities will bring new industries and jobs to the region. The revitalized site will also contain conservation areas,

including BORCE, a National Historical Park (NHP), and other historic preservation efforts commemorating and interpreting the contributions of the site and its people; and potentially a proposed regional airport expanding air service in the area.

Figure 2 represents the vision for the Heritage Center site following the completion of cleanup and closure activities with an overlay of the proposed regional airport.

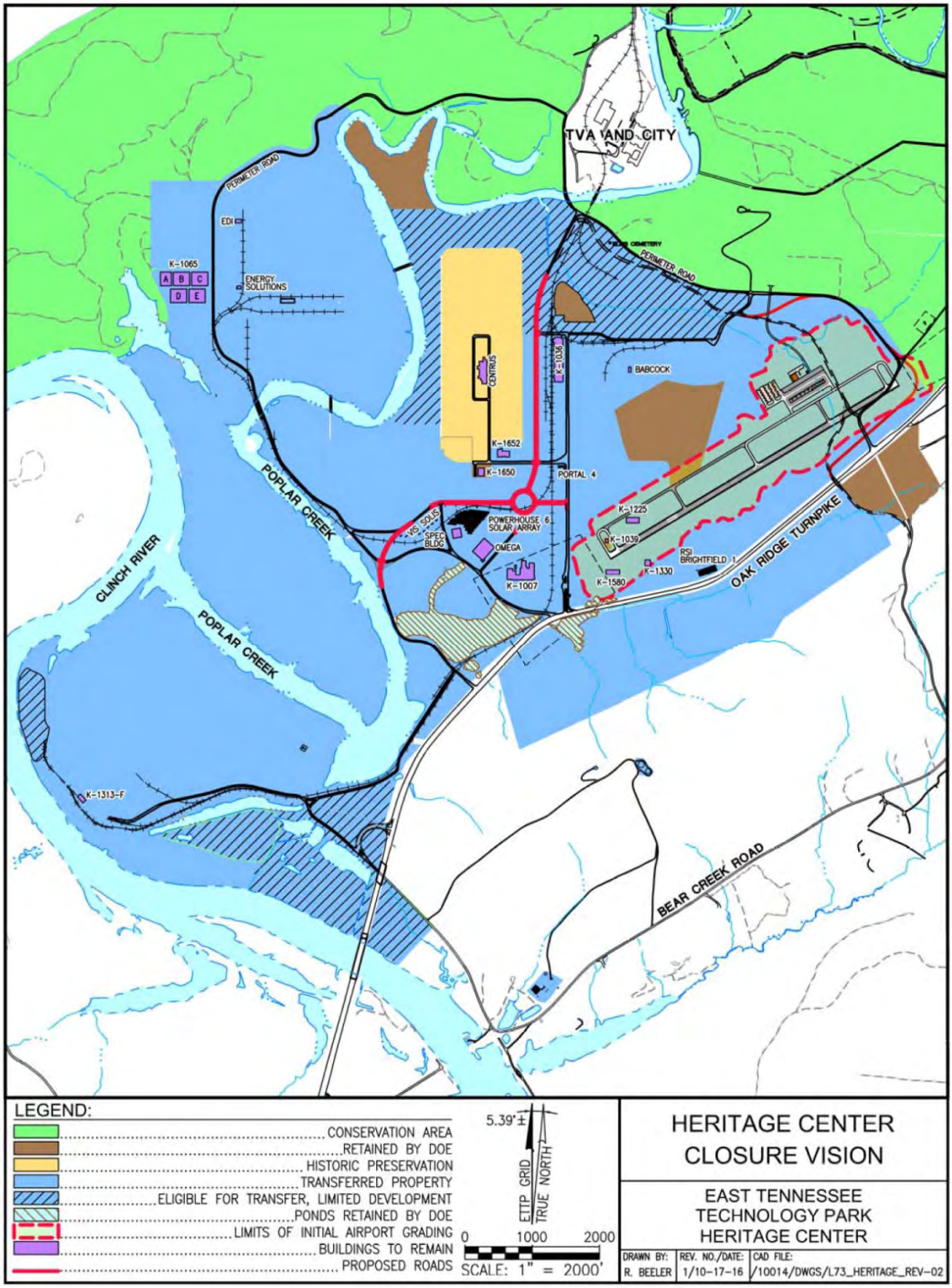

Fig. 2. Heritage Center closure vision.

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2. SCOPE ELEMENTS

2.1 DEACTIVATION AND DEMOLITION

2.1.1 End State Vision

The ETTP site will be cleaned up in accordance with CERCLA and will be prepared for transfer through the following: (1) removal and disposal of designated above-grade structures and contaminated slabs; (2) removal and disposal of site debris; and (3) filling of basements, basins, and large access points or holes in the ground.

2.1.2 Status

All five gaseous diffusion process buildings (K-25, K-27, K-29, K-31, and K-33) have been demolished. Remaining D&D efforts are required for the following major buildings and areas:

- Poplar Creek facilities
- Toxic Substances Control Act Incinerator facilities
- Central Neutralization Facility (CNF)
- Centrifuge facilities and laboratories
- K-1006 Development Laboratory facility
- K-1423 Waste Staging and Processing facility
- K-1037 Barrier Process Plant

Additionally, there are numerous smaller, support-type structures, such as trailers, tanks, storage buildings, Conex[1] containers, Rubb tents, etc. that must be dispositioned.

2.1.3 Approach and Scope

2.1.3.1 Above-grade structures

a. Buildings and structures

Buildings and above-grade structures identified as having no further site use will be removed to grade (see Attachment A, List of Site Facilities Being Removed). Structures that can be transferred or retained for future use will remain. Note: Above-grade structures are defined as buildings where a door or doorway allows access to an above-ground area; accordingly, valve pits or vaults are not included in above-grade structures since their access points lead to an open area below grade.

Removal activities may include either demolition and disposal or removal from the ETTP site for reuse at another location. Facilities that will be evaluated for potential reuse include structures (e.g., trailers and

[1]Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

storage containers) that may be moved to a non-ETTP location (such as Y-12, ORNL, etc.) or returned to a supply vendor.

b. Slabs and foundations

Slabs and other surface structures will be characterized in accordance with both the Zone 2 ROD (DOE/OR/01-2161&D2) and DOE Order (O) 458.1, *Radiation Protection of the Public and the Environment.* Decontamination, covering, or removal will be completed where contamination levels exceed acceptance criteria outlined in either of these directives. Required decontamination efforts to meet the acceptable standards may range from localized scabbling to complete removal. (Note: Localized decontamination will only be used if it is more cost effective than removal.) Removed slabs will be backfilled with soil to promote positive drainage and will be seeded to prevent erosion.

Based upon historical knowledge, current available characterization, and Zone 2 ROD guidance that states, "Removal of slabs in the most desirable portion of the plant for reindustrialization to support future development," it is anticipated that the following slabs will be removed, in their entirety:

- K-27 slab due to radiological, volatile organic compounds, and polychlorinated biphenyl (PCB) contaminants, and for future reuse as directed in the Zone 2 ROD.
- K-29 slab due to radiological and PCB contaminants, and for future reuse as directed in the Zone 2 ROD.
- K-1037 slab due to PCB and radiological contaminants, and for future reuse as directed in the Zone 2 ROD.
- Poplar Creek slabs due to PCB and radiological contaminants, and for future reuse as directed in the Zone 2 ROD.

Other slabs at the Heritage Center will be evaluated for removal on a case-by-case basis as other information becomes available, including characterization data, conclusions of the Revitalization Plan, and the potential proposed regional airport (see Table 1).

Table 1. Slab removal evaluation matrix

Development potential	Contamination above release limits (PCBs and/or radioactivity)	PCBs and rad meet release levels
High	Remove slab	Remove slab (case-by-case evaluation)
Limited	Evaluated on a case-by-case basis (could be covered with soil for rad, but not PCBs)	Slab remains
PCB = polychlorinated biphenyl		

Primarily, above-grade foundations and slabs will remain in place if compliant with the Zone 2 ROD requirements for contamination control and DOE O 458.1 reindustrialization requirements for transfer. However, in areas intended for transfer as denoted in the Heritage Center Closure Vision (Fig. 2), slabs will be removed to support the Zone 2 ROD end-state goal of reindustrialization.

Soil or concrete debris that meets Zone 2 remediation level and concrete acceptance criteria may be used as backfill material in basements and deep void spaces, such as excavations or valve vaults.

c. Rail lines

All site rail lines are owned by Energy*Solutions* and will remain in place. However, any soil contamination discovered underneath rail lines will be remediated in accordance with the Zone 2 ROD. Rail line(s) will either be restored to the condition/state it was found prior to the remedial action or suitable alternative considerations will be agreed upon between DOE and Energy*Solutions*.

d. Fencing, pedestals, and debris (e.g., rubble)

Perimeter fencing surrounding the ETTP Zone 2 will remain. All interior fencing will be removed, except fencing that protects the burial grounds, surrounds private property, and outlines the site waterways and ponds.

Pedestals will remain in place if compliant with Zone 2 ROD requirements for contamination control and DOE O 458.1 reindustrialization standards. However, in areas intended for transfer as denoted in the Heritage Center Closure Vision (Fig. 2), pedestals will be removed to support the Zone 2 ROD end-state goal of reindustrialization.

Sitewide cleanup of debris, rubble, trash, etc. will be performed as necessary in areas intended for transfer as depicted in the Heritage Center Closure Vision (Fig. 2).

2.1.3.2 Below-grade structures

a. Basements and pits/vaults

The demolition or decontamination of basements and pits/vaults will be handled similarly to slabs. Any subsurface structure that exceeds the remediation levels to protect a future industrial worker will be decontaminated. If the contamination is isolated, localized decontamination methods may be used if they are more cost effective than removal.

After characterization and remedial actions are complete, any residual large access points or holes in the ground will be filled, graded, and seeded to facilitate natural drainage and prevent erosion. Further, basement floors may be punctured to support drainage.

b. Underground conduit/duct bank/storage tanks

Characterization of the underground conduit/duct banks is required. Unless safety concerns or contamination result in the need to remove or fill the conduits and duct banks, they will be abandoned in place.

The contents of underground storage tanks (USTs) will be emptied and the soil will be sampled in accordance with UST requirements. The tanks will be abandoned in place unless removal is required by safety or regulatory requirements.

c. Uncontaminated underground abandoned utilities (miscellaneous piping, acid, steam, gas, recirculating cooling water lines, etc.)

The underground abandoned utilities will remain in place. All systems will be isolated from their source and capped/plugged at grade, or slightly below grade, to ensure public safety and environmental compliance.

d. Burial grounds

The burial grounds (see Fig. 3) will remain in place with appropriate security access restrictions, such as fencing. The burial grounds will remain fenced with signage, lighting, and perimeter access. Fencing will include a locked gate through which access can be attained via DOE-provided security personnel. Light poles will be relocated to outside the fence line, illuminating the edge and interior of the fence, to enable maintenance without requiring access inside the security area. Where space allows, a gravel roadbed will surround the exterior of the fence line for peripheral inspection and maintenance of the fence and light poles. Long-term monitoring will be required for all burial grounds (see Sect. 2.3, Long-Term Stewardship).

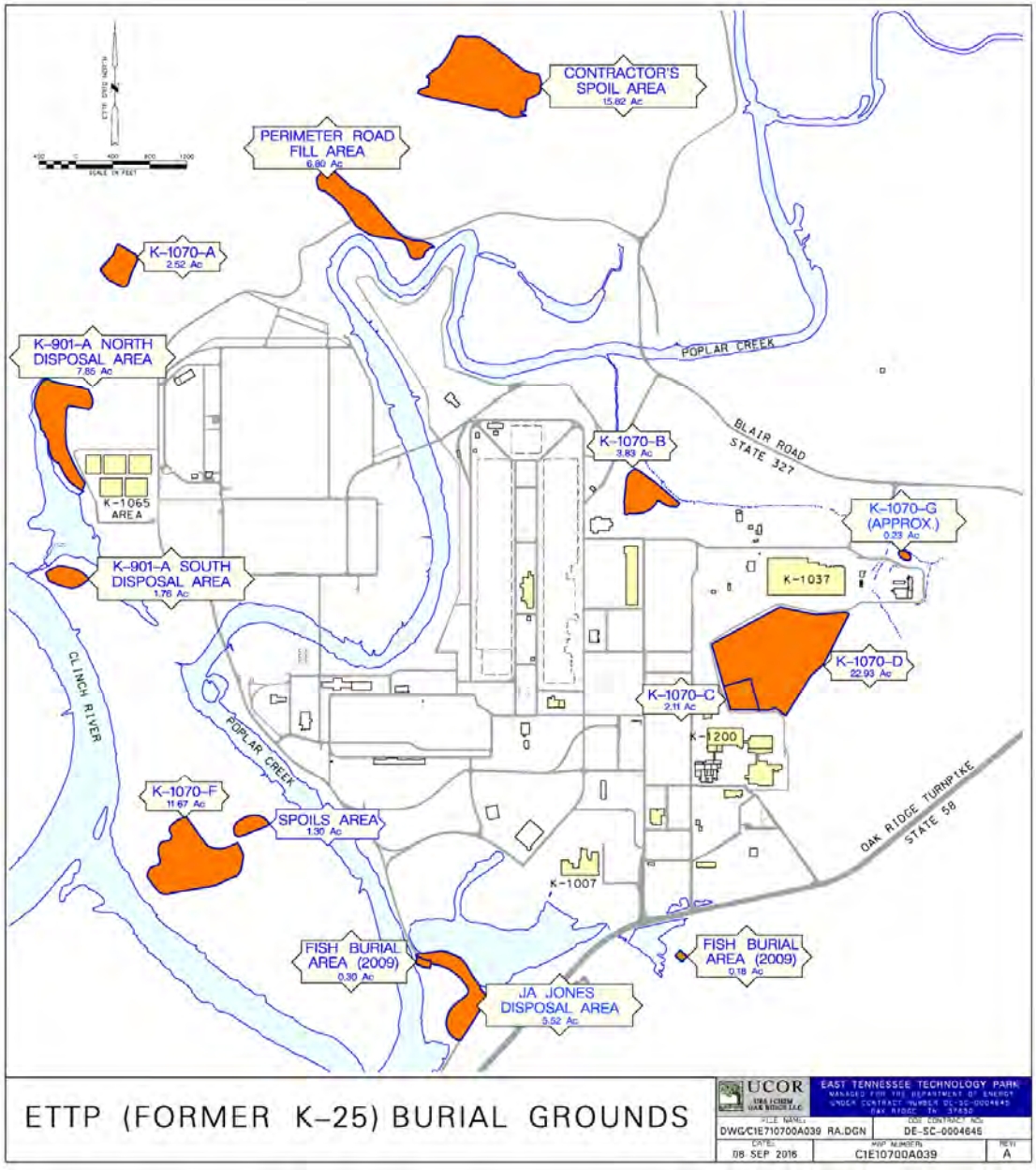

Fig. 3. Location of burial grounds.

2.1.4 Schedule

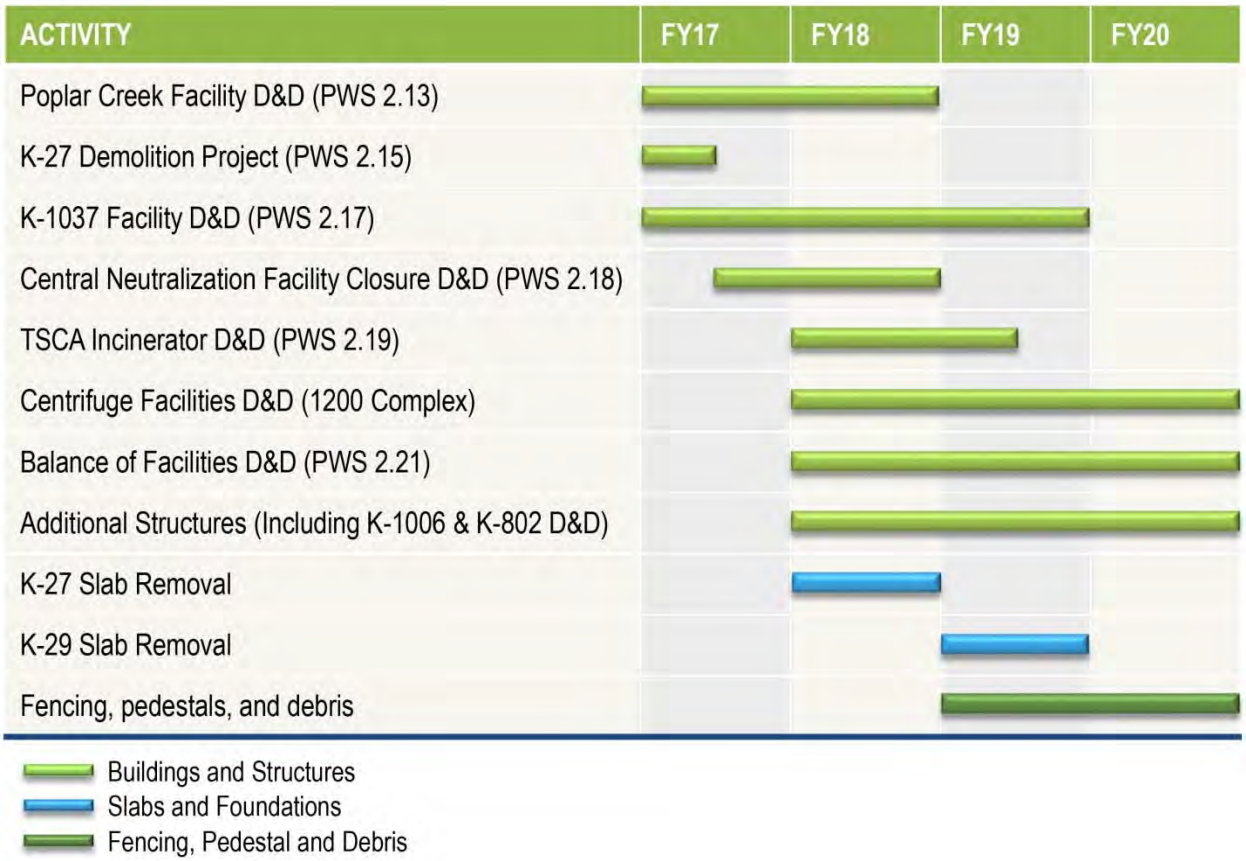

Fig. 4. Facility closure schedule.

2.1.5 Major Challenges

None.

2.1.6 Key Assumptions

- Slabs with contamination above ROD limits will be removed; slabs that meet ROD limits may or may not be removed.
- K-1070-B, -C, and -D and Exposure Unit (EU) Z2-16 (Rabbit Ears) will remain the responsibility of DOE after closure.
- Buildings K-1039 and K-1039-1 currently contain important communication hardware. The necessary hardware must be reconfigured and removed/relocated to allow D&D of these facilities. K-1600 and K-1650 will remain, but are not OREM responsibility.
- M&EC lease (K-1200 area) will be terminated January 21, 2018.
- MCL lease (K-1006) will be terminated September 30, 2018.

2.2 REMEDIAL ACTIONS

2.2.1 End State Vision

In accordance with the Zone 1, Zone 2, and Sitewide RODs, environmental media, e.g., soil, sediment, surface water, and groundwater, will be cleaned up to protect human health and the environment. The environmental media at ETTP are being remediated under CERCLA. As shown in Fig. 5, CERCLA actions are in place for the large contaminant sources such as burial grounds and settling ponds and are in progress for the Zone 1 soil and the Zone 2 soil within the main plant industrial area. The remaining environmental media, e.g., groundwater, surface water, and sediment, will be addressed in the upcoming ETTP Final Sitewide ROD.

Monitoring the effectiveness of the CERCLA actions and maintaining the required land use controls (LUCs) will continue into the foreseeable future. These CERCLA long-term stewardship requirements are documented in the *East Tennessee Technology Park Administrative Watershed Remedial Action Report Comprehensive Monitoring Plan, Oak Ridge, Tennessee* (DOE/OR/01-2477&D2), and operation and maintenance (O&M) requirements will be incorporated into the Operations, Surveillance, and Maintenance Plan. These requirements are further discussed in Sect. 2.3.

2.2.2 Status, Approach and Scope to Zone 1, Zone 2, and the Sitewide ROD

2.2.2.1 Zone 1 Status

The Zone 1 Interim ROD addresses the remediation of selected sources and contaminated soil in approximately 1400 acres surrounding the Main Plant Area (Fig. 6). Contamination in this area is being remediated to be protective for unrestricted industrial use to a depth of 10 ft and to remove contaminant sources that could contribute to future migration to groundwater. Zone 1 was divided into 80 separate EUs or plots of land over which a typical industrial worker could spend a work career. As of 2015, approximately 1300 acres of the 1400 acres have been evaluated and remediated (Fig. 6). The final Zone 1 ROD has been submitted to the regulators and is currently under review (DOE/OR/01-2711&D1). All Zone 1 CERCLA remedial actions are anticipated to be complete by 2020.

2.2.2.1.1 Proposed end state

The planned end use for Zone 1 is unrestricted industrial use and recreational use for the areas designated as a conservation easement. Remedial actions have addressed industrial exposures to a depth of 10 ft below ground surface. LUCs (e.g., excavation permits) are a requirement of the Zone 1 ROD to address potential future exposure to contamination below 10 ft. Additional controls will be put in place to prevent exposure to specific areas of Zone 1, including the K-770 area, Contractor Spoils Area, K-720 Fly Ash Pile, and Duct Bank Corridor. After land has transferred to private users, DOE will maintain responsibility for enforcing LUCs and retain the right to access all areas of Zone 1 to perform O&M and monitoring activities per the requirements of the Zone 1 Final Soils ROD and the ETTP Remedial Action Report Comprehensive Monitoring Plan (DOE/OR/01-2477&D2). These requirements are summarized in the LTS section of this report (Sect. 2.3). DOE will also retain access to investigate and remediate groundwater, surface water, and sediment as necessary to support the Final Sitewide ROD.

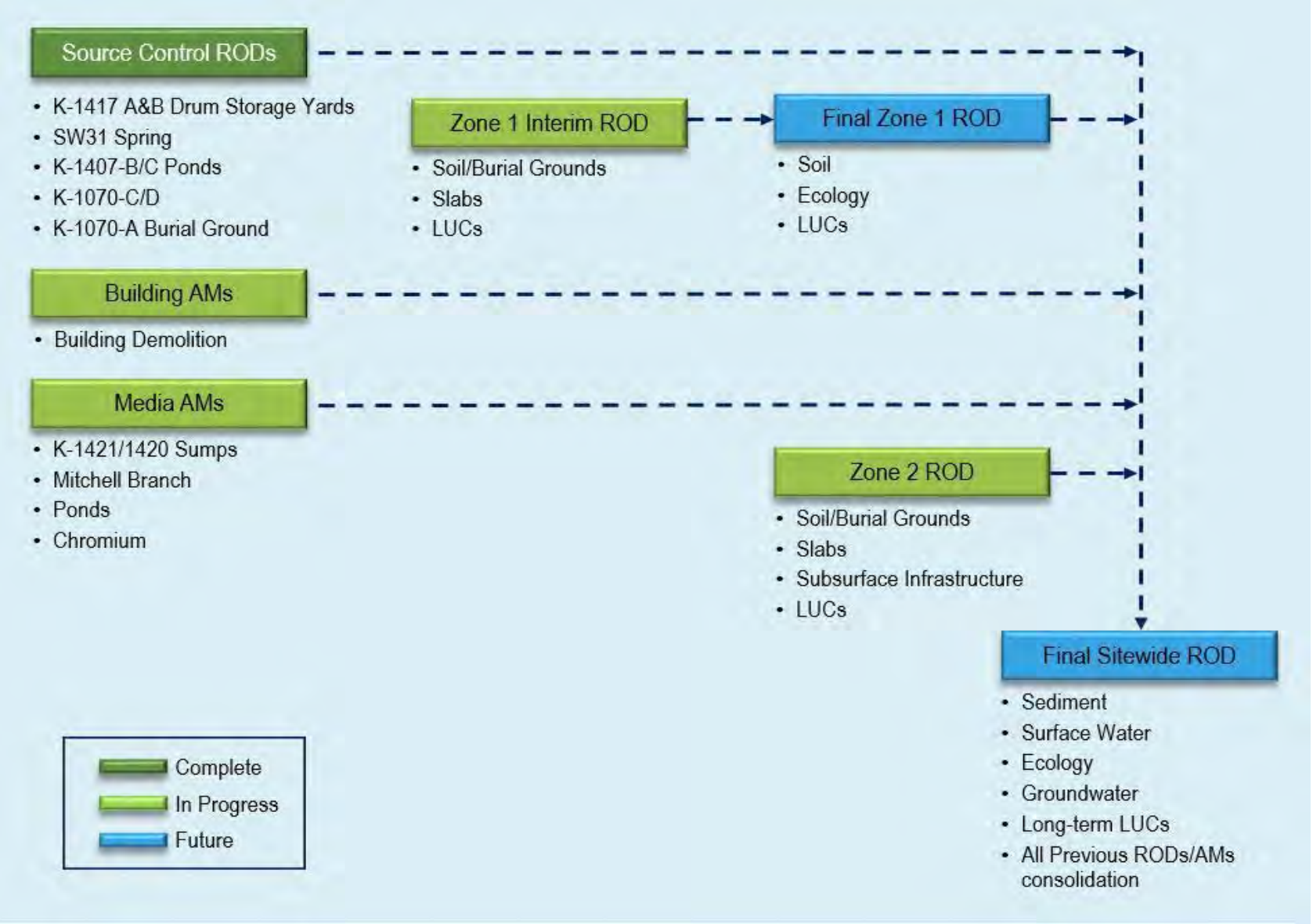

Fig. 5. ETTP CERCLA decision strategy.

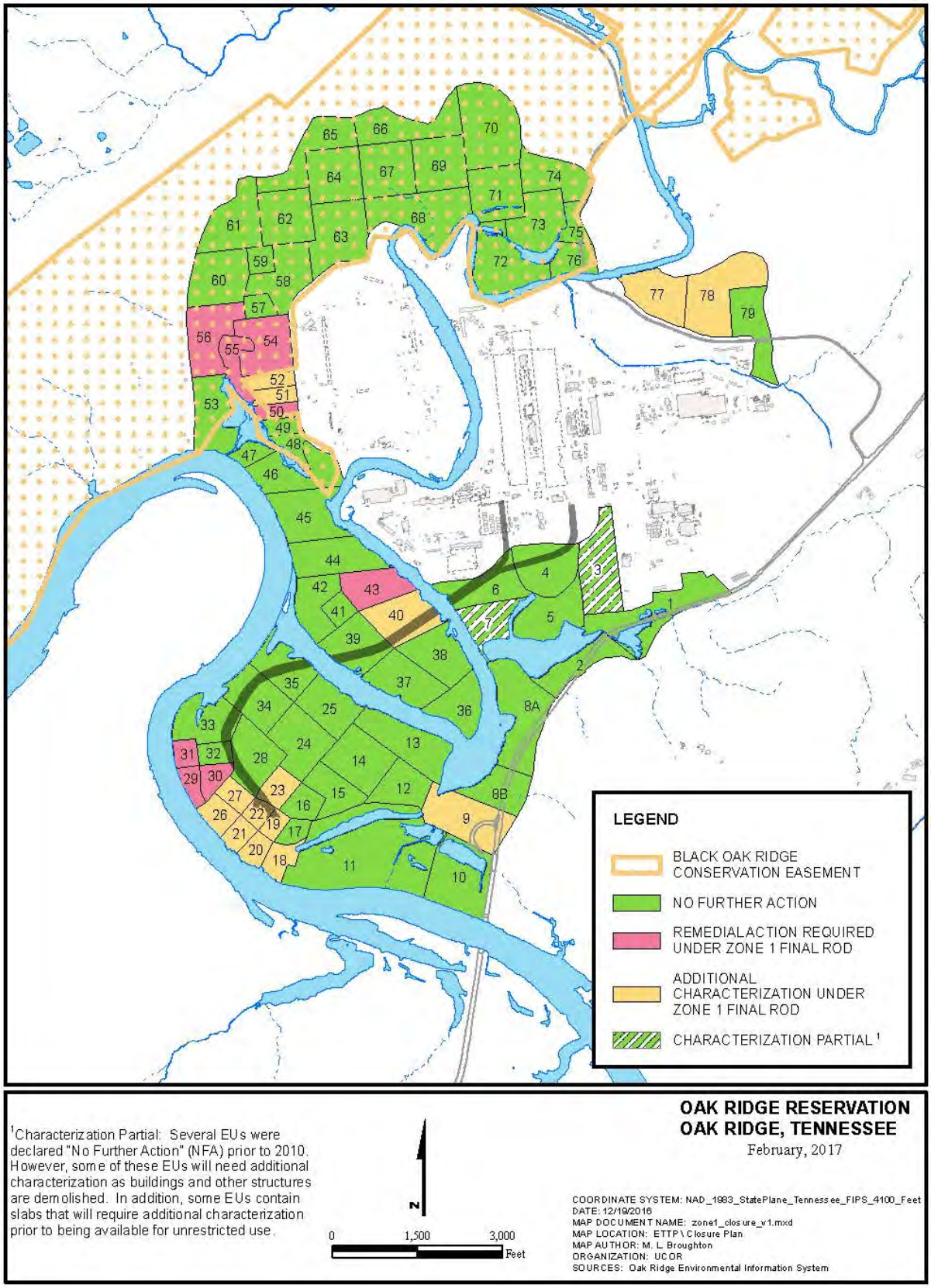

Fig. 6. ETTP Zone 1 status.

2.2.2.1.2 Approach and scope

Under the Interim Soil ROD, Zone 1 soils were characterized and remediated on an EU-by-EU basis following the cleanup criteria specified in the ROD. Completion of the CERCLA work at each EU was documented in Post-Construction Completion Reports (PCCRs). The FFA parties moved directly to determine what additional work was necessary for the Final Zone 1 ROD. The following was determined:

1. Additional soil actions were necessary to be protective of ecological receptors, including the following:
   - Place a 2-ft soil cover over the asbestos contamination in the K-770 area (EUs Z1-29, Z1-30, and Z1-31).
   - Excavate three known areas of soil contamination that may be a threat to terrestrial wildlife in the K-901-A drainage area and the soil-covered areas in Duct Island East and Duct Island West (EU Z1-43).
   - Perform additional soils characterization to determine if additional remediation is needed to protect terrestrial wildlife at Duct Island South (EU Z1-40), K-722 area (EUs Z1-18 to Z1-23, Z1-26, AND Z1-27), K-1085 Area (EU Z1-9), Blair Quarry (EU Z1-77), and McKinney Ridge South (EU Z1-78).
2. Additional LTS activities and LUCs would be needed to prevent exposure to residual soil contamination in remaining Zone 1 source areas, including the following:
   - Maintain the integrity of the existing soil covers and control access to the Contractor Spoils Area and K-720 Fly Ash Pile.
   - Maintain the soil covers on the K-770 area and Duct Bank Corridor and limit/control industrial use to the top 2 ft.
   - Monitor surface water downgradient from the Contractor Spoils Area and the K-720 Fly Ash Pile.
   - Prevent unauthorized access or use of groundwater.
3. Address final actions on groundwater, surface water, and sediment through the ETTP Sitewide ROD process.

To complete these efforts, Remedial Action Work Plans (RAWPs) will be prepared to perform the work. Once complete, a final Remedial Action Report will be prepared to document completion of all Zone 1 Interim ROD and Final ROD cleanup.

2.2.2.1.3 Schedule

The schedule for completion of Zone 1 activities is shown in Fig. 7.

2.2.2.1.4 Zone 1 major challenges

- Characterization efforts as well as remedial actions for ecological protection have been identified in the Final Zone 1 Soils ROD that are in areas currently leased and/or identified for transfer.
- Zone 1 Final ROD characterization requirements could lead to the need for additional remedial actions.

Fig. 7. Schedule for Zone 1 soils areas of interest.

2.2.2.2 Zone 2 Status

The Zone 2 ROD was signed in 2005 and work is ongoing to meet the ROD requirements. Contamination in Zone 2 is being remediated to be protective for unrestricted industrial use to a depth of 10 ft and to remove contaminant sources that could contribute to future migration to groundwater. Zone 2 was divided into 44 EUs. The status of cleanup progress on each EU as of June 2016 is illustrated in Fig. 8 and is discussed below:

- Green indicates the 13 EUs that were previously completed with no further characterization or remediation activities identified.
- Green with hatching indicates the nine EUs that had partial characterization previously completed, but due to changed conditions (e.g., buildings removed, slabs added to the work scope) require a final assessment prior to closure.
- Tan indicates the seven EUs that are undergoing comprehensive characterization to identify any additional remedial actions.
- Red indicates the 15 EUs that have identified remedial actions based on completed characterization efforts.

2.2.2.2.1 Proposed end state

Per the Zone 2 Final ROD, the proposed end state for Zone 2 is unrestricted industrial use, which is defined as a condition that allows industrial use to 10 ft below ground surface, and to protect groundwater resources to levels established in the ROD.

2.2.2.2.2 Approach and Scope

To achieve the end state for Zone 2, the following activities will be implemented:

- Contaminated soil will be removed to 10 ft to meet requirements of the ROD. Soil also will be removed down to the water table or bedrock if it poses a threat to groundwater. Soil will be disposed of at Environmental Management Waste Management Facility (EMWMF) or other appropriate facilities.

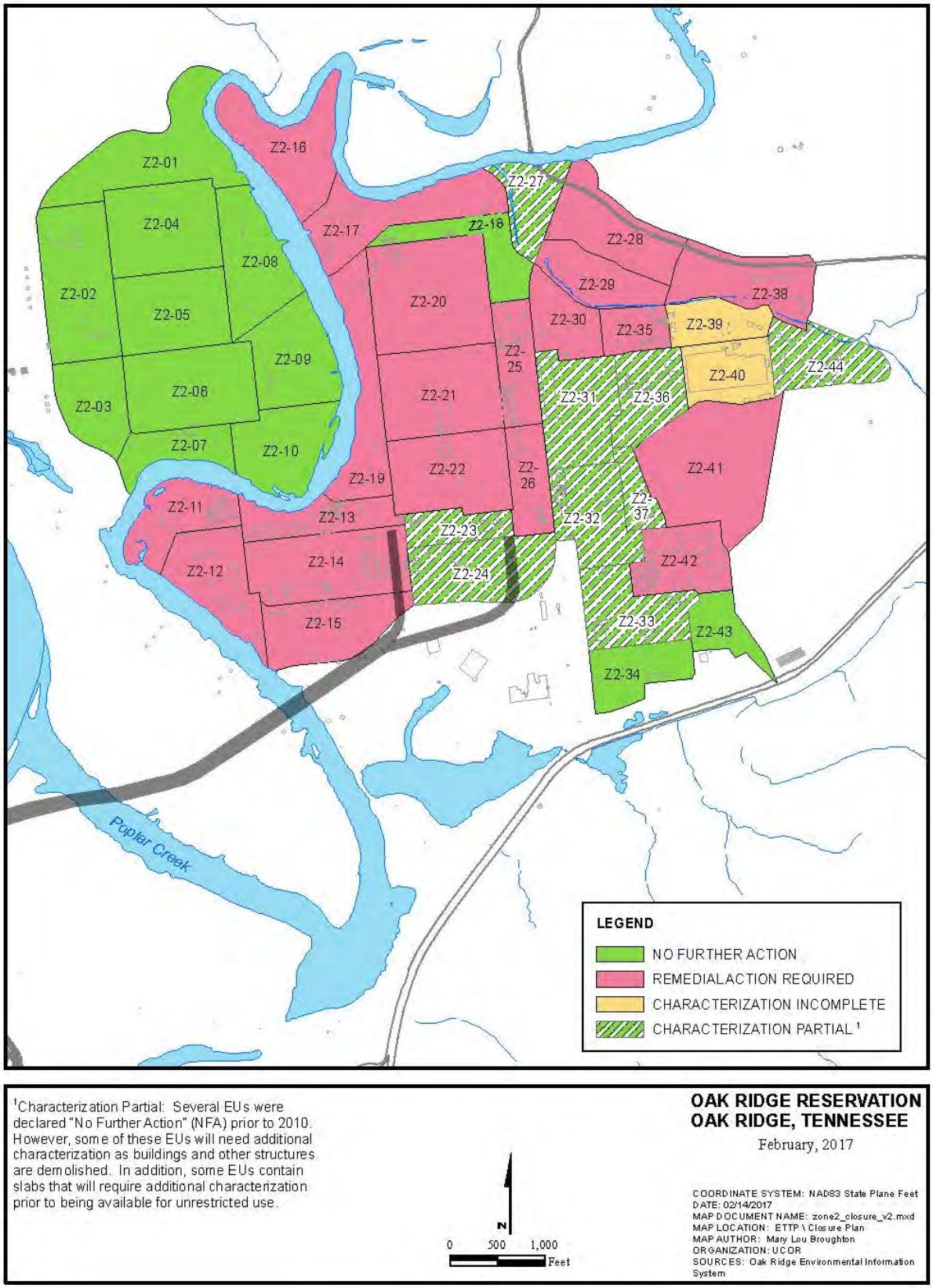

Fig. 8. Zone 2 Exposure Units (Z2-1 through Z2-44).

- Subsurface structures may be removed or decontaminated to a depth of 10 ft. In some cases contamination within these structures may be grouted in place. Concrete will be used as fill at ETTP if it meets industrial remediation levels, or it will be disposed at EMWMF or other appropriate facility.
- All EU characterization will be completed by the following activities:
  - All buildings identified for removal must be demolished and removed to allow for complete characterization of the EUs. EU characterization completed prior to building D&D will require confirmatory sampling to ensure the end state meets the Zone 2 No Further Action (NFA) criteria.
  - All slabs identified for removal must be removed to allow for complete characterization of the EUs.
  - All radiologically posted areas must be evaluated, decontaminated, if necessary, and down-posted prior to declaring characterization complete. Further remedial action may be necessary based on this evaluation where conditions that affect the NFA have changed.
  - All remedial actions must be completed prior to declaring characterization complete.
- Characterization and remediation activities will be documented in a PCCR.
- A Remedial Action Report will document closure remedy in place per the Zone 2 ROD.
- LUCs will be maintained and the ETTP Remedial Action Report Comprehensive Monitoring Plan (DOE/OR/01-2477&D2) will be revised and implemented to include the Zone 2 monitoring requirements and LUCs required as part of the ROD remedy.

2.2.2.2.3 Schedule

The schedule for completion of Zone 2 activities is shown in Fig. 9. At this time, a schedule to complete all currently known Zone 2 work has been developed, but does not include remedial actions that are unknown at this time.

2.2.2.2.4 Zone 2 major challenges

Fig. 9. Schedule for completion of Zone 2 activities.

- The Zone 2 ROD established soil cleanup requirements prior to a full characterization of the contaminant issues in Zone 2. The subsequent RAWP laid out the process for completing characterization and identifying the remedial actions. As a result, new areas of contamination and required remedial actions are discovered routinely. While some are small, others are large and/or complex.

- Uncertainty exists with the status of contamination along subsurface conduits in Zone 2, such as acid lines, utility lines and duct banks, and with the contaminant characteristics of several slabs that need to be removed.
- Previous characterization efforts identified some EUs as NFA. Some of these EUs have known issues that were not addressed at the time of the NFA designation (see challenge #2) or newly exposed soils that were under buildings at the time of the NFA designation. Some level of due diligence is required at these EUs prior to a final Remedial Action Report. Additional remedial action could be discovered in this process.
- The growth of the Zone 2 remedial action scope is resulting in additional budget and funding needs to complete the work.

2.2.2.3 Sitewide ROD Status

The ETTP Final Sitewide ROD project was suspended in 2011 due to funding limitations, but is currently being replanned. The ETTP Final Sitewide ROD will address all environmental media that was not addressed under individual removal and remedial actions in the Zone 1 and Zone 2 soils RODs. The previous Sitewide ROD efforts indicated that dense non-aqueous-phase liquids (DNAPLs) were present in the K-1401 area of the site. The project is restarting in Fiscal Year (FY) 2017.

2.2.2.3.1 Proposed end state

All actions identified in the Sitewide ROD will be implemented. It is anticipated that residual groundwater contamination will remain at ETTP that will require long-term water use controls and long-term monitoring. The end state for groundwater, surface water and sediments will be determined through the CERCLA process.

2.2.2.3.2 Approach and Scope

The scope of the Final Sitewide ROD includes all ETTP groundwater, surface water, and sediments. There are approximately 13 known areas of groundwater contamination, ranging from small groundwater signatures daylighting at seeps to large DNAPL plumes. Each of these areas will be addressed in the ROD. The ROD will cover final remediation decisions for the ETTP ponds, including K-1007 and K-901, which were addressed in earlier interim removal actions. Surface water will be addressed as a receiving media. If surface water contamination exceeds ROD goals, action may be necessary at upstream sources. Surface water pathways through site infrastructure, such as storm and sanitary drain lines, will be evaluated.

The requirements for ecological protection under the Sitewide ROD are unknown at this time and will be identified through the Remedial Investigation/Feasibility Study (RI/FS), Proposed Plan (PP, and ROD process.

The following activities will occur under the Sitewide ROD project:

- CERCLA RI/FS
- Groundwater Treatability Study (TS) on the practicability of remediating DNAPLs at the former K-1401 Maintenance Facility to support the FS
- Proposed Plan (PP)
- ROD

2.2.2.3.3 Schedule

Key activities for the Sitewide ROD are shown in the schedule depicted in Fig. 10. The schedule represents the current strategy with key activities leading to a submittal of the Sitewide PP to the regulators by FY 2020. The TS (including the Design Characterization and Treatability Study) and RI will be performed in parallel and will be integrated into the FS to expedite the project. The date for the final remedy-in-place (RIP) will not be known until the remedial decisions are identified in the ROD.

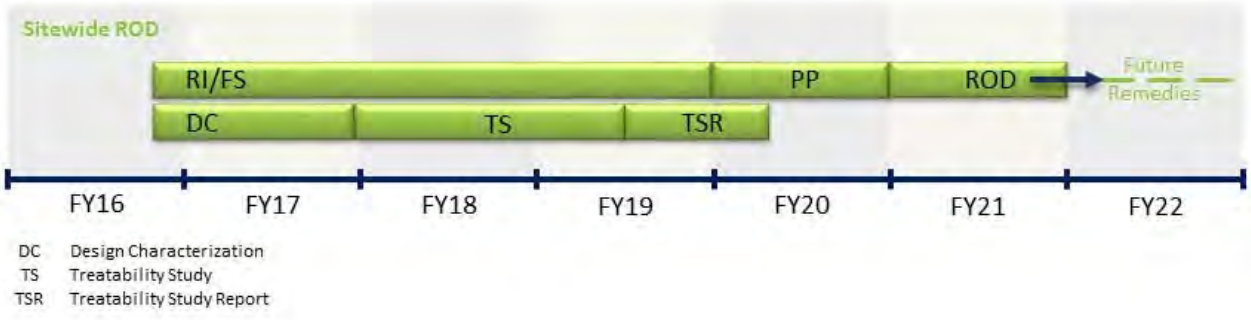

Fig. 10. Schedule of key activities for the Sitewide ROD.

2.2.2.3.4 Sitewide ROD major challenges

- Significant uncertainties exist since the remedial investigation is incomplete and regulatory interactions will occur before the final ROD decisions are known.
- Executing remedial actions in EU 21, next to the K-1600 (Centrus Energy Corp.) facility, without negatively affecting the facility.

2.2.2.3.5 Sitewide ROD key assumptions

- Remedial actions identified in the Sitewide ROD will extend beyond 2020.

2.3 LONG-TERM STEWARDSHIP

2.3.1 End State Vision

The ETTP RODs have and will include a LTS component to address residual risks. The end state vision for LTS is listed below and the requirements will likely include the following:

- Access controls such as soil covers and fences, on certain areas where waste was not removed, and maintenance of these controls.
- Deed restrictions on restricted areas and on groundwater use.
- Excavation/penetration permit requirements to control access to possible contamination deeper than 10 ft below ground surface.
- Maintenance and operations of any operating treatment systems.
- Long-term monitoring of groundwater to track dilution and attenutation of plumes and the effectiveness of active treatment systems.
- Long-term monitoring of surface water, sediment, and biota to track long-term recovery.

- Maintenance of environmental records and the Oak Ridge Environmental Information System database or a similar tool.
- Routine reporting (likely annually) and the completion of CERCLA 5-year reviews.
- Response to ongoing stakeholder inquiries.

2.3.2 Overview/Background

Because the remediation decisions for ETTP do not allow unlimited use/unlimited exposure (UU/UE), LTS will be required. The basic elements of LTS are stewards, operations, information systems, research, public participation, public education, and funding. LTS ensures that the engineering controls and LUCs remain effective for an extended, or possibly indefinite, period until residual hazards are reduced sufficiently to permit UU/UE. LTS is designed to ensure the following:

- Engineering controls prevent the residual hazard from migrating to the receptor
- LUCs prevent the receptor from encountering the residual hazard

Final LTS requirements will be included in the ETTP Sitewide ROD. This inclusion will allow source control actions to be completed; interim remedial actions and removal actions to be completed, evaluated, and changed, if necessary; and the end state of ETTP to be understood so that appropriate LTS requirements can be identified. The ETTP Comprehensive Monitoring Plan (DOE/OR/01-2477&D2) contains all performance and baseline environmental media monitoring and engineering controls, LUCs, and their verification requirements in a single document. The Comprehensive Monitoring Plan (CMP) will be revised to include the requirements of the Final Zone 1 Soils ROD and the Sitewide ROD.

Figure 11 illustrates the EM life cycle. After remedies are in place, the performance and protectiveness of implemented remedies are reviewed in the annual Remediation Effectiveness Report and the 5-year reviews and follow-up actions are taken to address any identified issues to ensure protectiveness.

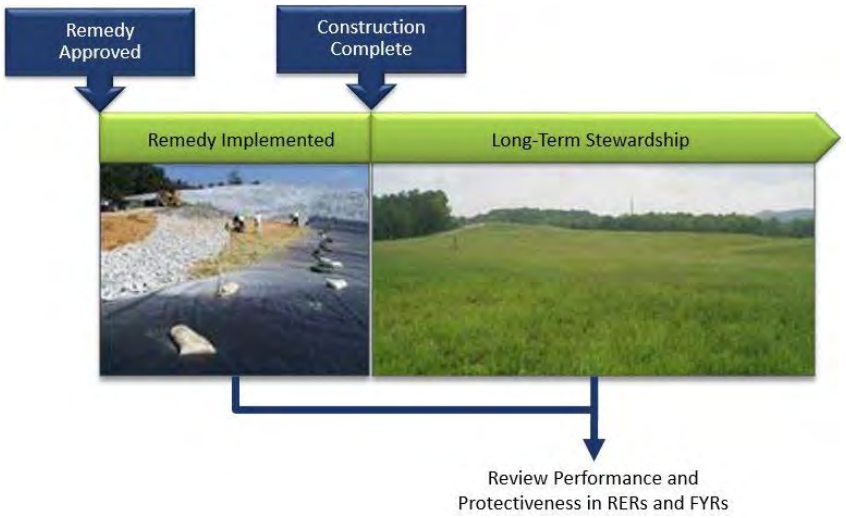

Fig. 11. Environmental Management life cycle.

2.3.3 Status

The LTS plan is a living document that is updated as actions are completed and new RODs are signed. This document will be finalized as the requirements of the Sitewide ROD are implemented.

The historic preservation scope is defined, but the end state of the Bldg. K-25 slab is still being developed. In addition, plans for remaining land transfers are still being developed and/or implemented.

2.3.4 Approach and Scope

LTS is the set of activities necessary to protect human health and the environment from physical hazards, residual contamination, and waste remaining following remediation. However, for the purposes of this Closure Plan, LTS is being expanded to include all remaining activities following completion of environmental remediation at ETTP for which DOE is responsible.

Planning for LTS is ongoing and will continue to mature as cleanup progresses and the Sitewide ROD is finalized. As part of LTS, a LTS Implementation Plan; a Surveillance, Maintenance, and Operations Plan for all remaining DOE responsibility at ETTP; and the CMP for all engineering controls, LUCs, and monitoring requirements will be developed.

2.3.5 Schedule

Figure 12 reflects the activities and schedule for addressing LTS.

2.3.6 Major Challenges

- Identifying the end state based on the uncertainities with regard to the remedies that may be selected in the Sitewide ROD and revising the LTS end state as it changes.
- Discriminating between responsibility on the portion of the BORCE that is part of the Heritage Center and the portion of the BORCE that is outside of ETTP.
- Understanding and adequately addressing DOE LTS responsibilities associated with transferred properties.

2.3.7 Key Assumptions

- All permits have been closed, transferred, or identified as still needed.

2.4 INFRASTRUCTURE STABILIZATION

2.4.1 End State Vision

All remaining utility systems and infrastructure are transferred to COR, another DOE program office, or private entity leaving DOE OREM with no further responsibility for any infrastructure systems on the Heritage Center site footprint. Code-compliant infrastructure remains for current non-EM site tenants. Unnecessary site infrastructure is appropriately deactivated and abandoned or removed, while enabling remaining systems to be used by current and or future site occupants. See Attachment B for current planned infrastructure maps.

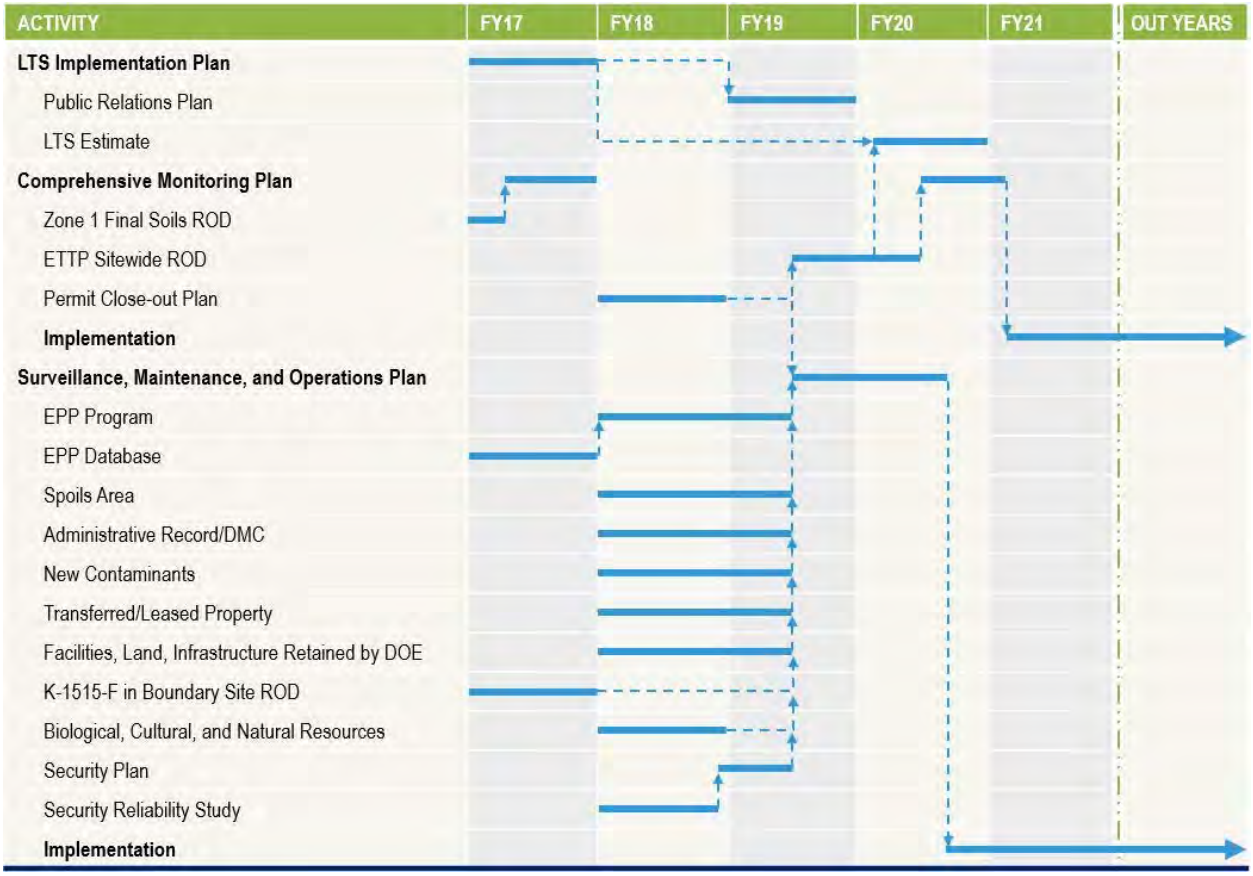

Fig. 12. Long-Term Stewardship schedule.

2.4.2 Status

With the exception of a small number of facilities at ETTP, DOE is currently responsible for maintaining all site electrical infrastructure and ensuring uninterrupted supply of electrical power to all site occupants. In addition to basic preventive and corrective maintenance, current efforts include removal of abandoned poles, lights, etc., to reduce surveillance and maintenance (S&M) costs and facilitate the continued transfer of primary lines to COR.

DOE is responsible for maintaining all service laterals of the water and sewer system associated with all DOE support facilities. DOE also is currently responsible for the entire fire water system at ETTP and the maintenance activities that support that system.

Water and sewer have been transferred to COR, with the exception of service lateral lines.

Site gas lines have been transferred to the Oak Ridge Utility District (ORUD).

UCOR and DOE are working closely with CROET and COR to transfer roads in support of private commercial land usage at the Heritage Center site. Approximately 1.5 miles of DOE roadways have been transferred to COR.

2.4.3 Approach and Scope

a. Roads

All roads will be transferred to COR, another DOE program office, or CROET for long-term use. Plans are to transfer an additional 4-5 miles of road to COR (see Attachment C, Road Maps).

Further, plans include proposing that Perimeter Road, from near State Route 58 up to the area owned by Energy*Solutions* and the K-1065 Complex (see Fig. 2), be transferred to the state or COR through coordination with DOE Reservation Management. Secondary roadways will become the responsibility of CROET. This configuration allows CROET to comply with the city subdivision ordinances and future industrial use of the site.

If the MKAA constructs a proposed regional airport, it is anticipated that State Route 327 (Blair Road) would be rerouted through the center of the site (see Attachment C, Road Maps). If this occurs, MKAA would be responsible for the cost and installation of the road.

b. Bridges

Site bridges will remain for the intended usage noted below and as depicted in Fig.13. Expected actions for each bridge are noted individually.

- K-1250-1 and K-1250-6—Railroad bridges remain in place and will be transferred to CROET.
- K-1250-2—Remains in place for pedestrian traffic only with transfer to CROET. Bridge certification and report will be completed prior to site transfer for pedestrian traffic. No repairs are anticipated to be required on this bridge structure.

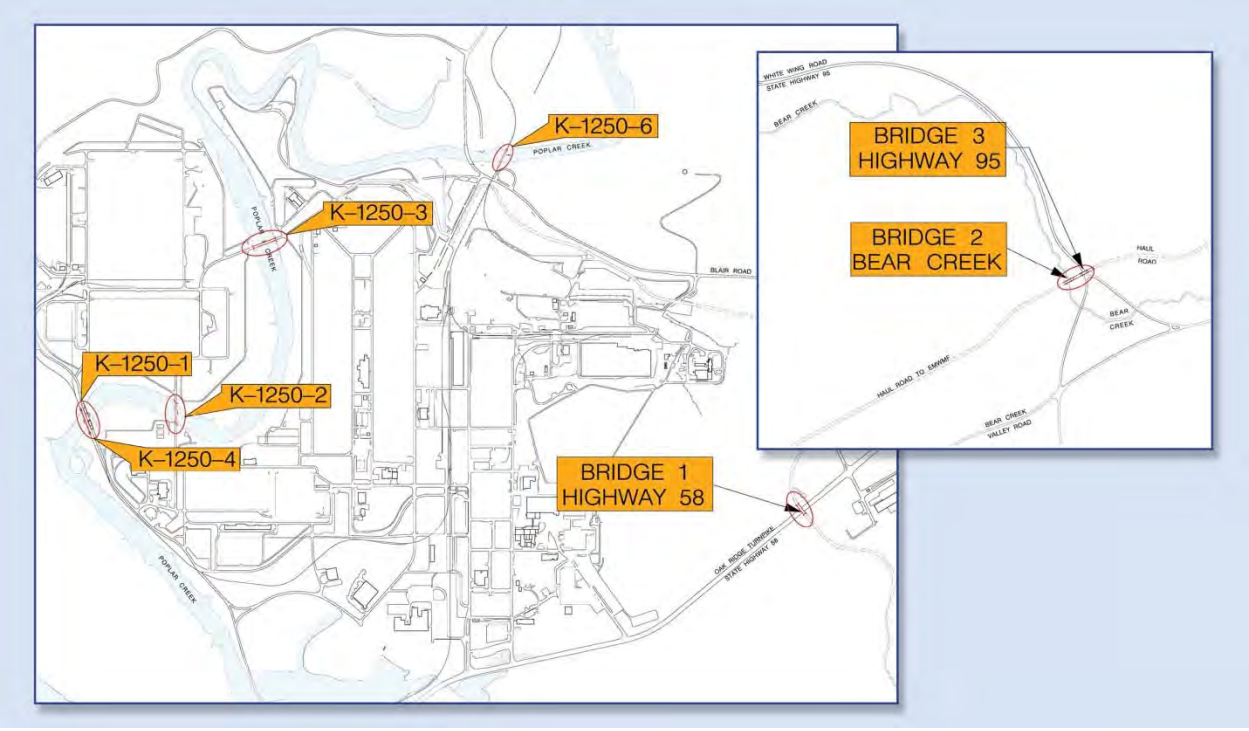

Fig. 13. Site bridges.

- K-1250-3—Vehicle bridge will remain for industrial use and will be transferred to another DOE program office or COR. Bridge certification and report will be completed prior to transfer. It is anticipated that minimal repairs will be required and include only such things as rust-inhibiting paint application to bridge steel.
- K-1250-4—Vehicle bridge is currently the responsibility of DOE Oak Ridge Office (ORO) Reservation Management. It is anticpated that it may be transferred to the state or COR, along with the Perimeter Road section discussed in Sect. 3.2.3.a.

c. Haul Road and associated bridges

Currently, it is anticipated that the Haul Road between ETTP and EMWMF and the associated bridges will remain for future use and will be transferred to another DOE program office or CROET . Structural certification will continue on a regular basis throughout OREM's use of the bridges. A final structural certification and report will be completed prior to transfer. It is anticipated that minimal repairs will be required and will include only such things as rust-inhibiting paint application to bridge trusses.

The Explanation of Significant Differences (ESDs) prepared in January 2005 that added the Haul Road to the EMWMF ROD stated that once waste hauling activities are completed, the bridges will be removed and minor regrading of the bridge approaches will be done. Newly constructed road segments will be allowed to revert to natural conditions, with consideration given during design to actions that could accelerate the reversion process. Future proposals for follow-on roads and/or bridge uses, if any, will comply with all applicable environmental and public review requirements, including those established by the National Environmental Policy Act of 1969 (NEPA).

Since it is anticipated the Haul Road and bridges remain intact, an ESD to the EMWMF ROD will be prepared to modify the removal of the bridges and abandonment of the Haul Road. The ESD will explain and provide the rationale for the modified end state and will evaluate and comply with all applicable requirements, including NEPA and public review.

d. Electrical lines/power poles

Currently, several miles of overhead primary electrical services have been transferred to COR. DOE reduces their cost and responsibility for maintaining these overhead lines as additional sections of the overhead power line are transferred.

Plans are to remove some power lines and poles and transfer all remaining overhead primary electrical service and associated poles at ETTP to COR. The remaining services to private business, past the service provider's connection point, will be the responsibility of each building owner. In addition, parking lot lighting circuits will be removed from the existing overhead power system and will be reconnected to a private service meter from applicable facilities.

e. Sanitary sewer lines

Plans are to transfer the sanitary sewer system and associated piping at ETTP to COR. With minor exceptions, the sanitary sewer main headers have previously been transferred. Sanitary sewer service laterals that support facilities past the utility service point (header) are the responsibility of the private business owners. Any sanitary sewer service laterals for which DOE is currently responsible will be isolated from the city's main header prior to demolition activities and/or demobilization and abandoned in place.

f. Water lines

Plans are to transfer the water system and associated piping at ETTP to COR. The water main headers have been transferred previously and are currently equipped with city water meters. Water service laterals that support facilities past the utility service point (water meter) are the responsibility of the private business owners. Any water service laterals for which DOE is currently responsible will be isolated from the city's main header prior to demolition activities and/or demobilization and abandoned in place.

g. Fire water system

The fire water system is plagued with significant leakage; its age dictates significant maintenance costs if it remains in use. Currently, the city water supplies approximately 15 miles of DOE-owned and maintained fire water piping at ETTP.

To eliminate and abandon the 15 miles of DOE-owned fire water piping, plans are to install a small section of code-compliant water line to supply the appropriate capacity of water to existing site industries. This will allow transfer of the water lines to COR and eliminate the 15 miles of DOE-owned fire water piping. Currently, DOE owns the backflow preventers that support fire water supply to private facilities. Plans are to transfer these backflow preventers to the facility owners.

In addition to the water line modifications, there are three booster pumps currently supporting onsite, private industry and DOE facilities. Plans are to transfer two of these pumps (K-1310-RW and K-1310-RY) to the facility owners once water from the city is supplied to the pumps. The third booster pump (K-1310-ST) will be de-energized and removed for property sales, disposal, or provided to CROET for their future use.

h. Communications and alarm systems

With few exceptions, the required telephone and internet cabling will remain on the utility poles and/or be transferred to utility poles that will remain in place. These poles will be transferred to COR along with the power line. Any "joint-use" agreements will be between the communication company and COR. The plan is for the newly installed AT&T cabling (aerial and underground) to stay in the present configuration, with any DOE easements transferred to CROET.

UCOR currently operates the security alarm station and monitors all security alarms for the ETTP site. As cleanup and closure progresses, the need for security alarms will be significantly reduced and/or terminated. Site occupants needing security alarm monitoring after cleanup and closure will receive sufficient notification that they need to make "other" arrangements for security alarm monitoring services so as not to have an interruption of services.

The fire alarm system for the site is provided via the COR "911" system and as such there is no need for any changes.

The telecommunications equipment in buildings K-1039 and K-1039-1 will be evaluated and dispositioned in a manner to allow D&D of these facilities.

i. Gas lines

ORUD owns and maintains all of the natural gas lines located at ETTP.

j. Parking lots

All existing site parking lots will remain unchanged and will be transferred to CROET.

k. Stormwater/drainage

Currently, per a memorandum of agreement (MOA) between DOE and COR, all stormwater piping and drainage systems are the property and responsibility of DOE. The goal is to transfer these drainage systems either to CROET or COR.

Accordingly, a sitewide drainage study must be performed to identify the major stormwater system concerns, ensure conformance with city of Oak Ridge Municipal Separate Storm Sewer System (MS4) Stormwater Ordinance standards, verify structural soundness and conduit capacity, and ascertain site flexibility for future use. However, until this study is completed and the results are evaluated, no determination can be made as to what, if any, repairs or modifications are needed to allow the transfer of the system.

2.4.4 Schedule

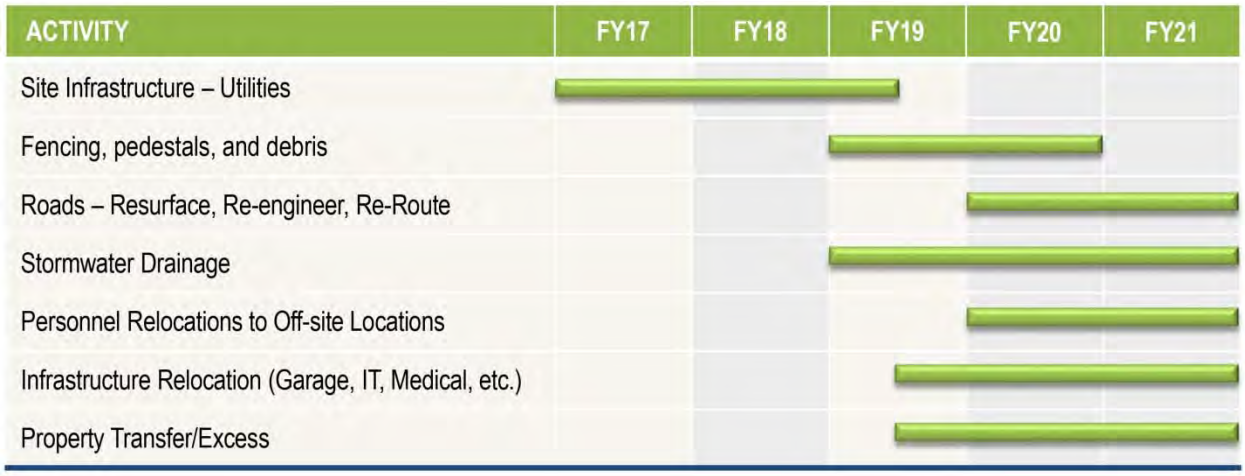

Fig. 14. Infrastructure stabilization schedule.

2.4.5 Major Challenges

None.

2.4.6 Key Assumptions

- COR will accept transfer of the electrical, water, and sanitary sewer systems.
- COR and/or CROET will accept transfer of the stormwater drainage system after completion of the drainage study and identified modifications/repairs.
- Non-federal entities or another DOE program office will accept transfer of roadways and bridges.
- If the proposed regional airport becomes a reality, MKAA will reroute the Haul Road, ensuring no impact to current operations.

- Once DOE has no further electrical maintenance of the site, poles that support the Plant Shift Superindent (PSS) loop from Y-12 at the northern edge of ETTP will be maintained by another DOE program office.

2.5 WASTE DISPOSITION

2.5.1 End State Vision

All waste generated as a result of ETTP cleanup and closure activities will be disposed.

2.5.2 Overview/Background/Status

Waste resulting from the cleanup and closure at ETTP are disposed at both onsite and offsite facilities. Onsite waste disposal facilities shown in Table 2 serve as disposal facilities for all the ORR facilities (ETTP, ORNL, and Y-12).

Table 2. Waste disposal facilities at Y-12

Waste disposal facility	Class	Waste received	Location
EMWMF	CERCLA	Legacy low-level radiological cleanup waste	East Bear Creek Valley west of Y-12
Landfills IV	II	Classified, sanitary solid waste	Chestnut Ridge east of ORNL
Landfill V	II	Office/cafeteria waste	Chestnut Ridge east of ORNL
Landfill VII	IV	Construction/demolition debris	Chestnut Ridge east of ORNL

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act of 1980
EMWMF = Environmental Management Waste Management Facility
ORNL =Oak Ridge National Laboratory
Y-12 = Y-12 Nuclear Security Complex

For waste that does not meet the acceptance criteria of any of these facilities, contracts are established for commercial treatment and/or disposal offsite. Figure 15 illustrates the waste hierarchy that is followed in determining the proper disposition path for the waste generated from the closure of ETTP.

Fig. 15. Waste disposal hierarchy.

2.5.2.1 Environmental Management Waste Management Facility

EMWMF is a land disposal facility authorized by EPA and TDEC for the disposal of wastes generated by environmental restoration activities being conducted at the DOE ORR. Low-level (radioactive) waste (LLW), hazardous waste defined in Subtitle C of the Resource Conservation and Recovery Act of 1976, and waste defined by the Toxic Substances Control Act of 1976 is approved for disposal in EMWMF. Combinations of these waste types (mixed wastes) are also disposed in EMWMF.

Based on the survey performed in December 2016, the total volume of constructed airspace at EMWMF is 2,178,000 yd^3. The total volume of airspace that has been used is 1,615,000 yd^3. Therefore, the remaining available capacity as of December 2016 is 565,000 yd^3.

2.5.2.2 ORR Landfills

In addition to the EMWMF disposal facility, there are three additional disposal facilities (landfills) on the ORR. Each of the landfills has a total permitted area and the space within this permitted area is constructed and readied for waste receipt in large parcels prior to needing the additional disposal area.

2.5.2.2.1 Landfill IV

Landfill IV is the classified landfill. It is a 4.2-acre site (89,483 yd^3) that opened in 1989. The remaining constructed airspace is approximately 24,000 yd^3.

Historically, the volume of waste being disposed at Landfill IV has been very small. However, utilizing the waste hierarchy, the equipment from Bldg. K-1037 was determined to be acceptable for disposal in Landfill IV.

2.5.2.2.2 Landfill V

Landfill V is the sanitary landfill. It is a 25.9-acre site that opened in 1994. Landfill V has a total permitted capacity of 2,171,630 yd^3. Approximately 820,000 yd^3 has been used and the remaining permitted airspace is 1,353,800 yd^3. However, only a portion of the landfill has been constructed to date. The available constructed capacity is approximately 445,000 yd^3.

2.5.2.2.3 Landfill VII

Landfill VII is the construction/demolition landfill, which was opened in 2001. Landfill VII has a permitted capacity of approximately 2,080,000 yd^3. The currently developed and available space in Landfill VII is approximately 90,000 yd^3.

2.5.2.2.4 Offsite facilities

DOE will continue to maintain outlets for waste that does not meet the ORR landfill or EMWMF waste acceptance criteria. These outlets include the Nevada National Security Site and numerous commercial treatment, storage, disposal, and recycle facilities (TSDRFs).

2.5.3 Approach and Scope

All waste generated as a result of ETTP cleanup and closure activities will be managed and disposed through the Waste Management Program utilizing the facilities listed in Table 3 or appropriate commercial facilities.

The program implements a waste hierarchy that guides the disposal toward strategically preferred options.

To support ETTP cleanup and closure, waste will be transported and disposed utilizing the most appropriate onsite or offsite disposal option. If the currently available capacity is insufficient, additional capacity will be developed prior to the need date.

To ensure waste disposal needs are met for the ETTP cleanup and closure, the available landfill capacities were compared to the volume of waste projected to be generated as a result of the cleanup and closure of ETTP. This evaluation allows any potential landfill needs to be identified.

Table 3 reflects constructed available space, estimated waste volumes from the closure of ETTP and other waste generators, and the remaining constructed capacity after disposition of the currently estimated waste.

Table 3. Disposal facility capacity evaluation[a]

Landfill	Constructed available capacity	ETTP remaining waste volume[b]	Waste volume from other generators	Remaining constructed capacity
EMWMF	565,000	205,700	29,200	330,100
Landfill IV	24,000[c]	7,250	950	15,800
Landfill V	445,000	65,750	146,000	233,250
Landfill VII	90,000	32,500	62,500	5,000

[a]Volume (yd^3) through FY 2020.
[b]Waste volumes will be adjusted as characterization of the soil and slabs progresses.
[c]Assumes successful completion of the Landfill IV expansion in December 2016.

EMWMF = Environmental Management Waste Management Facility
ETTP = East Tennessee Technology Park
FY = Fiscal Year

Note: Planning has been completed for construction of additional capacity at Landfill VII, but this construction has not been initiated. This construction is scheduled for FY 2018 and will be completed to support future waste generation.

2.5.4 Schedule

Disposal facilities will remain operational during and beyond ETTP closure activities and waste disposal will parallel cleanup and closure activities at ETTP.

2.5.5 Major Challenges

- A projected increase in future volumes of waste designated for the ORR landfills will stress current transportation routes to the landfills.
- Continued access to commercial TSDRFs for the treatment and disposal of mixed LLW or hazardous waste.

2.5.6 Key Assumptions

- Waste from the demolition of ETTP buildings that are not radiologically contaminated, but are contaminated with PCBs above 50 ppm, will be disposed at Landfill V.

- No impacts to waste disposition will result if the proposed airport is built, which will result in the Haul Road being relocated.

- No impacts to waste disposition will result if a new site is selected for Environmental Management Disposal Facility (EMDF) which will result in the Haul Road being relocated.

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3. HISTORIC PRESERVATION

3.1 END STATE VISION

DOE OREM will complete its commitments per the 2012 MOA for D&D of the K-25 site and interpretation of ETTP. This includes completion of the construction of a K-25 History Center and Equipment Building/Viewing Tower as well as the plans for delineating the shape and size of the K-25 process building and placement of Wayside Exhibits.

3.2 BACKGROUND

In 1999, the K-25 building, a 2-million-square-ft plant that produced the world's first enriched uranium using the gaseous diffusion process, was designated by DOE as a "signature facility" for the interpretation of the Manhattan Project. As one of eight DOE signature facilities, K-25 preservation was deemed essential for successfully interpreting for the American public the Manhattan Project mission of developing an atomic bomb. In 2012, DOE achieved agreement with the consulting parties regarding the best-fit, most feasible way to preserve K-25's history. The MOA regarding the ETTP site interpretation and K-25 historic preservation outlines the requirements and stipulations DOE must fulfill to allow for the complete demolition of Bldg. K-25.

In December 2014, the footprint of the former K-25 building and other historic facilities in Oak Ridge became part of a larger preservation effort through the National Defense Authorization Act that authorized establishment of a Manhattan Project National Historical Park. The park became a reality on November 10, 2015, when the Secretary of the Interior and Secretary of Energy signed an MOA between the two agencies (2015 MOA). The agreement directs how the NPS and DOE will work together to preserve, protect, and provide access to the historic resources associated with the Manhattan Project in Oak Ridge, Tennessee as well as in Los Alamos, New Mexico, and the Hanford Site in Washington. Current DOE historic preservation activities at ETTP will complement plans for the multi-site park.

3.3 STATUS

DOE fulfilled a major stipulation of the 2012 MOA with the launch of the K-25 Virtual Museum in November 2015. The website tells the story of the K-25 facility (current ETTP site) and its contributions to defense, energy, and technology advancements.

In July 2016, DOE provided the Preliminary Design documents to the MOA Consulting Parties for the K-25 History Center and Equipment Building/Viewing Tower facilities that are to be constructed to interpret the role of the K-25 site (ETTP) in the Manhattan Project and Cold War. The design documents also include plans for delineating the shape and size of the K-25 process building and placement of Wayside Exhibits.

The current schedule calls for the project team to issue a Certified for Construction Design in April 2017.

3.4 APPROACH AND SCOPE

DOE will comply with the 2012 MOA for D&D of the K-25 site and interpretation of ETTP. In doing so, DOE will complete a historic artifact inventory, which includes the sorting, segregation, and surveying of artifacts as well as any required decontamination.

DOE also will design and construct facilities to interpret the K-25 story. Included will be a history center with exhibits and displays, an Equipment Building with a cross section of K-25's gaseous diffusion cascade,

and a Viewing Tower that will allow visitors to experience the size and magnitude of the site's signature facility, the K-25 building.

The unique "U" shape of the K-25 building footprint will be a significant element of DOE's preservation activities. Wayside Exhibits will be constructed to provide additional information about the site, its people, and its missions. In addition to the design, fabrication, and installation of the exhibits, activities will include improvements to the perimeter roadway with repairs, new toppings, and widened areas at the Wayside Exhibits that will be designed to facilitate vehicular, pedestrian, and bicycle access.

Other activities will include parking and parking access driveways as well as ancillary site improvements, such as signs, sidewalks, ramps, stairs, and handrails.

3.5 SCHEDULE

Figure 16 illustrates the 2012 MOA activities.

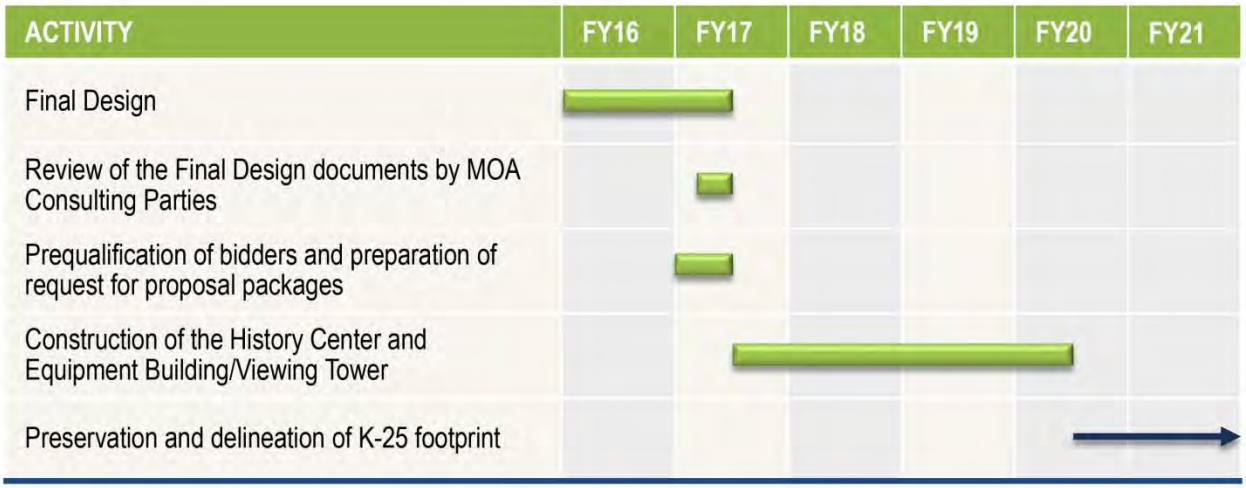

Fig. 16. 2012 Memorandum of Agreement activities.

3.6 MAJOR CHALLENGES

- Sequencing remediation activities near the K-1600 facility to implement historic preservation activities per the MOA.
- No clear distinction between DOE historic preservation efforts and NPS efforts.
- Funding to implement the recommendations of the slab retention study.

3.7 KEY ASSUMPTIONS

- Funding will be specifically appropriated each year to continue the construction of all elements outlined in the 2012 MOA.
- Once DOE OREM completes the 2012 MOA commitments, ownership and operational responsibility will be transferred to another entity.

4. SITE EXIT STRATEGY

4.1 END STATE VISION

DOE's presence at the site will be minimal and largely restricted to performing LTS activities, such as conducting ongoing environmental monitoring activities, implementing remedial actions required by the Sitewide ROD, and performing S&M of remedial actions to ensure such actions remain effective. Additionally, historic preservation activities required by the 2012 MOA will have been completed. All other personnel, materials, equipment, and support functions that were previously located at the site performing cleanup and closure activities will have been relocated from the Heritage Center site to offsite locations.

4.2 OVERVIEW

As DOE progresses with the cleanup and closure of the Heritage Center site to the end state vision described above, personnel, materials, equipment and support functions will be relocated offsite in a series of phased moves timed to accommodate these activities. For example, to accommodate the characterization, slab removal, and remediation of the K-29 Pad, a large number of workers occupying trailers on that pad will be relocated on the site, thus triggering a series of cascading moves of people currently occupying office space on the site to locations offsite.

As cleanup and closure progresses, more personnel will be relocated offsite along with the requisite materials, supplies, equipment, and support functions. Unlike DOE "single-site" cleanup and closure projects across the DOE complex, such as the Rocky Flats Plant in Colorado and the Fernald site in Ohio, DOE has additional, significant cleanup at other locations on the ORR such as Y-12 and ORNL. Thus, this Closure Plan takes into account the relocation of cleanup resources (personnel, materials, equipment, and support functions) to accommodate the cleanup of the Heritage Center site at ETTP and to position these cleanup resources for the continued cleanup of Y-12 and ORNL.

For current ETTP services, analyses will be conducted to determine the most cost effective manner in which these services may be obtained as OREM moves forward with cleanup of Y-12 and ORNL (e.g., it may be more cost effective to obtain respiratory fit testing or health services from either the existing Y-12 and ORNL contractor rather than "self-performing" the functions).

4.3 PEOPLE

4.3.1 Overview/Background

A Personnel Relocation Plan is being developed to take into consideration the remaining scope and personnel needs as the cleanup scope is completed. The plan is being implemented utilizing anticipated demolition and remedial action schedules as key elements in driving the timing of personnel movement from the impacted buildings and areas.

4.3.2 Approach and Scope

The preliminary approach to the Personnel Relocation Plan is described below.

The UCOR D&D, Remedial Action, S&M, and Security personnel will remain onsite through the completion of the cleanup and closure work. A methodical, phased approach will be implemented in the movement of non-site essential personnel. In support of site cleanup, the primary drivers requiring the movement of personnel include the (1) removal of personnel currently in trailers on the K-27/29 Pad to

provide access for characterization, slab removal, and anticipated soil remediation; (b) relocation of personnel from various buildings within the site to make room for the K-27/29 Pad personnel; and (c) movement of personnel from K-1225 prior to demolition of the K-1200 complex. Note: The timing and construction of a proposed regional airport by MKAA could result in relocation of onsite personnel currently located in K-1580, K-1007, and K-1330.

4.3.3 Schedule

The personnel relocation is driven by the sequencing of D&D and remediation activities and will be planned and executed in a manner to allow those activities to occur as scheduled. It may be necessary to relocate items such as IT equipment or records in order to create room at ETTP for personnel displaced from the K-29 pad

4.3.4 Major Challenges

- Acquiring suitable space for relocated people and functions.
- Potential impacts of the proposed regional airport.

4.3.5 Key Assumptions

- Site personnel can be relocated both onsite and offsite in a phased approach that will coincide with cleanup and closure of the site.

4.4 INFORMATION TECHNOLOGY

4.4.1 Overview/Status

UCOR Information Technology (IT) currently supports over 1500 internal and external users using government-furnished personal desktop computers, laptops, tablets, and over 200 networked printers operating on multiple network circuits containing over 100 unique local area network segments. The data center has approximately 300 servers, multiple domain controllers, more than 200 unique software applications, firewalls, intrusion detection equipment, a high-speed fiber network, and network storage to support over 300 terabytes of data. The continuous need for services at ETTP as well as the future EM cleanup mission at ORNL and Y-12, has been taken into consideration and is working in concert with efforts to relocate people regarding location(s), schedules, etc.

4.5 APPROACH AND SCOPE

A high-availability data center with backup power and refrigeration infrastructure is required to house the network and infrastructure required to support the end users. This infrastructure must include telecommunications, servers, storage area networks, security systems, and domain controllers.

The 200 plus unique software applications and the associated data will be addressed by relocating, retiring, or updating each application.

The plan is to relocate the ETTP data center to space offsite. To accomplish this, a new data center will be established to provide the services necessary for the desktops, services and telephones for the new location (see Sect. 4.1). Access to the systems at ETTP will be provided until all systems are migrated to the new data center. IT personnel will perform the physical moves and setup of the equipment at the new site. This will allow setup of new hardware and movement of existing hardware, as needed, in both the data center and desktop environment.

4.5.1 Schedule

As discussed in Sect. 4.1, personnel will be moved in phases to the new office locations. Accordingly, IT relocation will coincide with personnel relocations.

4.5.2 Major Challenges

- Acquiring suitable space(s) in a timely manner with infrastructure required by IT systems (i.e., uninterrupted power supply, generator, sufficient cooling, security, etc.) .

4.5.3 Key Assumptions

- 300–500 users at the new site.
- Printers will be leased and installed before the move.

4.6 PROPERTY: REAL AND PERSONAL

4.6.1 Overview/Status

Property management at ETTP includes management of real property and personal property. All government property is managed and will be dispositioned in accordance with the following:

- 41 *CFR* 102, *Federal Property Management Regulation System*
- 41 *CFR* 109, *Department of Energy Property Management Regulations*
- DOE O 580.1A, *Department of Energy Personal Property Management Program*

The Closure Plan for real property and personal property are described separately in the following sections.

4.6.2 Real Property

Real property is defined as any interest in land, together with improvements, facilities, structures, and fixtures, which includes, but is not limited to, land, buildings, utility infrastructure, communication systems, bridges, roads, and ponds.

Currently, there are over 400 real property items listed in the DOE Facility Information Management System (FIMS) database that require dispositioning. FIMS is a "living database" such that facilities are removed from the database when they reach full disposition and are added when new facilities are identified.

Some facilities will require LTS as a requirement of the CERCLA RODs described in Sect. 2.3. These facilities include burial grounds, monitoring wells, groundwater treatment systems, and contaminated ponds.

4.6.2.1 Approach and Scope

All EM-owned buildings will experience D&D as part of the site cleanup, except for a few that have been identified as being transferred to another DOE program office or non-federal entities (see Fig. 2).

Land and ponds will be remediated in accordance with RODs and all land, except burial grounds, will be transferred to non-federal entities. Ponds that have not reached cleanup requirements of the Final Sitewide ROD also will remain under federal ownership.

All real property associated with ETTP will be retired from FIMS and a final reconciliation with DOE Property Management will be completed.

Though not part of FIMS, there are privately owned facilities (Bldgs. K-1007, K-1580, K-1225, and Spec I) at the Heritage Center, which are leased by UCOR and its subcontractors that require lease terminations. All leases will be terminated according to the lease agreement, i.e., 365-day notice. All government-owned property that is capable of recording information and is located in these facilities, i.e., computers and cameras, will be dispositioned in accordance with established property dispositioning procedures. All remaining government-owned miscellaneous items, i.e., furniture, will remain with the buildings or be disposed if their usefulness is diminished.

4.6.2.2 Schedule

Property disposition will follow the D&D and remedial action activities as described in Sects. 2.1 and 2.2. FIMS updates will occur as facilities complete one of the disposition pathways identified above.

4.6.2.3 Major Challenges

None.

4.6.2.4 Key Assumptions

- The land transfer process will continue beyond the closure of ETTP.
- CROET or another non-federal entity will accept transfer of all property eligible for transfer.
- Trailers will be dispositioned as personal property as discussed in the following section.

4.6.3 Personal Property

Personal property is considered any property that is not real property and includes a wide variety of items ranging from computers and office furniture to power hand tools and lawn mowers, which are used for maintenance and cleanup work at ETTP.

There are approximately 5700 accountable property items at the ETTP site. Approximately 1500 of these items are located in buildings that cannot be inventoried due to contamination or another safety concern. The balance of 4200 items is subject to the property disposition process.

In addition, it is estimated there are approximately 25,000 additional items (consumables), e.g., hand tools, monitors, personal protective equipment, administratively controlled at ETTP and will need to be dispositioned before closure.

4.6.3.1 Approach and Scope

The 1500 items that cannot be inventoried due to contamination (radiological and/or chemical) or safety concerns will be demolished with the facilities and disposed as contaminated debris during D&D activities. The remaining 4200 items will be dispositioned by (1) reuse at other EM cleanup projects at ORNL or Y-12; (2) transferred to other federal agencies; (3) sold through government service agencies (GSAs), sealed

bids, or forward auctions; (4) recycled; (5) disposed in an appropriate ORR landfill; or (6) abandoned/destroyed.

Some of the approximately 25,000 administratively controlled items, specifically tools used in the limited areas, will be dispositioned as waste. Administratively controlled items do not have official property records so they are not tracked as accountable property inventory. However, these items will be dispositioned in accordance with established procedures. All property not dispositioned as waste will be radiologically surveyed and free releasable before dispositioning.

All personal property associated with ETTP will be retired from the Property Information Systems Module (PRISM) tracking system and will have a final reconciliation completed with the UCOR Capital Accounting group and the DOE-OR Organizational Property Management Officer (OPMO).

Disposition of DOE-owned office trailers will include the following:

- Evaluation for internal reuse for EM projects at Y-12 and ORNL.
- Disposition accordingly if no internal reuse can be found.

Disposition of leased office trailers will include the following:

- Evaluation for internal reuse for EM projects at Y-12 and ORNL.
- Return to vendor if no internal reuse is needed.

A final review and reconciliation of PRISM by UCOR Property Management will show no items remaining at the ETTP site. Final ETTP accountable property inventory reports will be submitted to DOE-OR OPMO for review/concurrence.

4.6.3.2 Schedule

Property disposition will parallel activities associated with cleanup and closing the ETTP site. The time required for various personal property disposition pathways is shown in Table 4.

Table 4. Personal property disposition timeline

Disposition paths	Length of time
Internal reuse—Can be reutilized at other UCOR projects	1–2 weeks
Other local federal agencies—Can be transferred to ORNL/CNS for use	1–2 weeks
GSA—Website that reaches other federal agencies and schools, and provides donation opportunities; website also sells items that are not transferred to entities named above	1–12 weeks (or more sometimes); dependent on the needs of other federal agencies and the public

Table 4. Personal property disposition timeline (cont.)

Disposition paths	Length of time
Public sale by UCOR through sealed bids and forward auctions	1–6 weeks
Recycle—Electronic and metal	1–2 weeks
Onsite landfills	1–2 weeks

CNS = Consolidated Nuclear Services
GSA = government services agency
ORNL = Oak Ridge National Laboratory
UCOR = URS | CH2M Oak Ridge LLC

4.6.3.3 Major Challenges

- Time required to excess items through the GSA disposition path.
- Ability of radiological surveys to keep pace with excessing property.

4.6.3.4 Key Assumptions

- A streamlined process and adequate facility will be obtained to disposition personal property.
- Trailers will be disconnected from utilities and dispositioned as personal property.

4.7 HEAVY EQUIPMENT

4.7.1 Overview/Status

Heavy equipment is defined as those pieces of equipment specifically used for building demolition and/or soil remediation. There are approximately 145 individual items, such as forklifts, excavators, grapplers, cranes, loader, hydro-seeders, shears, boom lifts, pavement breakers, pulverizers, semi-trailers, processors, and other material handling attachments.

4.7.2 Approach and Scope

An analysis will be performed on all heavy equipment to determine reusability and need at other government sites, such as supporting future ORNL or Y-12 D&D as well as environmental remediation efforts. Wear and tear, availability of replacement parts, potential for decontamination, need for heavy equipment at Y-12 or ORNL, and overall efficiency relative to downtime and operational costs will be considered to determine if a piece of equipment should be transferred to the next DOE closure site or excessed.

Heavy equipment that can be reused will be staged for use at Y-12 or ORNL or transferred to another DOE cleanup site prior to the completion of this cleanup and closure effort. Remaining decontaminated equipment that cannot be reused at another DOE location will follow the process for government disposition as personal property.

If a piece of equipment cannot be decontaminated, it will be disposed as waste.

4.7.3 Schedule

The majority of heavy equipment will be dispositioned at the completion of the final large remedial actions and facility demolitions. However, some individual pieces of heavy equipment will be excessed or disposed throughout D&D and remedial action cleanup activities if there is no further need for the equipment.

4.7.4 Major Challenges

- Lack of available storage space for equipment in use as D&D and remedial action activities conclude.

4.7.5 Key Assumptions

- 90 percent of heavy equipment will be able to be decontaminated.
- 60 percent of heavy equipment will be retained for future use at another DOE location.
- Contaminated heavy equipment will be disposed of in EMWMF.

4.8 FLEET VEHICLES

4.8.1 Overview/Status

There are approximately 225 DOE fleet vehicles onsite to support cleanup and closure activities. This includes trucks, passenger vehicles, vans, etc. (not including the approximately 500 items of equipment, such as mules, mowers, tractors, etc.) to be dispositioned from the ETTP site.

4.8.2 Approach and Scope

A lease/buy analysis will be performed regarding the best approach to meeting vehicle needs for future cleanup activities at the ORNL and Y-12 sites.

4.8.3 Schedule

A lease/buy analysis should be performed in 2017.

4.8.4 Major Challenges

- Decision on how to best meet vehicle needs must occur prior to deactivation of the ETTP garage facility in 2018.

4.8.5 Key Assumptions

- Lease/buy analysis and decision will be made by DOE OREM.

4.9 GARAGE

4.9.1 Overview/Status

The K-1414 garage is staffed with employees that perform preventive and corrective maintenance on 225 DOE fleet vehicles and more than 500 items of additional equipment, such as mules, mowers, tractors, and other equipment needed to support cleanup activities.

4.9.2 Approach and Scope

The K-1414 garage is located north of the K-1200 Complex in the center of the ETTP site and D&D will be performed as part of the overall site cleanup mission. Prior to D&D, an analysis will be made to determine the most cost-effective means of procuring these services for the remaining cleanup effort at ETTP as well as the ongoing work at ORNL and Y-12.

4.9.3 Schedule

D&D of the K-1414 garage is scheduled to begin in 2018.

4.9.4 Major Challenges

- Transfer of garage responsibilities to ORNL and/or Y-12 for maintenance of small equipment prior to D&D of the garage.

4.9.5 Key Assumptions

- Lease/buy decision for fleet vehicles will occur in a timely manner to allow informed decisions regarding how best to acquire garage services for the fleet vehicles.

4.10 OTHER SITE INFRASTRUCTURE EQUIPMENT

4.10.1 Overview/Status

There are more than 500 items of equipment, such as mules, mowers, tractors, air monitors, mobile generators, misters, etc., to be dispositioned from the ETTP site.

4.10.2 Approach and Scope

ETTP site equipment that is uncontaminated and can be used at another DOE facility will be transferred to that site. All other uncontaminated site equipment will be excessed through the government process as personal property.

4.10.3 Schedule

The schedule for the dispositioning/transfer of other site infrastructure equipment will parallel the completion of cleanup and closure activities.

4.10.4 Major Challenges

None.

4.10.5 Key Assumptions

- A streamlined process and adequate facility will be obtained to disposition personal property.
- 40 percent of site equipment will be retained for future use at another DOE location.
- 60 percent of site equipment will be excessed.

4.11 CENTRAL RECEIVING FACILITY

4.11.1 Overview/Status

The Central Receiving and Distribution Facility (CRF) supports the receipt and distribution of procured materials and equipment required for project work performed at ETTP, ORNL, and Y-12. In addition, this facility serves as the staging and disposition point for screened excess government personal property resulting from cleanup activities at ETTP and, to a limited extent, personal property disposition associated with ORNL and Y-12 excess facilities.

4.11.2 Approach and Scope

The CRF will remain operational throughout the ETTP cleanup and closure operations. Starting in late 2018, the CRF will become mostly focused on the disposition of excess personal property. Eventual closure of CRF will be dependent on the amount of material needed for the remaining ETTP cleanup and closure activities as well as the final disposition of all of the government-owned personal property at ETTP. Prior to CRF closure, a new receiving and distribution facility will be located in close proximity to ORNL and Y-12. At the conclusion of CRF operations at ETTP, all remaining usable materials and equipment will be transferred to the "new" CRF and any declared excess government personal property dispositioned in accordance with property procedures.

4.11.3 Schedule

As described in Fig. 17, the new offsite receiving, distribution, and property disposition facility will need to be established by 2019.

Fig. 17. Receipt and distribution of materials and excess property.

4.11.4 Major Challenges

- Determination of the Labor Union jurisdiction at the offsite receiving and distribution facility.

4.11.5 Key Assumptions

- A streamlined process and adequate facility will be obtained to disposition personal property.

4.12 LAUNDRY

4.12.1 Overview/Status

Currently, all laundry items are collected at a central location and sent to a subcontractor for cleaning on a per pound basis. There is no onsite UCOR facility or equipment at ETTP for laundry.

4.12.2 Approach and Scope

As the ETTP mission comes to an end, the subcontract to provide the laundry services will be maintained for cleanup activities at ORNL and Y-12.

4.12.3 Schedule

Not applicable.

4.12.4 Major Challenges

None.

4.12.5 Key Assumptions

None.

4.13 HEALTH SERVICES

4.13.1 Overview/ Status

Currently located in K-1007, Health Services is responsible for implementing 10 *CFR* 851, *Worker, Safety and Health Program*, DOE requirements under the direction of the Site Occupational Medical Director (SOMD). The SOMD serves as Medical Review Officer (MRO) and is the subject matter expert (SME) for infectious disease. Health Services provides services to UCOR employees and subcontractor employees at the ETTP site, ORNL site, and the Y-12 footprint. Current staffing includes one full-time physician who serves as SOMD, MRO, and SME of infectious disease. An overview of responsibilities include fitness for duty evaluations, pre-employment/post-placement, surveillance requirements, transfer to job with new hazards, return to work, safety concerns, injury/illness, medication reports, 30 day/year requirements, termination evaluations, and preventive health (wellness). The clinic performs Workplace Substance Abuse Program drug and alcohol testing as well as pre-employment, random, for cause, post-incident/accident, and testing for security clearance upgrades. MRO services include oversight of the Drug-Free Workplace Program, verification of laboratory-confirmed positive results, and counseling/guidance/follow-up of drug and alcohol abuse/dependence/rehabilitation for employees. The clinic performs occupational and non-occupational case management and provides certified occupational health nurses and certified case managers with SOMD oversight as well as administers the hearing conservation and legacy beryllium programs. Other SOMD duties include providing influenza and hepatitis B vaccination programs and participating in planning for epidemic/pandemic and other scenarios. Clinical staff and SOMD are on call 24 hours per day/7 days per week.

4.13.2 Scope/Approach

Health Services will support completion of the ETTP EM scope by remaining on the ETTP footprint during cleanup and closure activities. Records will be transferred to Records Management and Document Control functions. Equipment will be transferred to personal property for appropriate disposition.

A cost/benefit analysis will be performed to determine the most efficient means of providing these services to cleanup personnel at ORNL and Y-12 upon completion of cleanup activities at the ETTP site.

4.13.3 Schedule

Health Services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis is needed to determine the schedule for terminating this service at ETTP.

4.13.4 Major Challenges

- Determing the appropriate time to begin the shut down of onsite Health Services.

4.13.5 Key Assumptions

- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.

4.14 DOSIMETRY SERVICES

4.14.1 Overview/Status

Dosimetry support is provided to personnel performing the cleanup work at the Heritage Center to comply with DOE regulatory requirements. Currently, these services are administered via offices located in Bldg. K-1007. The services include management, issuance, and collection of external monitoring dosimeters and bioassays samples for monitoring of internal doses. Personnel dose and other radiological records also are maintained at this office, which currently reside in 65 FireKing® cabinets.

The level of effort required to perform these services is proportional to the number of radiological workers performing the cleanup work activities. Subsequently, the need for dosimetry services decreases with the progression of cleanup work activities and eventually ends upon closure of the site.

4.14.2 Approach and Scope

Dosimetry Services will support completion of the ETTP EM scope by remaining on the ETTP footprint during cleanup and closure activities. A cost/benefit analysis will be performed to determine the most efficient means of providing these services to cleanup personnel at ORNL and Y-12 upon completion of cleanup activities at the ETTP site. Radiological records will be relocated in conjunction with the K-1007 Document Management Center (DMC) records. These two records storage areas will be consolidated at that time and dispositioned in accordance with Sect. 4.22, Records Relocation.

4.14.3 Schedule

Dosimetry Services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis is needed to determine the schedule for terminating this service at ETTP.

4.14.4 Major Challenges

- Determining the appropriate time to begin shutting down these onsite services.

4.14.5 Key Assumptions

- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.

4.15 RADIOLOGICAL PROTECTION INSTRUMENTATION SERVICES

4.15.1 Overview/Status

A large inventory of radiological instrumentation utilized by Radiological Protection Technicians is currently maintained in Bldg. K-1007, along with a UCOR-operated counting laboratory. The counting laboratory contains large-capacity proportional counters, liquid scintillation counters, gamma spectrometers, and alpha spectrometers.

Radioactive media, such as environmental samples, smears, and air samples, are processed at this facility. Additionally, some of the instrumentation is radioactively contaminated. Operation of the counting laboratory equipment requires specialized gases (e.g., P-10 gas) and liquid nitrogen.

The level of effort required to perform these services is proportional to the number of radiological workers performing the cleanup work activities. Subsequently, the need for instrumentation services decreases with the progression of cleanup work activities and eventually ends upon closure of the site. Upon conclusion, all instrumentation and laboratory equipment will be dispositioned in accordance with Sect. 4.22, Records Relocation.

4.15.2 Approach and Scope

Radiological Protection Services will support completion of the ETTP EM scope by remaining on the ETTP footprint during cleanup and closure activities. A cost/benefit analysis will be performed to determine the most efficient means of providing these services to cleanup personnel at ORNL and Y-12 upon completion of cleanup activities at the ETTP site.

4.15.3 Schedule

Radiological Protection Services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis is needed to determine the schedule for terminating this service at ETTP.

4.15.4 Major Challenges

- Determing the appropriate time to begin shutting down these onsite services.
- Because these services require the establishment of Radioactive Materials Areas, locations will be limited to property owned by the DOE; locations off the ORR will not be feasible.

4.15.5 Key Assumptions

- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.

4.16 RESPIRATOR FIT TESTING AND TRAINING SERVICES

4.16.1 Overview/Status

The UCOR Respirator Fit Testing and Training Facility is currently located in K-1007 adjacent to UCOR Medical Services. This area is about 400 ft and contains an eyeglass station, a video training location, mask fit testing stations, respirator storage, records files, and administration area. Maintaining these services are essential to ensure personnel are appropriately tested and trained to wear respiratory protection necessary to protect them against both radiological and industrial hazards. Currently, several hundred personnel are tested and trained annually.

The level of effort required to perform these services is proportional to the number of workers performing cleanup work activities. Subsequently, the need for respiratory fit testing and training services at ETTP decreases with the progression of cleanup work activities and eventually ends upon cleanup and closure of the ETTP site. However, the execution of cleanup and D&D work at Y-12 and ORNL requires a continuing need for these services.

4.16.2 Approach and Scope

Respirator Fit Testing and Training Services will support completion of the ETTP EM scope by remaining on the ETTP footprint during cleanup and closure activities. A cost/benefit analysis will be performed to determine the most efficient means of providing these services to cleanup personnel at ORNL and Y-12 upon completion of cleanup activities at the ETTP site. Upon conclusion of cleanup, all respiratory fit-testing and training records will be dispositioned in accordance with Sect. 4.22, Records Relocation.

4.16.3 Schedule

Respirator Fit Testing and Training Services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis are needed to determine the schedule for terminating this service at ETTP.

4.16.4 Major Challenges

- Determining the appropriate time to begin shutting down these onsite services.

4.16.5 Key Assumptions

- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.

4.17 INDUSTRIAL HYGIENE

4.17.1 Overview/Status

Industrial Hygiene (IH) is located in a trailer that is approximately 16 ft × 30 ft. This facility houses four offices shared by IH technicians and supervisors and includes several shelving units to store instruments, calibration gases, and other supplies. An additional Conex container and other offices totaling 320 ft^2 are currently used to house IH technicians, administrative support, file cabinets, equipment storage, and record storage cabinets. Also, a ventilation hood is used to vent calibration gases to minimize chemical exposures to workers performing the calibrations.

4.17.2 Approach and Scope

IH Services will support completion of the ETTP EM scope by remaining on the ETTP footprint during cleanup and closure activities. A cost/benefit analysis will be performed to determine the most efficient means of providing these services to cleanup personnel at ORNL and Y-12 upon completion of cleanup activities at the ETTP site. Upon conclusion of cleanup at ETTP, all IH ETTP records will be dispositioned in accordance with Sect. 4.22, Records Relocation.

4.17.3 Schedule

IH Services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis is needed to determine the schedule for terminating this service at ETTP.

4.17.4 Major Challenges

- Determining the appropriate time to begin shutting down these onsite services.

4.17.5 Key Assumptions

- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.

4.18 BADGING

4.18.1 Overview/Status

Wyandotte Services, a prime contractor to DOE, has programmatic responsibility for personnel security at ETTP, which includes clearance processing and badging for UCOR at ETTP along with the UCOR scope of work performed at EMWMF, Y-12, and ORNL. Wyandotte is included in the UCOR Security organization and reports to the Security and Emergency Services Manager. Clearance processing representatives interface with the DOE ORO to provide clearance-related transactions in accordance with DOE orders. Badging office personnel fabricate, enroll, issue, terminate, and destroy DOE-issued badges as well as maintain badge-related records.

4.18.2 Approach and Scope

Badging Services will support completion of the ETTP EM scope by remaining on the ETTP footprint during cleanup and closure activities. A cost/benefit analysis will be performed to determine the most efficient means of providing these services to cleanup personnel at ORNL and Y-12 upon completion of cleanup activities at the ETTP site.

4.18.3 Schedule

Badging Services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis is needed to determine the schedule for terminating this service at ETTP.

4.18.4 Major Challenges

- Determining the appropriate time to begin shutting down these services on site.

4.18.5 Key Assumptions

- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.

4.19 SECURITY

4.19.1 Overview/Status

Currently, Protective Force (PF) support at ETTP is performed by National Strategic Protective Services (NSPS), a prime contractor to DOE. NSPS maintains an onsite staff and a Central Alarm Station (CAS) at ETTP. Currently, there are more than 500 individual alarm points monitored by the CAS at various private or other government-contracted facilities located at ETTP. The CAS monitors alarms for the following government or privately owned facilities:

- Centrus Energy Corp.
- Consolidated Nuclear Services (CNS) (Y-12) (alarms are located at the K-1650 PSS office and the Central Training Facility located on Bear Creek Road)
- East Tennessee Materials and Energy Corporation
- PALL Industrial Membranes
- UCOR

4.19.2 Approach and Scope

With the completion of cleanup and closure activities at ETTP, a continuous PF presence will no longer be required for EM work at ETTP. The three remaining burial grounds (K-1064, K-1070-B, and K-1070-C/D) will require routine patrols by either a DOE security contractor housed at another location or a private security company to ensure the burial grounds are not disturbed.

Alarms for ETTP facilities monitored by CAS will be reduced as D&D of facilities progresses. As cleanup progresses, the need for a CAS at ETTP is significantly diminished. It is planned that CNS alarms currently monitored by the ETTP CAS be transferred to Y-12 CAS. Alarms for facilities that belong to private business will no longer be monitored by CAS and will become the responsibility of the private business to find a security monitoring provider.

4.19.3 Schedule

The need for PF in support of protection of classified matter at ETTP is through May 2019, when the demolition is currently scheduled to be complete.

4.19.4 Major Challenges

- Relocation of PF personnel and armory to an offsite location while maintaining an adequate PF at ETTP.
- Coordinating transfer of alarms required by private entities.

4.19.5 Key Assumptions

- Three burial grounds will be maintained as Limited Areas. Oversight for the maintenance of fencing and lighting at the burial grounds will be transitioned to a DOE contractor.

- All alarms monitored by the ETTP CAS will be eliminated or transferred to Y-12 CAS or a private security monitoring provider.

4.20 CLASSIFICATION AND INFORMATION CONTROL OFFICE (CICO)

4.20.1 Overview/Status

The Classification and Information Control Office (CICO) assures the quality of protection of sensitive information classified and controlled unclassified information (CUI) at ETTP and more generally for other non-ETTP projects by (1) reviewing media for limited and public distribution, including coordination of reviews by other equity holders; (2) providing sensitive information identification training for derivative classifiers and ETTP employees; (3) assuring competent sensitive information decision making by ETTP personnel; (4) protection planning for new programs; and (5) resolving issues and implementing policy changes.

The primary customers for CICO services are Environmental, Health, and Safety programs; D&D programs; the Manhattan Project National Park Museum; and the Inactive Records Center (IRC).

CICO staff is comprised of the Classification Officer and technical experts in ETTP/Y-12 technologies and CUI.

4.20.2 Approach and Scope

The capability to review classified and CUI will be maintained until the D&D efforts for the following major buildings and areas that are associated with classified technology are completed:

- Centrifuge/K-1200 facilities and laboratories
- K-1006
- K-1037

Capability will be preserved to review classified and CUI for the Manhattan Project National Park Museum, environmental sampling, information review requests from the IRC (e.g., medical/IH/personnel records), and projects at non-ETTP sites (Outfall 200 Mercury Treatment Facility, Alpha-4, and other Y-12 facilities; EMWMF/Environmental Management Disposal Facility; and ORNL facilities) after D&D of ETTP buildings is completed. A cost/benefit analysis will be performed to determine the most efficient means of providing these services for the EM cleanup mission at ORNL and Y-12 upon completion of cleanup activities at the ETTP site.

4.20.3 Schedule

CICO services will remain in operation while cleanup and closure are ongoing and sufficient workers remain on the ETTP footprint with no significant disruption of services. Further analysis are needed to determine the schedule for terminating this service at ETTP.

4.20.4 Major Challenges

- Ensuring non-EM functions (Centrus) maintain CICO-review capability for classified technologies at ETTP.
- Determining the appropriate time to begin shutting down these services on site.

4.20.5 Key Assumptions

- All classified and controlled unclassified media will be transferred to the IRC.
- A cost/benefit analysis will be made in a timely fashion to avoid disruption of services.
- No sensitive information computing and storage areas remain at ETTP.

4.21 EMERGENCY SERVICES ORGANIZATION (EMERGENCY MANAGEMENT PROGRAM/PARK SHIFT SUPERINTENDENT)

4.21.1 Overview/Status

The Emergency Services Organization is comprised of the PSS office and Emergency Management.

The PSS office staffs and operates the ETTP Emergency Operations Center (Bldg. K-1650). Representing ETTP management, the PSS is the senior onsite authority during off-shifts, weekends, and holidays. Key responsibilities include management oversight, emergency direction as the Site Emergency Director, and official interface with local, state, and federal agencies.

Emergency Management staff is responsible for implementing an efficient and effective emergency management system for EM facilities that is compliant with DOE orders and meets the requirements of federal/state regulations. The program is responsible for the following:

- Identification of hazards and threats
- Development of emergency plans and procedures, and interfacing with other DOE contractors, private tenants, and offsite agencies
- Identification of personnel and resources needed for an effective response
- Maintenance of proficiencies of assigned emergency response organization personnel through training, drills, and exercises
- In the event of an actual emergency, initiation of a response action to mitigate the consequences to workers, the public, the environment, and to national security and necessary recovery action

4.21.2 Approach and Scope

The Emergency Management Program and PSS will remain active and personnel will remain onsite through the completion of cleanup and closure work. Emergency Planning Hazards Assessments (EPHAs) and Emergency Action Levels (EALs) will be eliminated upon D&D or transfer to other non-federal entities for the following facilities:

- K-1065 Waste Storage Complex
- K-1200 Complex (East Tennessee Waste Treatment Center)
- K-1313-F Facility (Former ED-2 Area)
- K-1423 Waste Staging and Processing Facility
- K-1600 (Centrus Facility)

Upon elimination of EPHAs and EALs, the program will transition from an Operational Emergency Hazardous Material Program to an Operational Emergency Base Program in accordance with DOE O 151.1D.

Once the program is an Operational Emergency Base Program, the following equipment will be dispositioned:

- Public warning siren system
- Meterological towers
- Other miscellaneous emergency management equipment

4.21.3 Schedule

The schedule for reducing and ultimately terminating Emergency Management/PSS functions will parallel with the cleanup and closure schedule as described in Sect. 7.

4.21.4 Major Challenges

- Ensuring adequate Emergency Management/PSS functions during a declining requirement for its functions.
- Transitioning any required remaining Emergency Management/PSS activities from DOE OREM to another DOE program office.

4.21.5 Assumptions

- All hazardous material that meet the criteria to perform an EPHA and EALs have been removed from the site.
- All land, facilities, and infrastructure are transferred to non-federal entities.

4.22 RECORDS RELOCATION

4.22.1 Overview/Status

This plan addresses the ETTP records that have been generated and/or received during the duration of the ETTP contract. It also addresses legacy records whose custodianship was assumed at the beginning of the current ETTP contract.

The current ETTP Records Management organization is responsible for the complete federal records life cycle. Records are created, distributed, stored, and ultimately dispositioned according to the DOE Records and Retention Schedules. When records are created, they are forwarded to one of three locations. The DMC is the main storage location and where all current records pass through before disposition. Records needed at site locations due to business and/or project needs are located in Satellite Document Centers (SDCs) or listed as a Field Operating Record (FOR). There are currently 4 SDCs and 22 registered FORs located at ETTP.

The site is also responsible for the management of legacy records. Legacy records are those records required to support Freedom of Information Act, Energy Employee Occupational Illness Compensation Program Act, workers' compensation claims, and/or records deemed necessary to complete the DOE OREM mission. These aged historical records are located at the DOE Facility 1916-T2 in Oak Ridge, Tennessee.

Records identified as within the scope of the 2012 MOA are currently located at the Office of Scientific and Technical Information facility in Oak Ridge, Tennessee.

4.22.2 Approach and Scope

Except as specifically defined, all records acquired or generated in the performance of the ETTP contract shall be the property of the government. The applicability of this plan is limited to those subcontractor records that are contractually required to be provided. Typically, those records are summarized in each subcontractor's Exhibit I of the contract, but also include records required by individual procedures or specification contractually provided to the subcontractor. All such records shall be scheduled for retention periods as set forth in the DOE Record Schedules.

Legacy records currently on the ETTP site will be relocated to the 1916T2 facility for continued use.

Records identified as within the scope of the 2012 MOA will remain under the custodianship of DOE.

Classified government-owned records that are no longer needed will be archived to the classified Federal Records Center (FRC) in Suitland, Maryland. Non-classified government records will be archived to the FRC in Dayton, Ohio. Records will be tracked via the Records Inventory System from the time of receipt by Records Management to their eventual shipment to an FRC.

There are approximately 14,000 ft^3 of records maintained at ETTP. These records will be relocated to an offsite storage facility to accommodate the continuing DOE EM mission.

Figure 18 reflects the records disposition paths.

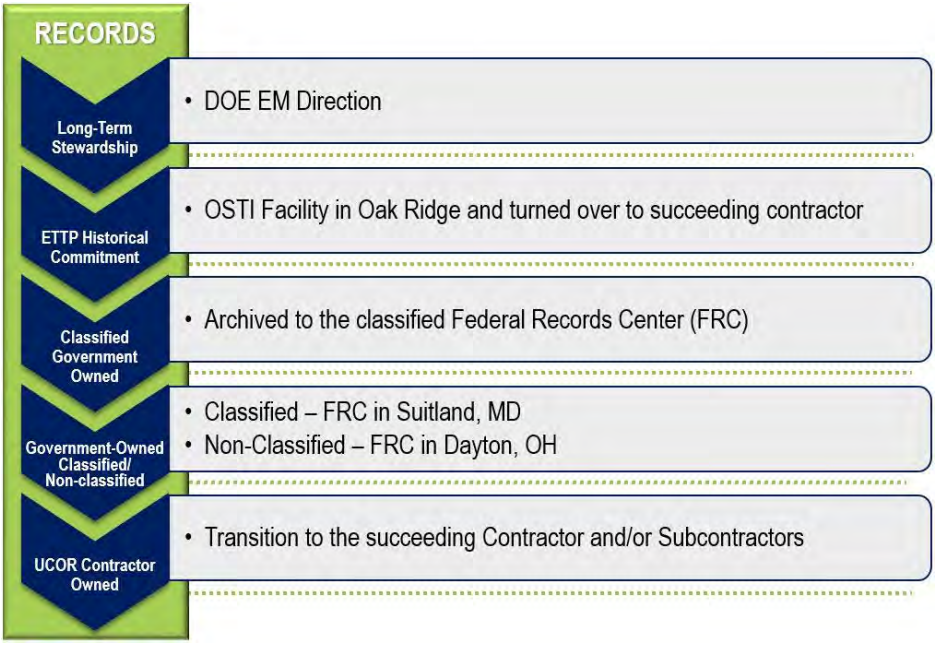

Fig. 18. Records disposition pathways.

Figure 19 reflects an overall vision of the records disposition and transfer process.

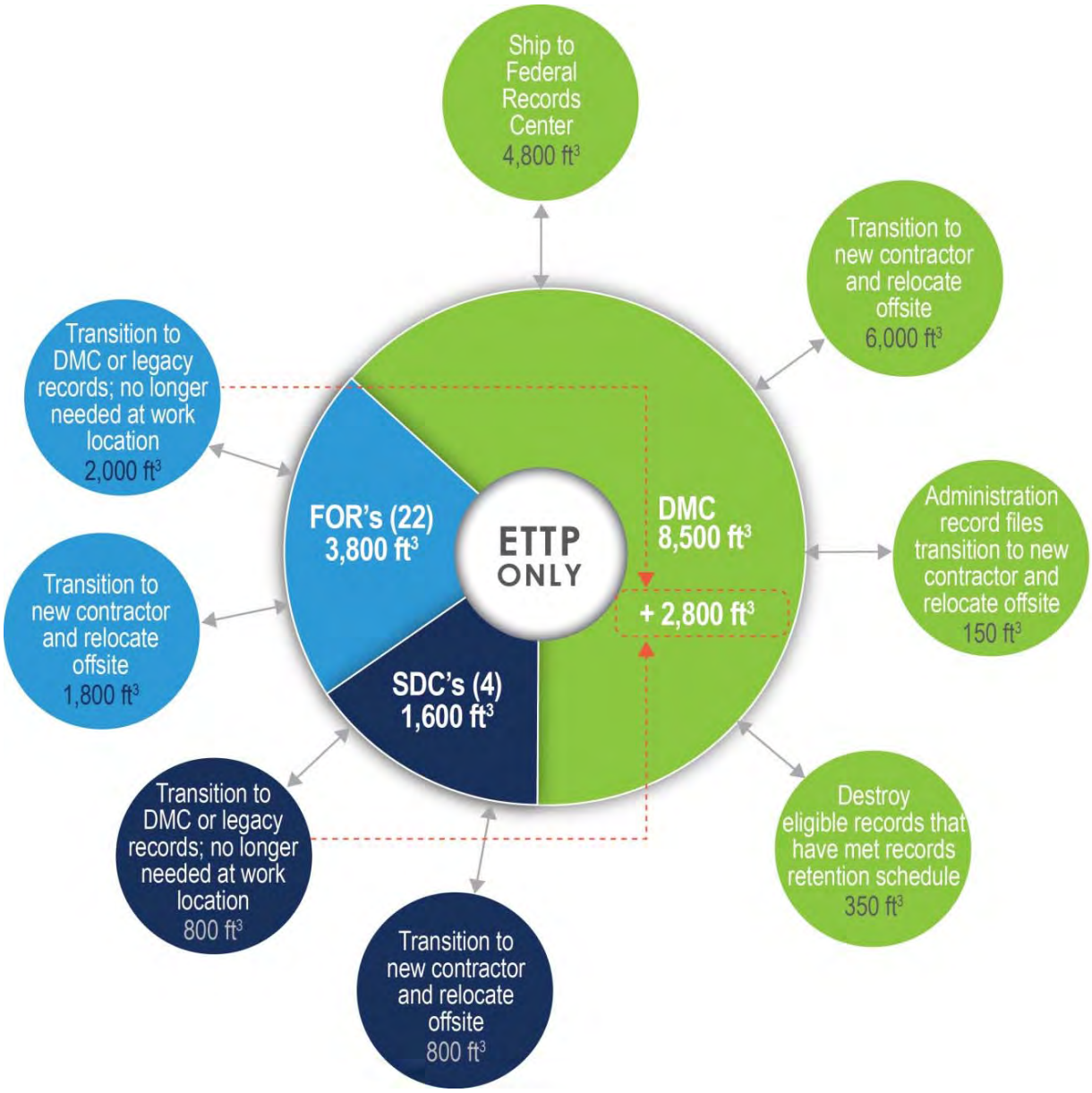

Fig. 19. Records disposition process.

4.22.3 Schedule

The movement and relocation of 14,000 ft^3 of records will be coordinated to coincide with cleanup and closure of the site.

Table 5 provides the time estimates for dispositioning records.

Table 5. Actual/anticipated time required to disposition records

Disposition	Time required
DMC ships records to the FRC	210 days
FORs and SDCs transfer records to the DMC	182 days
DMC performs destruction of records approved for destruction	182 days
Relocate DMC to offsite location	210 days
Transfer administrative record to offsite location	30 days
SDCs and FORs relocate to offsite location	182 days[a]
[a]SDC and FOR organizations responsible for movement of records and setting up appropriate storage locations.	
DMC = Document Management Center FOR = Field Operating Record	FRC = Federal Records Center SDC = Satellite Document Center

4.22.4 Major Challenges

- Due to current DOE records moratoriums, government records that reach their authorized destruction date may not be destroyed without appropriate approvals and DOE-wide and local moratorium considerations. Currently, the following DOE moratoriums apply to:
  - Epidemiological investigations
  - Asbestos use and remediations
  - Uranium

4.22.5 Key Assumptions

- None.

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5. REINDUSTRIALIZATION

5.1 END STATE VISION

All property and infrastructure at the ETTP Heritage Center will have achieved CERCLA NFA and compliance with DOE order requirements, and any impediments to reuse have been eliminated resulting in the transfer of all available property to a non-DOE entity that divests OREM of any maintenance or other responsibilities to the maximum extent possible.

5.2 OVERVIEW

5.2.1 Background

DOE began the Reindustrialization Program in 1996 in an effort to reduce DOE costs and to enhance the economy of the area. The program originally started as the leasing of facilities, but in 2001 DOE moved from leasing to deed transfer of buildings as well as land parcels. Thus far, CROET has been the primary recipient of land transfers and COR has been the recipient of utility infrastructure, the water plant, and the Fire Station.

5.2.2 Status

To date, 880 acres (390 acres in Heritage Center and 490 acres in Horizon Center) and 11 buildings and 11 miles of railroad have been transferred. Additionally, more than 940 acres of Heritage Center are in various stages of the regulatory approval process for additional transfers, including the K-33/K-31 area, the Powerhouse area, Duct Island, and the proposed regional airport parcel.

Currently, all EUs in Zone 1 have been transferred or are in the process for approval to transfer. Many of the EUs in Zone 2 still require additional CERCLA work before transfer.

5.3 APPROACH AND SCOPE

5.3.1 Approach

Ideally, D&D of buildings will precede Dynamic Verification Sampling characterization of soil, followed by soil remediation (if needed), and then transfer documents would be developed after all CERCLA work was completed and approved. Development of the transfer documents (Covenant Deferral Request, etc.) can begin as soon as the Technical Memo is completed.

As contiguous groups of EUs are cleared through the CERCLA regulatory process, the Reindustrialization program will initiate transfer documentation. The documentation will begin prior to requests for properties so that property can be transferred as soon as possible and is queued for transfer prior to the request. A possible grouping of contiguous EUs has been proposed as shown on Fig. 20. If a need arises to transfer a subset of a grouping prior to the entire grouping being ready for transfer, then it can easily be subdivided to expedite the transfer.

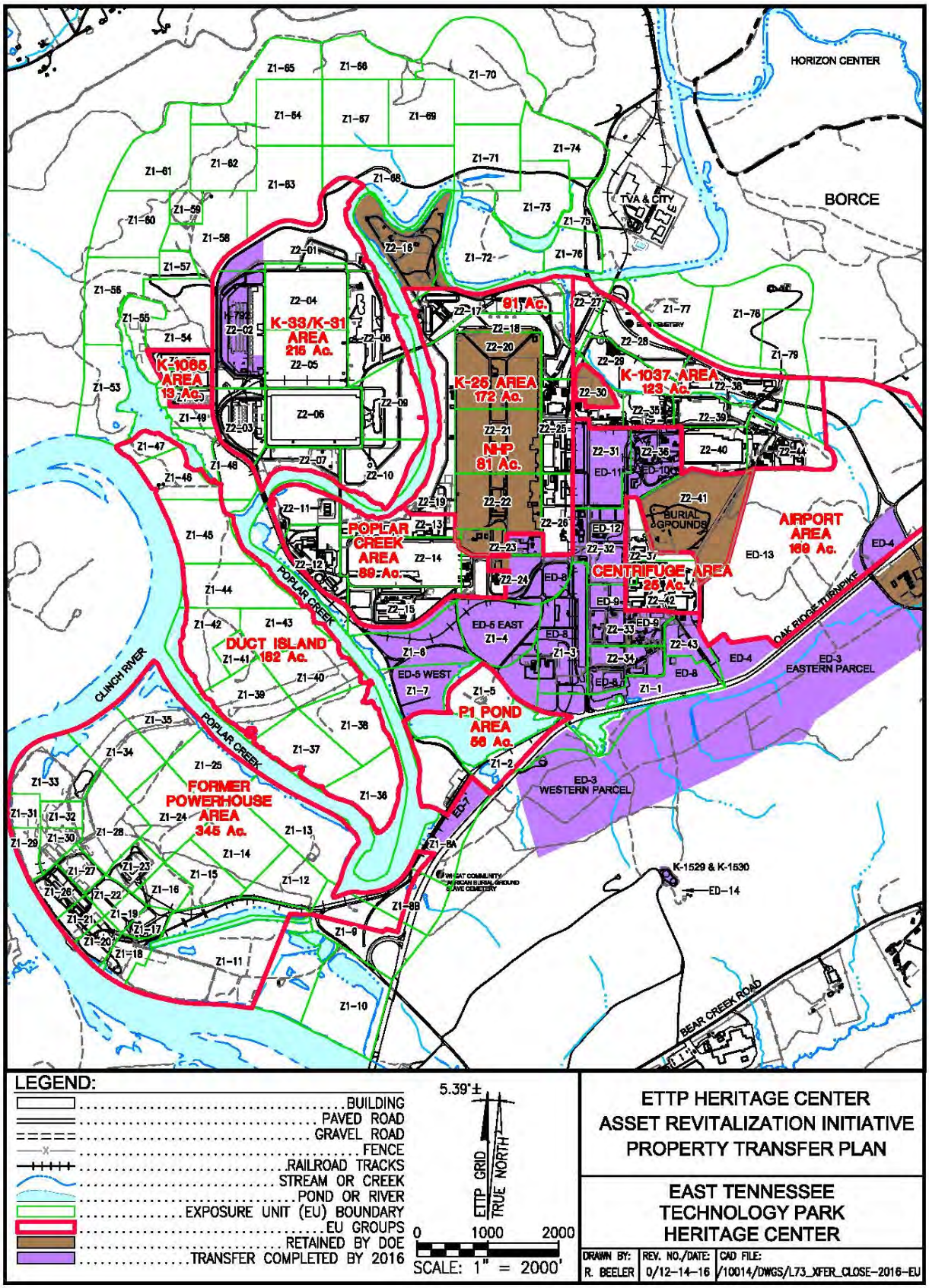

Fig. 20. EU groupings as transfer parcels.

5.3.2 Scope

The Reindustrialization organization is responsible for identifying the transfer footprint and complete the CERCLA § 120(h) transfer documentation, including reconciliation of DOE and regulatory comments as well as public review. Reindustrialization is also responsible for ensuring that DOE O 458.1 requirements for residual radioactive material meet free-release levels prior to transfer. Reindustrialization will coordinate with the D&D and Environmental Stewardship organizations to establish priorities and ensure that all actions are completed to confirm that property is available for transfer and in a state that allows transfer.

Figure 2 represents the final closure vision for the Heritage Center as described below:

- The blue identifies parcels that have already been transferred out of DOE ownership or for which transfer is being pursued. Blue with hatching indicates areas that can achieve regulatory approval for transfer, but the limited development potential could limit desirability, hindering a request for transfer. Examples of limitations include presence of wetlands, topography, accessibility, and digging restrictions associated with asbestos and fly ash. There is potential that some of these limited development areas could be transferred out of DOE ownership and then placed into a conservation easement.
- The brown identifies areas that would be retained by DOE in perpetuity. This is a result of contamination, classified materials, or DOE administrative needs. Brown hatching has been used on the P-1 Ponds to indicate that these will also remain DOE property until they can achieve approved cleanup levels.
- The tan represents the K-25 historic preservation footprint.
- The green identifies areas that would be in permanent conservation.
- The purple identifies the existing buildings that will remain when closure is completed.

5.4 SCHEDULE

Reindustrialization has developed schedules that have been incorporated into the sitewide integrated schedule. The transfer process can be initiated when the Technical Memorandum is completed for an EU or group of EUs. The multistep, multiagency transfer approval process takes 18–24 months from start to finish, though each transfer is unique and approval is not guaranteed to meet this timeline.

The areas currently anticipated to be transferred include the following:

- K-33/K-31 area (EUs Z2-1 to Z2-10)
- Duct Island (EUs Z1-36 to Z1-47)
- Powerhouse area (EUs Z1-8, Z1-9, and Z1-11 to Z1-35)
- P-1 Pond area (EUs Z1-2 and Z1-5)
- K-1065 Area Bldgs. A, D and E (EUs Z1-51 and Z1-52)
- K-1065 Area Bldgs. B and C (EU Z1-52)
- K-1066 Yard (EUs Z1-50)
- Proposed regional airport (ED-13, ED-16, and portion of ED-4)

- K-27/Poplar Creek (EUs Z2-11 to Z2-15)
- K-25 Area and National Historic Park Implementation (EUs Z2-17 to Z2-23, Z2-25, and Z2-26)
- K-1037 Area (EUs Z2-27 to Z2-30, Z2-35, Z2-38 to Z2-40, and Z2-44)
- Centrifuge Area (EUs Z2-37 and Z2-42)

The schedule in Fig. 21 has been developed for the EU groupings identified in Fig. 20. The start of each transfer footprint is based on development of the Technical Memorandum that addressed the EUs identified for transfer. The draft development phase of each transfer includes DOE reviews and revisions as well as the first EPA and TDEC reviews and subsequent revisions.

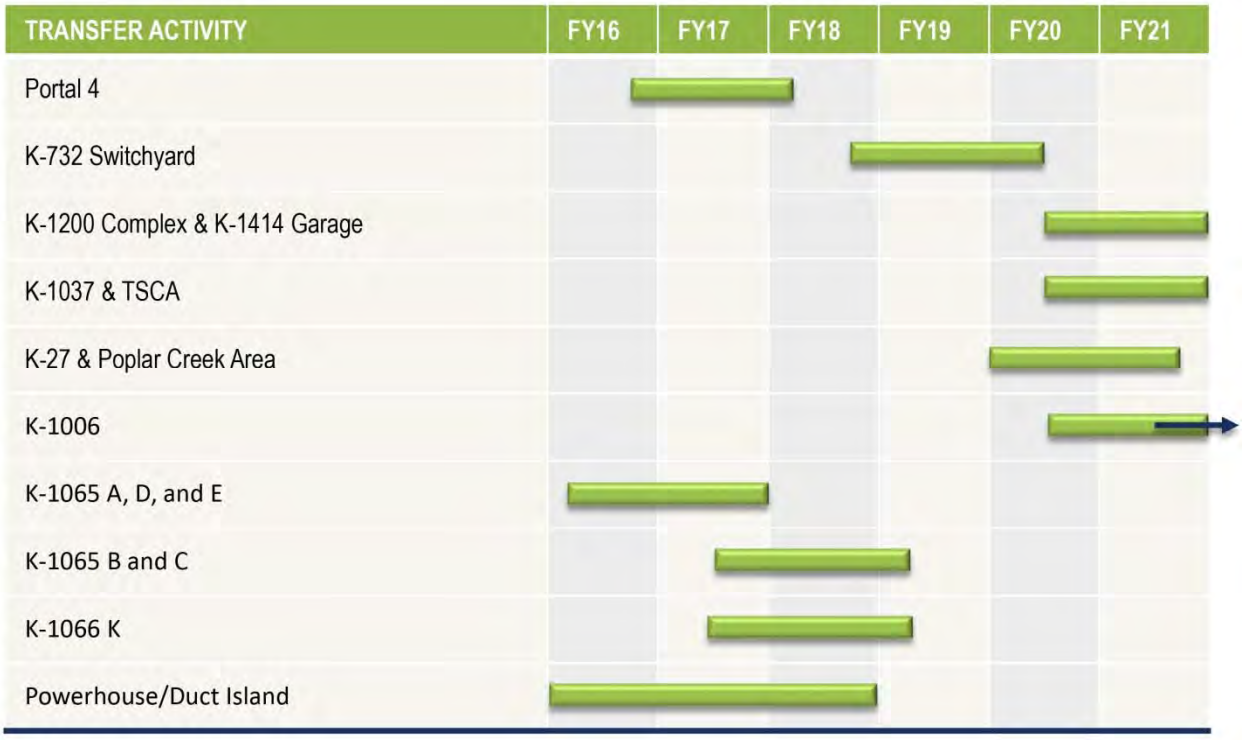

Fig. 21. Reindustrialization EU transfer schedule.

5.5 MAJOR CHALLENGES

- Completion of CERCLA activities under the RODs provides the regulatory basis for transfer of property under CERCLA § 120(h), but does not necessarily complete all of the actions necessary to have a parcel ready for transfer. Examples of additional requirements/actions needed for transfer include DOE O 458.1 compliance, safety actions, and relic infrastructure interferences. Each of these is discussed further in the following descriptions:
  - DOE O 458.1 compliance—This order addresses the amount of residual radioactive material that can be present on surfaces or volumetrically prior to release (i.e., transfer). The free release limits are more restrictive than the CERCLA ROD cleanup levels.
  - Safety Actions—Open pits and vaults create a potential safety hazard for a future transferee as well as reduce the desirability for transfer. Filling of these voids is not a CERCLA requirement, but would be needed to transfer property that is safe for reuse and does not create a DOE liability.

– Relic Infrastructure—Duct banks, building footers, and other relic infrastructure can be impediments to development and limit DOE's ability to transfer the property.

5.6 KEY ASSUMPTIONS

- CROET will take all real property eligible for transfer.
- Real property transfer will extend beyond 2020.
- Bldgs. K-1065 A-E, K-1313F and Portal 4 will be transferred to CROET.

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6. STAKEHOLDER ALIGNMENT

An essential requirement for the cleanup and closure of the ETTP site is the consideration of stakeholders expectations. This is accomplished via the CERCLA process and working closely with the primary stakeholders that will be involved with transitioning the site to non-OREM entities to revitalize the Heritage Center and create a multiuse industrial park while preserving the area's rich history.

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7. SCHEDULE

Many activities need to be accomplished to achieve cleanup and closure of the Heritage Center site to enable the revitalization of the site to the extent practicable.

A high-level notional schedule of activities that depict the work that needs to be accomplished to achieve this goal is shown in Fig. 22. In developing this schedule, a funding profile of approximately $200 million per year of the Uranium Enrichment D&D Fund is assumed for the duration of the project.

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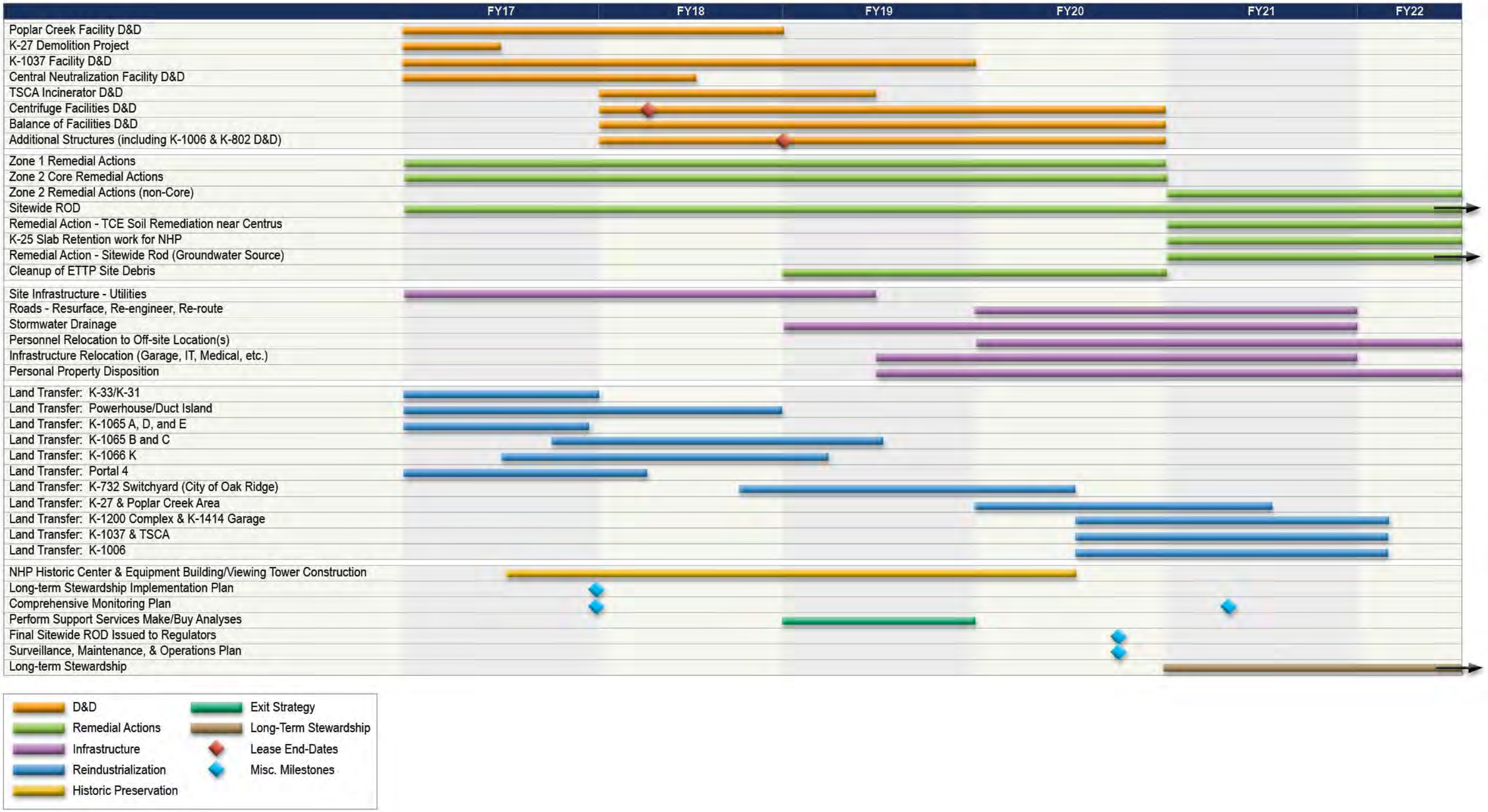

Fig. 22. Heritage Center cleanup and closure schedule.

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8. NEXT STEPS

The refinement and implementation on this Heritage Center Closure Plan will require a concerted and coordinated effort to achieve the goals in a safe and cost-effective manner. Accordingly, there are numerous closure functions and activities discussed in this Plan that will need further review to determine the best path forward.

To that end, UCOR, in coordination with DOE, will assess various functions and activities to determine the best approach forward.

Currently identified functions and activities requiring further review and refinement of the approach and the development of specific implementing plans include the following:

- Relocation of personnel (and personnel support functions, such as Information Technology, Personal Property, badging, etc.)
- Classification and information control
- LTS activities and responsibilities in light of the eventual Final Sitewide ROD
- Vehicle fleet, including heavy equipment, such as processors, bull dozers, etc.
- Vehicle fleet maintenance and repair
- Central Receiving location(s), including needed warehousing
- Health Services (health surveillance, drug and alcohol testing, hearing conservation, beryllium programs, and employee medical services)
- Radiological and IH services (e.g., dosimetry, instrumentation)

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ATTACHMENT A.
LIST OF SITE FACILITIES BEING REMOVED

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Removal List of Site Facilities

Location	Facility Number	Facility Name Description
Z2-01	K-0873	VALVE VAULT, RCW (K-892-J)
Z2-01	K-0893-U	VALVE VAULT, RCW
Z2-01	K-1022-16	PAM Station #43
Z2-01	K-1253-18	Tower K-18 public warning system
Z2-02	K-0795-A	Sprinkler Valve House Vault #2
Z2-02	K-0795-B	Sprinkler Valve House Vault #1
Z2-02	K-0795-C	Sprinkler Valve House Vault #4
Z2-02	K-0795-D	Sprinkler Valve House Vault #3
Z2-02	K-0893-N	VALVE VAULT, RCW
Z2-02	K-0893-O	VALVE VAULT, RCW
Z2-02	K-0897-N	Oil Containment Structure (SW K-33)
Z2-02	K-0897-P	Oil Containment Structure (NW K-33)
Z2-02	K-1028-56	Portal 8
Z2-02	K-1028-73	Gate House Portal 12
Z2-02	U-Z202-01	Double wide trailer adjacent to K-1310-MP
Z2-02	U-Z202-02	West Gate - K-33 North Portal
Z2-02	U-Z202-03	Metal post and rafter built shed with metal roof adjacent to K-1310-MP
Z2-02	U-Z202-04	Microwave tower approx. 50' high
Z2-02	U-Z202-05	Mobile PA system
Z2-02	U-Z202-06	Large wooden built pole shed with metal roof adjacent to K-1310-MP
Z2-02	U-Z202-07	Mobile PA system
Z2-03	K-0761	Old Switch House K-31
Z2-03	K-0869	VALVE VAULT, RCW
Z2-03	K-0871	VALVE VAULT, RCW
Z2-03	K-0897-L	Oil Containment Structure (SW K-31)
Z2-03	K-0897-M	Oil Containment Structure (NW K-31)
Z2-03	K-0899-G	BLOW DOWN VALVE VAULT
Z2-03	K-1022-01	K-1022 AIR SAMPLING MONITOR
Z2-03	K-1022-F1	K-1022 AIR SAMPLING MONITOR Near 901
Z2-03	U-Z203-01	Four Block Buildings near K-761
Z2-06	K-0868	VALVE VAULT, RCW
Z2-06	K-0870	VALVE VAULT, RCW
Z2-06	K-0872	VALVE VAULT, RCW
Z2-06	K-0899-K	BLOW DOWN VALVE VAULT
Z2-06	K-1310-TC	Conex
Z2-06	K-602-1	K-31 Process Building
Z2-06	K-602-2	K-31 Process Building
Z2-06	K-602-3	K-31 Process Building
Z2-06	K-602-4	K-31 Process Building
Z2-06	K-602-5	K-31 Process Building
Z2-06	K-602-6	K-31 Process Building
Z2-07	K-0897-E	Oil Containment Structure (SW K-31)
Z2-07	K-0897-F	Oil Containment Structure (S K-31)
Z2-07	K-1310-BS	Trailer
Z2-07	K-1310-BW	Trailer
Z2-07	K-1310-BX	Trailer
Z2-07	K-1310-PE	Mini-Mobile Storage
Z2-07	K-1310-SD	Tarping Station
Z2-07	K-1310-SZ	Conex
Z2-07	K-2527-AX	Boundary Control Station #23
Z2-07	K-1775	Office Trailer
Z2-08	K-0892	K-892 Pump house
Z2-08	K-0892-BB	VALVE VAULT, CLARIFIER B
Z2-08	K-0893-A	VALVE VAULT, RCW
Z2-08	K-0893-AA	VALVE VAULT, RCW
Z2-08	K-0893-B	VALVE VAULT, RCW
Z2-08	K-0893-BB	VALVE VAULT, RCW
Z2-08	K-0893-C	VALVE VAULT, RCW
Z2-08	K-0893-CC	VALVE VAULT, RCW
Z2-08	K-0893-D	VALVE VAULT, RCW
Z2-08	K-0893-DD	VALVE VAULT, RCW
Z2-08	K-0893-E	VALVE VAULT, RCW

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-08	K-0893-EE	VALVE VAULT, RCW
Z2-08	K-0893-F	VALVE VAULT, RCW
Z2-08	K-0893-G	VALVE VAULT, RCW
Z2-08	K-0893-H	VALVE VAULT, RCW
Z2-08	K-0893-J	VALVE VAULT, RCW
Z2-08	K-0893-K	VALVE VAULT, RCW
Z2-08	K-0893-L	VALVE VAULT, RCW
Z2-08	K-0893-M	VALVE VAULT, RCW, E OF 892B
Z2-08	K-0893-P	VALVE VAULT, RCW
Z2-08	K-0893-Q	VALVE VAULT, RCW
Z2-08	K-0893-R	VALVE VAULT, RCW
Z2-08	K-0893-S	VALVE VAULT, RCW
Z2-08	K-0893-T	VALVE VAULT, RCW
Z2-08	K-0893-V	VALVE VAULT, RCW
Z2-08	K-0893-W	VALVE VAULT, RCW
Z2-08	K-0893-X	VALVE VAULT, RCW
Z2-08	K-0893-Y	VALVE VAULT, RCW
Z2-08	K-0893-Z	VALVE VAULT, RCW
Z2-08	K-0897-A	Oil Containment Structure (NE K-33)
Z2-08	K-0899-L	VALVE VAULT
Z2-08	K-0899-M	BLOW DOWN VALVE VAULT
Z2-08	K-0899-N	BLOW DOWN VALVE VAULT
Z2-09	K-0861	K-31 Cooling Tower Basin
Z2-09	K-0863	VALVE VAULT, RCW
Z2-09	K-0863-A	VALVE VAULT, RCW
Z2-09	K-0863-C	VALVE VAULT, RCW
Z2-09	K-0863-D	VALVE VAULT, RCW
Z2-09	K-0864	METER VAULT, RCW
Z2-09	K-0865	BY PASS VAULT, RCW
Z2-09	K-0866	VALVE VAULT, RCW
Z2-09	K-0866-A	VALVE VAULT, RCW
Z2-09	K-0867	VALVE VAULT, RCW
Z2-09	K-0874	VALVE VAULT, RCW (ADJ TO 867)
Z2-09	K-0897-C	Oil Containment Structure (NE K-31)
Z2-09	K-0897-D	Oil Containment Structure (NE K-31)
Z2-09	K-0899-H	BLOW DOWN VALVE VAULT
Z2-09	K-0899-J	BLOW DOWN VALVE VAULT
Z2-09	K-1204-10	Sewage Lift Station
Z2-10	K-0863-B	VALVE VAULT, RCW
Z2-10	K-0897-G	Oil Containment Structure (S K-1206-F)
Z2-10	K-1206-F	Firewater Tank 400k gallon
Z2-10, 13	K-31/K-631 Proc	Outdoor Process Tieline
Z2-11	K-1022-07	AIR SAMPLING MONITOR (TSCA2)
Z2-11	K-1066-E	Cyl Storage Yard
Z2-11	K-1134-A	HF Emerg Spill Overflow Tank, 1000 gal, buried non UST
Z2-11	K-1218	Mini-Mobile
Z2-11	K-1310-JA	Office Trailer
Z2-11	K-1310-NC	Mobile-Mini Office Trailer
Z2-11	K-1310-NG	PRDI Trailer
Z2-11	K-1310-PS	Conex Storage
Z2-11	K-1310-SC	40' Office Conex
Z2-11	K-1310-TA	Hydraulic Hose Repair Shop - 40' Sealand
Z2-11	K-1310-TB	Metal Carport
Z2-11	K-1310-TE	Restroom Trailer
Z2-11	K-1314-G	Blast/Paint Facility South
Z2-11	K-1314-H	Prefabricated Building
Z2-11	K-1314-J	Prefabricated Building
Z2-11	K-1314-K	Equipment Storage Trailer - Gone S&M
Z2-11	K-1314-L	Facility Control Tool Trailer - Gone S&M
Z2-11	K-1315-A	4 Wide Trailers
Z2-11	K-1315-N	Storage Trailer
Z2-11	K-1315-P	Mini-Mobile
Z2-11	K-1315-S	Sealand

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-11	K-2527-AY	Office
Z2-11	K-27-067	Sealand - Storage
Z2-11	K-27-106	Sealand - Storage
Z2-11	K-27-107	Sealand - Storage
Z2-11	K-27-108	Sealand - Storage
Z2-11	K-27-109	Sealand - Storage
Z2-11	K-27-110	Sealand - Storage
Z2-11	K-27-112	Sealand - Storage
Z2-11	K-27-113	Sealand - Storage
Z2-11	K-27-114	Sealand - Storage
Z2-11	K-27-115	Sealand - Storage
Z2-11	K-31-032	Sealand - Storage
Z2-11	K-31-039	Sealand - Storage
Z2-11	K-31-040	Sealand - Hoisting / Rigging Storage
Z2-11	U-Z211-01	Oil Storage Tent for K-27
Z2-11	U-Z211-02	Mechanic Work Area for K-27
Z2-11	U-Z211-03	Wooden shed for K-27
Z2-11	U-Z211-04	Oil Storage Tent for K-27
Z2-11	U-Z211-05	Air Compressor Shed
Z2-11	U-Z211-06	Metal Carport
Z2-11	U-Z211-07	Metal Carport
Z2-11	U-Z211-08	Rubb Structure - Equipment Repair for K-27 Demo~25'x25' Rubb Structure
Z2-12	K-0633	Test Loop
Z2-12	K-0700-A-38	Substation
Z2-12	K-0700-A-48	Substation North K-633
Z2-12	K-0832	Recirculating Water Pump House
Z2-12	K-0832-B	Sprinkler Valve House
Z2-12	K-0832-C	Valve Vault
Z2-12	K-0832-H	Cooling Tower Superstructure Only
Z2-12	K-0832-S	Acid Tank
Z2-12	K-0836	Venturi Vault
Z2-12	K-0837	Venturi Vault
Z2-12	K-0838	Valve Vault
Z2-12	K-0897-J	Oil Containment Structure
Z2-12	K-0899-E	Blow Down Valve vault
Z2-12	K-0899-F	Blow Down Valve Vault
Z2-12	K-1203	Waste Water Treatment Plant
Z2-12	K-1203-02	EMERGENCY HOLDING BASIN
Z2-12	K-1203-04	Chlorination Control
Z2-12	K-1203-05	EAST SLUDGE DRYING BED
Z2-12	K-1203-06	WEST SLUDGE DRYING BED
Z2-12	K-1203-08	Chlorine Contact Tank
Z2-12	K-1203-10	High Water Lift Station
Z2-12	K-1203-11	Air Blower Station
Z2-12	K-1203-12	Wastewater Lift Station
Z2-12	K-1203-13	Effluent Monitoring Station
Z2-12	K-1203-14	Comminutor
Z2-12	K-1203-15	Ozonation System
Z2-12	K-1203-16	Backflow Preventer
Z2-12	K-1232-A	Equalization Pit
Z2-12	K-1232-B1	Holding Basin
Z2-12	K-1232-B2	Holding Basin
Z2-12	K-1310-MF	Office Trailer
Z2-12	K-1310-ND	K-633 BCS
Z2-12	K-1310-PW	Electrician Conex
Z2-12	K-2000-T	Concrete Rubble Storage Area
Z2-12	U-Z212-01	20' Sealand used by PC
Z2-12	U-Z212-02	20' Sealand used by PC
Z2-12	U-Z212-03	20' Sealand used by PC
Z2-13	K-0131	Process Tails
Z2-13	K-0631	Process Tails Facility
Z2-13	K-0897-H	Oil Containment Structure (W K-1131)
Z2-13	K-1232	Chemical Recovery Facility

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-13	K-1232-C1	2 Stainless Steel Acid Tank
Z2-13	K-1232-J	Lime Storage Silo W of 1232
Z2-13	K-1310-CH	Sealand
Z2-13	K-1310-KA	Conex
Z2-13	K-1310-KM	BCS for 2500-AB Tent
Z2-13	K-1310-LY	PAS Craft Trailer
Z2-13	K-1310-M	Short Single Wide Trailer
Z2-13	K-1310-MT	Conex Storage
Z2-13	K-1310-NH	Trailer
Z2-13	K-1310-NP	Cool Down Room
Z2-13	K-1310-NR	Office Trailer
Z2-13	K-1310-NT	Conex Storage
Z2-13	K-1310-NU	Conex Storage
Z2-13	K-1310-NV	Conex Storage
Z2-13	K-1310-NW	Conex Storage
Z2-13	K-1310-NX	Conex Storage
Z2-13	K-1310-PD	Conex Storage
Z2-13	K-1310-PU	Conex Storage
Z2-13	K-1310-PX	Conex Storage
Z2-13	K-1310-RL	Mobile Mini Storage
Z2-13	K-1310-SL	Conex
Z2-13	K-2500-E	Foaming Storage Conex (Temp Controlled)
Z2-13	K-2500-P	Seg Shop Storage
Z2-13	K-2527-AV	Sealand Storage
Z2-13	K-2527-BA	Office Trailer
Z2-13	K-2527-P	Trailer, Office, 4-wide
Z2-13	K-27/K-1131	Outdoor Process Tieline
Z2-13	K-27/K-131	Outdoor Process Tieline
Z2-13	K-27/K-413	Outdoor Process Tieline
Z2-13	K-27/K-631	Outdoor Process Tieline
Z2-13	K-27-141	Sealand
Z2-13	K-31-041	Sealand - Tool Storage
Z2-13	K-NHP03	Sealand Near K-631
Z2-13	K-NHP12	Sealand Near K-631
Z2-13	K-NHP13	Sealand Near K-631
Z2-13	U-Z213-01	Wood Shredder
Z2-13	U-Z213-02	Metal Awning with Transite Roof
Z2-13	U-Z213-03	Shed - Red Barn Type
Z2-13	U-Z213-04	Decontamination Trailer
Z2-13	U-Z213-05	Metal Building - Attached to K-413 Pad
Z2-13	U-Z213-06	Wooden Shed
Z2-13	U-Z213-07	Carpenters Carport
Z2-13	U-Z213-08	Carpenters Carport Shed
Z2-13	U-Z213-09	45 Conex Boxes
Z2-13	U-Z213-10	Carport
Z2-13	U-Z213-11	Carport
Z2-13	U-Z213-12	Green Shed
Z2-13	U-Z213-13	Carport
Z2-13	U-Z213-14	Portable Guard Booth
Z2-13	U-Z213-15	Facility
Z2-13	U-Z213-16	Shed
Z2-13	U-Z213-17	Carport (Break Area)
Z2-13	U-Z213-18	Tool Crib
Z2-13, 22	K-413/K-312	Outdoor Process Tielines and Housing
Z2-14	31 (K-402-1)	Transformer Vault - K-27
Z2-14	31A (K-402-2)	Withdrawal Alley - K-27
Z2-14	31X (K-402-#)	Withdrawal Alley - K-27
Z2-14	32 (K-402-3)	Transformer Vault - K-27
Z2-14	32A (K-402-4)	Withdrawal Alley - K-27
Z2-14	33 (K-402-5)	Transformer Vault - K-27
Z2-14	33A (K-402-6)	Withdrawal Alley - K-27
Z2-14	34 (K-402-7)	Transformer Vault - K-27
Z2-14	34A (K-402-8)	Withdrawal Alley - K-27

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-14	35 (K-402-9)	Transformer Vault - K-27
Z2-14	K-0835	Venturi Vault
Z2-14	K-0839	Venturi Vault
Z2-14	K-0899-A	Sanitary Water Valve Vault
Z2-14	K-0899-B	Blow Down Valve
Z2-14	K-0899-C	Sanitary Water Valve Vault
Z2-14	K-0899-D	Blow Down Valve
Z2-14	K-1028-80	Portal 18
Z2-14	K-1310-HF	Break Room Trailer
Z2-14	K-1310-HL	Shower Trailer
Z2-14	K-1310-HM	Trailer
Z2-14	K-1310-HV	Sealand Office Trailer
Z2-14	K-1310-PC	Conex Storage
Z2-14	K-1310-PH	Conex Storage - IH Instruments
Z2-14	K-1310-RA	Sealand for PPE
Z2-14	K-1310-RG	In contract as Unassigned
Z2-14	K-1310-SG	Conex
Z2-14	K-1440-J	Backflow Preventer
Z2-14	K-2500-B	Foam Storage Bldg.
Z2-14	K-2500-C	Foaming Storage Conex (Temp Controlled)
Z2-14	K-2500-D	Foaming Storage Conex (Temp Controlled)
Z2-14	K-2500-F	Storage Barn
Z2-14	K-2500-L	Former Seg Shop Storage
Z2-14	K-2500-M	Former Seg Shop Storage
Z2-14	K-2500-N	Former Seg Shop Storage
Z2-14	K-2500-Q	Former Seg Shop Storage
Z2-14	K-2500-R	Former Seg Shop Storage
Z2-14	K-2527-AA	Support Trailer
Z2-14	K-2527-AB	Triple Wide Break Trailer
Z2-14	K-2527-AC	Change house Trailer
Z2-14	K-2527-AG	DOE Trailer
Z2-14	K-2527-AM	BCS Trailer
Z2-14	K-2527-AN	BCS Trailer
Z2-14	K-2527-AQ	Boundary Control Station Trailer
Z2-14	K-2527-AR	Tool Crib/Storage
Z2-14	K-2527-AT	4-wide Office Trailer
Z2-14	K-2527-B	Craft Trailer
Z2-14	K-2527-BJ	40 ft. Mobile Storage
Z2-14	K-2527-BK	Triple Wide Break Trailer
Z2-14	K-2527-BL	Office Trailer
Z2-14	K-2527-BM	Mobile Mini Office
Z2-14	K-2527-BN	Hot Tool Crib
Z2-14	K-2527-C	Trailer, Office, 4-Wide
Z2-14	K-2527-D	Trailer, Office, 4-Wide
Z2-14	K-2527-E	Trailer, Breakroom, Triple-wide
Z2-14	K-2527-F	Change house Trailer
Z2-14	K-2527-G	Restroom Trailer
Z2-14	K-2527-H	Trailer, Office, 4-Wide
Z2-14	K-2527-J	WarRoom Trailer
Z2-14	K-2527-K	Trailer, Office, 4-Wide
Z2-14	K-2527-Q	Trailer, Office, 4-Wide
Z2-14	K-2527-R	Trailer, Office, 4-Wide
Z2-14	K-2527-S	Office/Conference Room
Z2-14	K-2527-Z	Break Room Trailer
Z2-14	K-27/K-633	Outdoor Process Tieline
Z2-14	K-402-1	K-27 Process Building
Z2-14	K-402-2	K-27 Process Building
Z2-14	K-402-3	K-27 Process Building
Z2-14	K-402-4	K-27 Process Building
Z2-14	K-402-5	K-27 Process Building
Z2-14	K-402-6	K-27 Process Building
Z2-14	K-402-7	K-27 Process Building
Z2-14	K-402-8	K-27 Process Building

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-14	K-402-9	K-27 Process Building
Z2-14	U-Z214-01	Air Sampling Station
Z2-14, 22, 23	K-27/K-311	Outdoor Process Tielines and Housing
Z2-15	K-0731	K-27/K-29 Electrical Switch House
Z2-15	K-0833	Building
Z2-15	K-0897-B	Oil Containment Structure
Z2-15	K-0897-K	OCS
Z2-15	K-1028-64	Portal #9
Z2-15	K-1310-LG	Sealand Storage
Z2-15	K-1310-LV	Sealand Storage
Z2-15	K-1310-SS	Sealand K-27 Parking Lot
Z2-15	K-1435-T	Office Trailer
Z2-15	K-1440-F	BFP 6
Z2-15	K-2527-AW	Sealand Tool Crib
Z2-15	K-31-010	K31-10
Z2-15	U-Z215-01	20' sealand without ID
Z2-15	U-Z215-02	20' sealand without ID
Z2-15	U-Z215-03	STORAGE CONTAINER
Z2-16	K-1064-K	Salt Shed Slab
Z2-16	U-Z216-01	500 gallon Poly Tank
Z2-16	U-Z216-02	Pole Shed
Z2-17	K-0801-AA	Valve Vault (above ground)
Z2-17	K-0801-BB	Valve Vault (above ground)
Z2-17	K-0801-CC	Valve Vault
Z2-17	K-0801-H	Cooling Tower Basin
Z2-17	K-0802 Tank	Aboveground Diesel Storage Tank
Z2-17	K-0802-A	Sprinkler Valve House
Z2-17	K-0802-AA	Makeup Water Meter Pit for K-802-A
Z2-17	K-0802-B	Sprinkler Valve House
Z2-17	K-0802-BB	Makeup Water Meter Pit for K-802-A
Z2-17	K-0802-C	Sprinkler Valve House
Z2-17	K-0802-CC	832 MAKE-UP Meter Pit
Z2-17	K-0802-H	Cooling Tower Basin
Z2-17	K-0802-S	Acid Tank
Z2-17	K-0803	Valve House
Z2-17	K-0804	Valve House
Z2-17	K-0807	Cooling Water Venturi Vault
Z2-17	K-0808	Cooling Water Venturi Vault
Z2-17	K-0809	Cooling Water Venturi Vault
Z2-17	K-0810	Cooling Water Venturi Vault
Z2-17	K-0811	Cooling Water Venturi Vault
Z2-17	K-0812	Cooling Water Venturi Vault
Z2-17	K-0813	Cooling Water Venturi Vault
Z2-17	K-0813-A	Cooling Water Venturi Vault
Z2-17	K-0813-B	Cooling Water Venturi Vault
Z2-17	K-0813-C	Cooling Water Venturi Vault
Z2-17	K-1217	North Truck Access Modular Bldg.
Z2-17	K-1217-A	Inspection Shelter
Z2-17	K-1217-B	Inspection Shelter
Z2-17	K-1310-CR	Cool Down Shed
Z2-17	SD-230	Outfall SD-230
Z2-17	SD-300	K-802 Spillway
Z2-17	U-Z217-01	Car Port
Z2-17	U-Z217-02	Car Port
Z2-17	U-Z217-03	Car Port
Z2-18	K-1028-81	SNMSA Portal #19
Z2-18	K-1310-GH	~12'x12'x10' small conex or mini mobile on metal skids for guard house.
Z2-18	K-1310-GL	Break Room Trailer
Z2-18	K-1310-GM	PAS Shower Trailer
Z2-18	K-1310-GN	PAS Shower Trailer
Z2-18	K-1310-HG	Restroom Trailer
Z2-18	K-1310-PJ	Seg Shop Storage
Z2-18	K-2500-S	Seg Shop Storage

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-18	K-2500-T	Seg Shop Storage
Z2-18	K-2500-U	Seg Shop Storage
Z2-18	K-2500-V	Seg Shop Storage
Z2-18	K-2500-W	Seg Shop Storage
Z2-18	K-2500-X	Seg Shop Storage
Z2-18	K-2500-Y	Seg Shop Storage
Z2-18	K-2500-Z	Seg Shop Storage
Z2-18	K-2527-A	Control Station Trailer
Z2-18	K-2527-AU	Tool Crib/Storage
Z2-18	U-Z218-01	25 Sealands
Z2-19	K-1310-LZ	PAS Craft Trailer
Z2-19	K-1310-NF	Trailer Previously by Grout Shop; Moved in BCR 323
Z2-19	K-1310-NJ	Carpenter Trailer
Z2-19	K-1310-NY	Conex Storage
Z2-19	K-1310-RB	Mechanic's Shed
Z2-19	K-1310-RV	Cargo Container
Z2-19	K-2527-BC	Office Trailer
Z2-19	K-2527-BR	Grout Shop
Z2-19	U-Z219-01	30'x30' Metal carport
Z2-19	U-Z219-02	Green Metal carport
Z2-19	U-Z219-03	Metal carport used by Mechanics
Z2-19	U-Z219-04	Drum Storage Rubb Tent
Z2-20	10 (K-303-2)	Transformer Vault - K-303-2
Z2-20	10 (K-303-3)	Transformer Vault - K-303-3
Z2-20	10A (K-303-3)	Withdrawal Alley - K-303-3
Z2-20	10A (K-303-4)	Withdrawal Alley - K-303-4
Z2-20	11 (K-303-4)	Transformer Vault - K-303-4
Z2-20	11 (K-303-5)	Transformer Vault - K-303-5
Z2-20	11A (K-303-5)	Withdrawal Alley - K-303-5
Z2-20	11A (K-303-6)	Withdrawal Alley - K-303-6
Z2-20	12 (K-303-6)	Transformer Vault - K-303-6
Z2-20	12 (K-303-7)	Transformer Vault - K-303-7
Z2-20	12A (K-303-7)	Withdrawal Alley - K-303-7
Z2-20	13 (K-303-8)	Transformer Vault - K-303-8
Z2-20	13 (K-303-9)	Transformer Vault - K-303-9
Z2-20	13A (K-303-9)	Withdrawal Alley - K-303-9
Z2-20	13X (K-303-8)	Withdrawal Alley - K-303-8
Z2-20	14 (303-10)	Transformer Vault - K-303-10
Z2-20	9 (K-302-5)	Transformer Vault - K-302-5
Z2-20	9 (K-303-1)	Transformer Vault - K-303-1
Z2-20	9A (K-303-1)	Withdrawal Alley - K-303-1
Z2-20	9A (K-303-2)	Withdrawal Alley - K-303-2
Z2-20	K-1102	Fan and Transfer Buildings
Z2-20	K-1102-A	Fan and Transfer Buildings
Z2-20	K-1102-B	Fan and Transfer Buildings
Z2-20	K-1204-18	Sewage Lift Station
Z2-20	K-1310-NK	Electrical Trailer
Z2-20	K-1310-NL	PRDI Trailer
Z2-20	K-1310-NM	Cool Down Room
Z2-20	K-1310-NN	Cool Down Room
Z2-20	K-1310-PN	Sealand
Z2-20	K-1310-RC	NDA Break Trailer
Z2-20	K-1310-RM	Mobile Mini Storage
Z2-20	K-1310-RN	Cool Down Room
Z2-20	K-1310-SF	20' mini mobile used for break room having electric and AC
Z2-20	K-1315-M	Electrical Storage
Z2-20	K-1315-R	Office Trailer
Z2-20	K-2500-AA	Monolith Storage Building
Z2-20	K-2500-AB	Storage Rubb Tent
Z2-20	K-2500-G	NDA Shop
Z2-20	K-2500-H	Segmentation Shop
Z2-20	K-2500-J	Segmentation (Seg) Shop Storage Tent
Z2-20	K-2500-K	Seg Shop BCS Trailer

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-20	K-25ADDITION	NDA Building Attached Carport
Z2-20	K-27-136	Conex
Z2-20	K-303-1	Process Building
Z2-20	K-303-10	Process Building
Z2-20	K-303-2	Process Building
Z2-20	K-303-3	Process Building
Z2-20	K-303-4	Process Building
Z2-20	K-303-5	Process Building
Z2-20	K-303-6	Process Building
Z2-20	K-303-7	Process Building
Z2-20	K-303-8	Process Building
Z2-20	K-303-9	Process Building
Z2-21	4A (K-301-2)	Withdrawal Alley - K-301-2
Z2-21	5 (K-301-2)	Transformer Vault - K-301-2
Z2-21	5 (K-301-3)	Transformer Vault - K-301-3
Z2-21	5A (K-301-3)	Withdrawal Alley - K-301-3
Z2-21	5A (K-301-4)	Withdrawal Alley - K-301-4
Z2-21	6 (K-301-4)	Transformer Vault - K-301-4
Z2-21	6 (K-301-5)	Transformer Vault - K-301-5
Z2-21	6A (K-301-5)	Withdrawal Alley - K-301-5
Z2-21	6A (K-302-1)	Withdrawal Alley - K-302-1
Z2-21	7 (K-302-1)	Transformer Vault - K-302-1
Z2-21	7 (K-302-2)	Transformer Vault - K-302-2
Z2-21	7A (K-302-2)	Withdrawal Alley - K-302-2
Z2-21	7A (K-302-3)	Withdrawal Alley - K-302-3
Z2-21	8 (K-302-3)	Transformer Vault - K-302-3
Z2-21	8 (K-302-4)	Transformer Vault - K-302-4
Z2-21	8A (K-302-4)	Withdrawal Alley - K-302-4
Z2-21	8A (K-302-5)	Withdrawal Alley - K-302-5
Z2-21	K-1313-J	Electrical Maintenance Rubb Tent
Z2-21	K-1704-1	PERSONNEL MONITORING STATION
Z2-21	K-1704-2	PERSONNEL MONITORING STATION
Z2-21	K-301-1	Process Building
Z2-21	K-301-2	Process Building
Z2-21	K-301-3	Process Building
Z2-21	K-301-4	Process Building
Z2-21	K-301-5	Process Building
Z2-21	K-302-1	Process Building
Z2-21	K-302-2	Process Building
Z2-21	K-302-3	Process Building
Z2-21	K-302-4	Process Building
Z2-21	K-302-5	Process Building
Z2-22	1 (K-310-3)	Withdrawal Alley - K-310-3
Z2-22	1 (K-311-1)	Transformer Vault - K-311-1
Z2-22	1A (K-310-2)	Withdrawal Alley - K-310-2
Z2-22	1A (K-310-3)	Transformer Vault - K-310-3
Z2-22	1X (K-311-1)	Withdrawal Alley - K-311-1
Z2-22	2 (K-310-1)	Transformer Vault - K-310-1
Z2-22	2 (K-310-2)	Transformer Vault - K-310-2
Z2-22	2A (K-309-3)	Withdrawal Alley - K-309-3
Z2-22	2A (K-310-1)	Withdrawal Alley - K-310-1
Z2-22	3 (K-309-2)	Transformer Vault - K-309-2
Z2-22	3 (K-309-3)	Transformer Vault - K-309-3
Z2-22	3A (K-309-1)	Withdrawal Alley - K-309-1
Z2-22	3A (K-309-2)	Withdrawal Alley - K-309-2
Z2-22	4 (K-301-1)	Transformer Vault - K-301-1
Z2-22	4 (K-309-1)	Transformer Vault - K-309-1
Z2-22	4A (K-301-1)	Withdrawal Alley - K-301-1
Z2-22	K-1028-77	Portal 15
Z2-22	K-2527-AK	Boundary Control Station Trailer
Z2-22	K-2527-AP	Boundary Control Station Trailer
Z2-22	K-2527-M	Document Management Center
Z2-22	K-2527-N	Trailer, Office, 4-Wide

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-22	K-2527-X	Craft Supervision and Field Support Trailer
Z2-22	K-309-1	Process Building
Z2-22	K-309-2	Process Building
Z2-22	K-309-3	Process Building
Z2-22	K-310-1	Process Building
Z2-22	K-310-2	Process Building
Z2-22	K-310-3	Process Building
Z2-22	K-311-1	Process Building
Z2-22	U-Z222-06	STORAGE CONTAINER
Z2-23	K-1028-72	Portal #11
Z2-23	K-1310-LX	PAS Craft Trailer
Z2-23	K-1313-A	Rubb Tent
Z2-23	K-2527-AD	Restroom Trailer
Z2-23	K-2527-AE	Trailer, Office, 4-Wide
Z2-23	K-2527-AF	Sealand Trailer
Z2-23	K-2527-AH	Maintenance Shop
Z2-23	K-2527-AJ	Conex Storage
Z2-23	U-Z223-03	Conex
Z2-23	U-Z223-04	Conex
Z2-23	U-Z223-05	Conex
Z2-23	U-Z223-06	Conex
Z2-24	K-0700-A-19	Substation - West of K-1034-A
Z2-24	K-1028-55	Portal 7
Z2-24	K-1034-A	Plant Records Vault
Z2-24	K-1310-GA	Office Trailer
Z2-24	K-1310-MZ	SEC Lab Trailer
Z2-24	K-1310-SJ	Sealand Container
Z2-24	K-1314-A	Prefab Storage Building
Z2-24	K-1314-E	Storage Buildings - E K-29
Z2-24	K-1435-V	Conference and Lunch Room Trailer
Z2-24	K-2527-Y	Office Trailer
Z2-24	K-27-017	Sealand
Z2-24	K-27-119	Sealand
Z2-24	K-27-120	Sealand
Z2-24	K-27-149	Sealand
Z2-24	K-31-37	Sealand
Z2-24	Shed	Car Port
Z2-25	K-1028-76	Portal 14
Z2-25	K-1028-78	Portal 16 - Turnstile N of K-1423
Z2-25	K-1060	Central Material Yard
Z2-25	K-1204-14	Sewer Lift Station
Z2-25	K-1310-AH	Office Trailer - Gone S&M
Z2-25	K-1310-H	Used by TFE
Z2-25	K-1310-HJ	Shower Trailer
Z2-25	K-1310-HQ	Office Trailer - Gone S&M
Z2-25	K-1310-HU	Office Trailer - Gone S&M
Z2-25	K-1310-PL	Restroom Trailer - Gone S&M
Z2-25	K-1310-PT	Craft Break Room
Z2-25	K-1310-PY	Mini Mobile Unit
Z2-25	K-1310-PZ	Office Trailer
Z2-25	K-1310-RF	Office/Break Trailer - Gone S&M
Z2-25	K-1310-RH	Change house Trailer - Gone S&M
Z2-25	K-1310-SM	Sealand
Z2-25	K-1310-SN	Sealand
Z2-25	K-1310-SV	Sealand
Z2-25	K-1310-SW	Sealand
Z2-25	K-1310-SX	Sealand
Z2-25	K-1310-SY	Sealand
Z2-25	K-1423	Toll Enrichment Facility
Z2-25	K-1423-A	Maintenance Facility
Z2-25	K-1423-B	K-1423 NDA/NDE Support
Z2-25	K-1423-E	Office Trailer
Z2-25	K-1423-H	Rubb Tent

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-25	K-1440-H	Back flow preventer
Z2-25	K-25/K-1423	Pipe Rack Supports
Z2-25	K-2527-AS	Mechanic Shop Sealand
Z2-25	K-2527-BB	Office Trailer
Z2-25	K-2527-BD	Office Trailer
Z2-25	K-2527-BE	Office Trailer
Z2-25	K-2527-BG	Office Trailer
Z2-25	K-2527-BH	Shower Trailer
Z2-25	K-2527-L	Change House Trailer
Z2-25	K-2527-T	Change House Trailer
Z2-25	K-2527-T2	Storage facility
Z2-25	K-2527-U	Trailer, Breakroom, Triple-wide
Z2-25	K-2527-V	Craft Supervisor Trailer
Z2-25	K-2527-W	Radcon Storage Trailer
Z2-25	U-Z225-01	Shed
Z2-25	U-Z225-02	Mobile Boiler Room
Z2-25	U-Z225-03	(1) 40' Sealand
Z2-25	U-Z225-04	Mobile PA system
Z2-25	U-Z225-05	4 Enclosed Trailers
Z2-25	U-Z225-06	10 Sealands
Z2-26	K-0700-A-71	Substation
Z2-26	K-1061	OIL STORAGE BUILDING
Z2-26	K-1095	Power Operations Shop
Z2-26	K-1098-F	Sand Blast Facility
Z2-26	K-1310-KC	Storage Sealand
Z2-26	K-1310-LH	Storage Sealand
Z2-26	K-1310-LU	Construction Trailer
Z2-26	K-1310-RZ	Mens Changehouse - Used by TFE
Z2-26	K-1313-G	Rubb Tent
Z2-26	K-2527-BP	Office Trailer
Z2-26	U-Z226-01	Box Transfer Trailer
Z2-26	U-Z226-02	Box Transfer Trailer
Z2-26	U-Z226-03	8 Conex Storage Containers
Z2-26	U-Z226-04	Car Port
Z2-26	U-Z226-05	Car Port
Z2-26	U-Z226-06	Car Port
Z2-26	U-Z226-07	Car Port
Z2-26	U-Z226-08	K-25 spill response trailer
Z2-26	U-Z226-09	Tarped Trailer
Z2-26	U-Z226-10	Mobile PA Trailer #1
Z2-26	U-Z226-11	Metal carport
Z2-26	U-Z226-12	Enclosed Trailer
Z2-26	U-Z226-13	Enclosed Trailer
Z2-27	K-1310-PF	Conex Storage
Z2-27	K-1310-PG	Conex Storage
Z2-27	K-1700	Stream/Weir Dam Sampling Station
Z2-27	K-1710	Stream/Weir Dam Sampling Station
Z2-28	K-1234	Propane Storage Tank
Z2-28	K-1234-A	Valve House
Z2-28	U-Z228-01	Haul Road Air Monitor
Z2-30	K-1022-11	Air Sampling Monitor
Z2-30	K-1310-BJ	Located at K-1420 Area, Used by TFE
Z2-30	K-1310-BK	Located at K-1420 Area, Used by TFE
Z2-30	K-1310-CC	Office Trailer
Z2-30	K-1310-CK	Portable Building - K-1045-A
Z2-30	K-1310-CS	Office Trailer
Z2-30	K-1310-JD	Used by TFE
Z2-30	K-1310-JF	Used by TFE
Z2-30	K-1310-KR	Conex Storage Container
Z2-30	K-1310-KS	Conex
Z2-30	K-1310-MU	Conex Storage Container
Z2-30	K-1310-PA	Conex Storage Container
Z2-30	K-1310-PB	Conex Storage Container

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-30	K-1310-SV	Used by TFE
Z2-30	K-1313-L	Tent
Z2-30	K-1313-M	Tent
Z2-30	K-1407-AA	Phase Separator & Transfer Station - CNF
Z2-30	K-1407-AB	RECOVERY SUMP PUMP STATION (RS-04)
Z2-30	K-1407-AC	RECOVERY SUMP PUMP STATION (RS-03)
Z2-30	K-1407-AD	RECOVERY SUMP PUMP STATION (RS-02)
Z2-31	K-1440-D	BFP - Must Move to Support K-1036 and Not Central Main
Z2-31	U-Z231-01	Old railroad car
Z2-32	K-0700-A-65	Substation West of K-1200
Z2-32	K-1028-45	Gate House Portal 4
Z2-32	K-1200-A	Boiler
Z2-32	K-1253-16	ETTP Public Warning System
Z2-32	K-1310-FL	Office Trailer
Z2-32	K-1310-RD	Breakroom Trailer - Gone S&M
Z2-32	K-1316-A	Office Trailer
Z2-32	K-1316-B	Office Trailer
Z2-32	K-1316-C	Breakroom Trailer
Z2-32	K-1316-D	Change house Trailer
Z2-32	K-1316-G	Laundry Storage
Z2-32	K-1316-H	Laundry Mini
Z2-32	K-1316-J	Maintenance Shop Warehouse
Z2-32	K-1316-K	Maintenance Storage Tent
Z2-32	K-1316-L	Mobile Mini Office
Z2-32	K-1316-M	Mobile Mini Office - Gone S&M
Z2-32	K-1316-N	Office
Z2-32	K-1316-Q	Trailer, Triple-wide, Maintenance Shop - Gone S&M
Z2-32	K-1316-R	Trailer, Triple-wide, Maintenance Shop - Gone S&M
Z2-32	K-1316-S	5-wide Trailer, Maintenance Shop - Gone S&M
Z2-33	K-0700-A-26	Substation (NW of K-1225)
Z2-33	K-1006	MCL Laboratory
Z2-33	K-1006-A	Cooling Tower- Chiller Building
Z2-33	K-1006-C	Chiller Building
Z2-33	K-1440-G	Back Flow Preventer
Z2-33	K-1544	Sanitary Water Metering Pit
Z2-33	U-Z233-01	McQuary HVAC
Z2-33	U-Z233-02	Small HVAC
Z2-33	U-Z233-03	Chiller
Z2-33	U-Z233-04	Mobile Communication Unit #5
Z2-33	U-Z233-05	Box Trailer
Z2-33	U-Z233-08	Sealand full of Tires
Z2-35	CNF Process	CNF Process Piping
Z2-35	CNF Transfer	Blue Tie Lines Only
Z2-35	K-0700-A-73	SUBSTATION (S OF K-1419)
Z2-35	K-1028-83	Portal 21
Z2-35	K-1202	Lube Oil Storage Tanks
Z2-35	K-1204-12	Sewer Lift Station
Z2-35	K-1310-AM	Trailer - Gone S&M
Z2-35	K-1310-BA	Office Trailer
Z2-35	K-1310-BB	Office Trailer
Z2-35	K-1310-BC	Office Trailer
Z2-35	K-1310-BD	Office Trailer
Z2-35	K-1310-BE	Office Trailer
Z2-35	K-1310-ED	Office Trailer
Z2-35	K-1310-EK	Office Trailer
Z2-35	K-1310-ET	Trailer
Z2-35	K-1310-MA	PAS Craft Trailer
Z2-35	K-1310-MB	PAS Craft Trailer
Z2-35	K-1407-A	NEUTRALIZING PIT/TANK
Z2-35	K-1407-AF	PHASE SEPARATOR & TRANSFER STATION
Z2-35	K-1407-AK	Air Compressor Bldg. Located in 1420-A
Z2-35	K-1407-FD2	Unknown
Z2-35	K-1407-G	Pit Facility

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-35	K-1407-J	Settling Basin - CNF
Z2-35	K-1407-M	K-1407-M SUMP
Z2-35	K-1407-N	Pump house - CNF
Z2-35	K-1407-P	Electrical Field Shop - CNF
Z2-35	K-1407-Q	J-Station NPDES Station - CNF
Z2-35	K-1407-R	VALVE VAULT NORTH OF 1407-G
Z2-35	K-1407-S	VALVE VAULT NORTH OF 1407-K
Z2-35	K-1407-T	DIVERTER BOX
Z2-35	K-1407-U	Organics Removal System - CNF
Z2-35	K-1407-V	WASTEWATER COLLECTION SUMP
Z2-35	K-1407-W	SUMP NORTH OF K-1407-V
Z2-35	K-1407-X	F4030 & F4170 SECONDARY CONTAINMENT
Z2-35	K-1407-Y	CNF TANKER UNLOADING AREA
Z2-35	K-1407-Z	CONTAINMENT AREA - SW CORNER OF 1407-V
Z2-35	K-1419	CNF Facility
Z2-35	K-1420-A	Liquid Bulk Storage Tank
Z2-36	CNF/TSCAI	Overhead and Ground Rack K-25 to TSCAI through CNF
Z2-36	K-1028-84	Portal 22
Z2-36	K-1204-05	Sewer Ejection Station
Z2-36	K-1534	K-1534 Pad Storage Shed
Z2-36	K-1534	Gas Valve Shelter
Z2-36	MD-114 (Tanker	Tanker
Z2-36	MD-114 (Tanker	Tanker
Z2-36	MD-114 (Tanker	Tanker
Z2-36	MD-114 (Tanker	Tanker
Z2-37	K-0700-A-02	Electrical Substation North of K-1414
Z2-37	K-0720-A	Storage Building (E K-1414)
Z2-37	K-1310-DD	Facility Key Shop - Security controlled area - not entered during walkover
Z2-37	K-1310-RE	Office Trailer
Z2-37	K-1316-T	Office Trailer
Z2-37	K-1407-AG	Sump Pump Station
Z2-37	K-1407-AH	Sump Pump Station
Z2-37	K-1407-AJ	Sump Pump Station
Z2-37	K-1414	Garage and Gas Station
Z2-37	K-1414-C	Storage
Z2-37	K-1414-D	Backflow Preventer
Z2-37	K-1440-K	Back flow preventer
Z2-37	U-Z237-01	Carport
Z2-37	U-Z237-02	Storage Sealand
Z2-37	U-Z237-03	Storage Sealand
Z2-37	U-Z237-04	Storage (oil storage used and new)
Z2-37	U-Z237-05	Storage (90 Day RCRA storage)
Z2-37	U-Z237-06	Storage
Z2-37	U-Z237-07	Awning and Control Panel
Z2-37	U-Z237-08	Awning
Z2-38	K-1253-19	Public Warning System
Z2-38	K-1310-LM	Office Trailer
Z2-38	K-1310-LN	WSMS Office Trailer Portal 6
Z2-38	K-1310-LP	WSMS Dispatch Trailer Portal 6
Z2-38	K-1310-LQ	Restroom Trailer
Z2-38	K-1310-LR	WSMS Breakroom Trailer
Z2-38	K-1310-LS	WSMS Radcon Trailer
Z2-38	K-1310-MC	WSMS Maintenance Trailer
Z2-38	K-1310-MD	WSMS Canopy Area
Z2-38	K-1310-ME	WSMS Maintenance Trailer
Z2-38	K-1310-RT	Trailer used by TFE
Z2-38	K-1310-RU	Trailer used by TFE
Z2-38	K-1310-SA	Trailer used by TFE
Z2-38	K-1313-H	RUB TENT - Existing
Z2-39	K-0700-A-72	Substation Northeast of K-1419
Z2-39	K-1028-75	Gate House Portal at K-1417 (Closed)
Z2-39	K-1204-11	Sewer Ejection Station - S K-1420
Z2-39	K-1310-AP	Office Trailer

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-39	K-1310-SP	Sealand
Z2-39	K-1310-SR	Sealand
Z2-39	K-1316-P	Office Trailer
Z2-39	K-1407-H	Neutralization Facility - CNF
Z2-39	K-1407-K	Building - CNF
Z2-39	K-2527-AL	BREAKROOM - Existing
Z2-39	K-27-009	Sealand
Z2-39	K-27-010	Sealand
Z2-39	U-Z239-01	Roll-off container
Z2-39	U-Z239-02	Roll-off container
Z2-39	U-Z239-03	Roll-off container
Z2-39	U-Z239-04	Roll-off container
Z2-39	U-Z239-05	Sealand
Z2-39	U-Z239-06	Sealand
Z2-39	U-Z239-07	Sealand
Z2-39	U-Z239-08	Mobile PA System #4
Z2-39	U-Z239-09	(2) Sealand
Z2-40	K-1037	Industrial Research Building
Z2-40	K-1037-C	Smelter House
Z2-40	K-1310-AN	Office Trailer
Z2-40	K-1435-L	Office Trailer
Z2-40	K-1435-M	Rubb Tent
Z2-40	K-2527-BF	Break Room Trailer
Z2-41	K-1208	Meteorological Tower
Z2-41	U-Z241-01	500 gallon Poly Tank
Z2-41	U-Z241-02	Shed
Z2-41	U-Z241-03	Shed
Z2-41	U-Z241-04	Small Metal portable Shed
Z2-41	U-Z241-05	Small Box Trailer
Z2-41	U-Z241-07	Sealand
Z2-41	U-Z241-08	Container
Z2-41	U-Z241-09	Sealand
Z2-41	U-Z241-10	Container
Z2-41	U-Z241-11	Container
Z2-41	U-Z241-12	Container
Z2-41	U-Z241-13	Container
Z2-41	U-Z241-14	Container
Z2-42	K-0700-A-64	Substation - East of K-1200
Z2-42	K-0797	Electrical Switchgear Room K-1004-J
Z2-42	K-1004-J	Laboratory Special Development
Z2-42	K-1004-N1	Cooling Tower
Z2-42	K-1004-NV-1	Valve House
Z2-42	K-1004-Q	Centrifuge Laboratory
Z2-42	K-1004-R	Centrifuge Laboratory
Z2-42	K-1004-S	Centrifuge Laboratory
Z2-42	K-1004-T	Centrifuge Laboratory
Z2-42	K-1004-U	Centrifuge Laboratory
Z2-42	K-1005	Laboratory
Z2-42	K-1008-F	Leased to M&EC
Z2-42	K-1009	Laboratory
Z2-42	K-1009-A	Laboratory
Z2-42	K-1010	Receiving Facility
Z2-42	K-1010-A	Receiving Facility
Z2-42	K-1023	Laboratory (includes K-1005)
Z2-42	K-1045	Fire Department Storage Area
Z2-42	K-1052	Advanced Machine Development Lab
Z2-42	K-1052-B	Component Test
Z2-42	K-1095-1	Storage Trailer
Z2-42	K-1200	Centrifuge Preparation Lab (CPL)
Z2-42	K-1210	Centrifuge Test Facility (CTF)
Z2-42	K-1210-A	Advanced Engineer Test Facility (AETF)
Z2-42	K-1210-B	AETF Addition
Z2-42	K-1211	CTF Storage

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z2-42	K-1220	Centrifuge Demo Facility
Z2-42	K-1310-ST	Booster Pump House
Z2-43	K-1028-65	Portal #3
Z2-44	K-1022-06	Air monitoring Station (TSCA1)
Z2-44	K-1204-15	Sewer Lift Station
Z2-44	K-1310-AY	Bioassay Station - TSCA
Z2-44	K-1425	Waste Oil Storage Building
Z2-44	K-1425-A	Waste Oil Storage Facility
Z2-44	K-1425-B	Waste Oil Storage Facility
Z2-44	K-1425-C	Waste Oil Storage Facility
Z2-44	K-1425-D	Waste Oil Storage Facility
Z2-44	K-1425-E	Waste Oil Storage Facility
Z2-44	K-1430	TSCAI Maintenance Shop
Z2-44	K-1430-A	Portable Office Building
Z2-44	K-1430-B	Portable Instrument Shop
Z2-44	K-1435	TSCA Incinerator
Z2-44	K-1435-A	Office, Lab, Control Building
Z2-44	K-1435-AB	RUBB Storage Facility
Z2-44	K-1435-AC	Sealand for Steam Generator
Z2-44	K-1435-AD	AIR compressor Bldg. - Gone S&M
Z2-44	K-1435-AE	Wastewater Treatment Trailer
Z2-44	K-1435-AF	Wastewater Treatment Trailer
Z2-44	K-1435-AG	Wastewater Accumulation Tank
Z2-44	K-1435-AH	Wastewater Accumulation Tank
Z2-44	K-1435-AK	Wastewater Caustic Storage Tank
Z2-44	K-1435-AL	TSCA PDCC Mobile Mini
Z2-44	K-1435-B	Drum Storage & Unloading Facility
Z2-44	K-1435-B1	Fire Water Riser Building
Z2-44	K-1435-B2	FENCED STORAGE AREA
Z2-44	K-1435-C	Storage Tank Farm
Z2-44	K-1435-C1	Building Office Cool Down - Gone S&M
Z2-44	K-1435-D	Incinerator Facility
Z2-44	K-1435-D1	BATTERY CHARGING STATION
Z2-44	K-1435-D2	Fire Water Riser Building
Z2-44	K-1435-D4	STORAGE BLDG TENT RUBB K-1435-D4
Z2-44	K-1435-D5	Trailer
Z2-44	K-1435-E	Maintenance Building
Z2-44	K-1435-F	Office Trailer
Z2-44	K-1435-I	Office Trailer - Gone S&M
Z2-44	K-1435-I1	Office Trailer - Gone S&M
Z2-44	K-1435-J	Office Trailer
Z2-44	K-1435-K	NITROGEN BOTTLE STATION
Z2-44	K-1435-N	Office Trailer
Z2-44	K-1435-P	NITROGEN BOTTLE STATION
Z2-44	K-1435-Q	OFFFICE TRAILER - Gone S&M
Z2-44	K-1435-R	Office Trailer - Gone S&M
Z2-44	K-1435-S	Office Trailer - Gone S&M
Z2-44	K-1435-W	Change house Trailer - Gone S&M
Z2-44	K-1435WWTS	TSCA Waste Water Treatment System
Z2-44	K-1435-X	Computer Trailer - Gone S&M
Z2-44	K-1435-Z	Trailer Restrooms - Gone S&M
Z2-52	K-1310-BQ	Storage Trailer - Near K-1065
Zone 1	K-0893-FF	VALVE VAULT, RCW
Z1	K-0901-WDA	SOUTH WASTE DISPOSAL AREA
Z1	K-1310-RJ	PH Area - Sealand Office
Z1-03	K-1310-GP	Central Receiving Bathroom
Z1-03	K-1317	Procurement Warehouse
Z1-03	K-1317-A	Central Receiving Office Trailer
Z1-03	K-1317-B	Central Receiving Restroom Trailer
Z1-04	K-1253-17	ETTP Public Warning System
Z1-05	K-1209	METEOROLOGICAL TOWER
Z1-05	K-1209-A	THUNDERSTORM INDICATOR
Z1-05	K-1209-B	DOPPLER SONAR UNIT

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

Removal List of Site Facilities

Z1-07	K-1007-B4	P1 Sampling Station - West Perimeter Road
Z1-09	U-Z109-01	UTB Ambient Air Sampling Station 35
Z1-09	U-Z109-02	TSCA Air Monitoring Station
Z1-17	K-1253-11	ETTP Public Warning System
Z1-46	K-0901	Water Intake Structure
Z1-46	K-0902	Trash Gate
Z1-46	U-Z146-01	K-901 Water Sampling Station
Z1-47	K-1770	K-901-A pond Sampling station
Z1-54	K-0901-A-SDA	NORTH WASTE DISPOSAL AREA
Z1-54, 55	K-0901-A-842	K-901-A Sampling Station
Z1-55	U-Z155-01	Sampling Station
Z1-77	K-1099	Seismic Instrument House - Blair Quarry
Z1-78	K-0806	Site Radio Repeater Station and Tower
Z1-78	K-0814	RADIO REPEATER - MCKINNEY RIDGE SITE
Z1-78	K-0815	Metro Communication Facility
Z1-78	K-1206-D	Fire Water Tank McKinney Ridge
Z1-78	K-1253-6	ETTP Public Warning System
Z1-78	U-Z178-01	Metro Diesel Generator
Z1-78	U-Z178-02	Propane Tank
Z1-99	K-0721	GAS LOCK METER VAULT
Z1-99	K-1022-02	AIR SAMPLING MONITOR (K2)
Z1-99	K-1022-03	AIR SAMPLING MONITOR (K3)
Z1-99	K-1022-13	PERIMETER AIR MONITORING STA #33
Z1-99	K-1022-15	PERIMETER AIR MONITORING STA #42
Z1-99	K-1208-A	Meteorological Tower - Bear Creek
Z1-99	K-1208-C	Meteorological Tower - Century Acres
Z1-99	K-1253-1	ETTP Public Warning System
Z1-99	K-1253-10	ETTP Public Warning System
Z1-99	K-1253-12	ETTP Public Warning System
Z1-99	K-1253-13	ETTP Public Warning System
Z1-99	K-1253-14	ETTP Public Warning System
Z1-99	K-1253-15	ETTP Public Warning System
Z1-99	K-1253-2	ETTP Public Warning System
Z1-99	K-1253-3	ETTP Public Warning System
Z1-99	K-1253-4	ETTP Public Warning System
Z1-99	K-1253-5	ETTP Public Warning System
Z1-99	K-1253-7	ETTP Public Warning System
Z1-99	K-1253-8	ETTP Public Warning System
Z1-99	K-1253-9	ETTP Public Warning System
Z1-99	PAM #53	Pam Station #53 - Bear Creek
Z1-99	U-Z199-01	Cell Tower - Pea Ridge
Z1-99	U-Z199-02	Valve Controller - Near K-1530
Z1-99	U-Z199-03	Abandoned Happy Valley Water Tank
Z1-99	U-Z199-04	Haul Road Air Monitoring Station at Haul Road and Hwy 58 Bridge
unknown - removed prior to walkdown	K-312/K-25	Outdoor Process Tielines and Housing
	K-0899-P	SANITARY WATER VALVE VAULT
	K-1310-CD	Office Trailer
	K-1310-FS	Trailer
	K-1310-FT	Trailer
	K-1310-FU	Trailer
	K-1310-GW	Office Trailer
	K-1310-JK	Added Based on Att A
	K-1310-JL	Office Trailer
	K-1310-JM	Restroom Trailer
	K-1310-KD	Office Trailer - Gone S&M
	K-1310-KU	Office Sealand
	K-1310-KV	Office Sealand
	K-1310-MY	SEC Office Trailer
	K-1310-NS	Conex Storage
	K-1310-NZ	Conex Storage
	K-1310-PK	Mobile Mini Storage

Based upon fall 2015 site walkdowns
List intended to reflect facilities to remove as of August 2011

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ATTACHMENT B.
INFRASTRUCTURE MAPS

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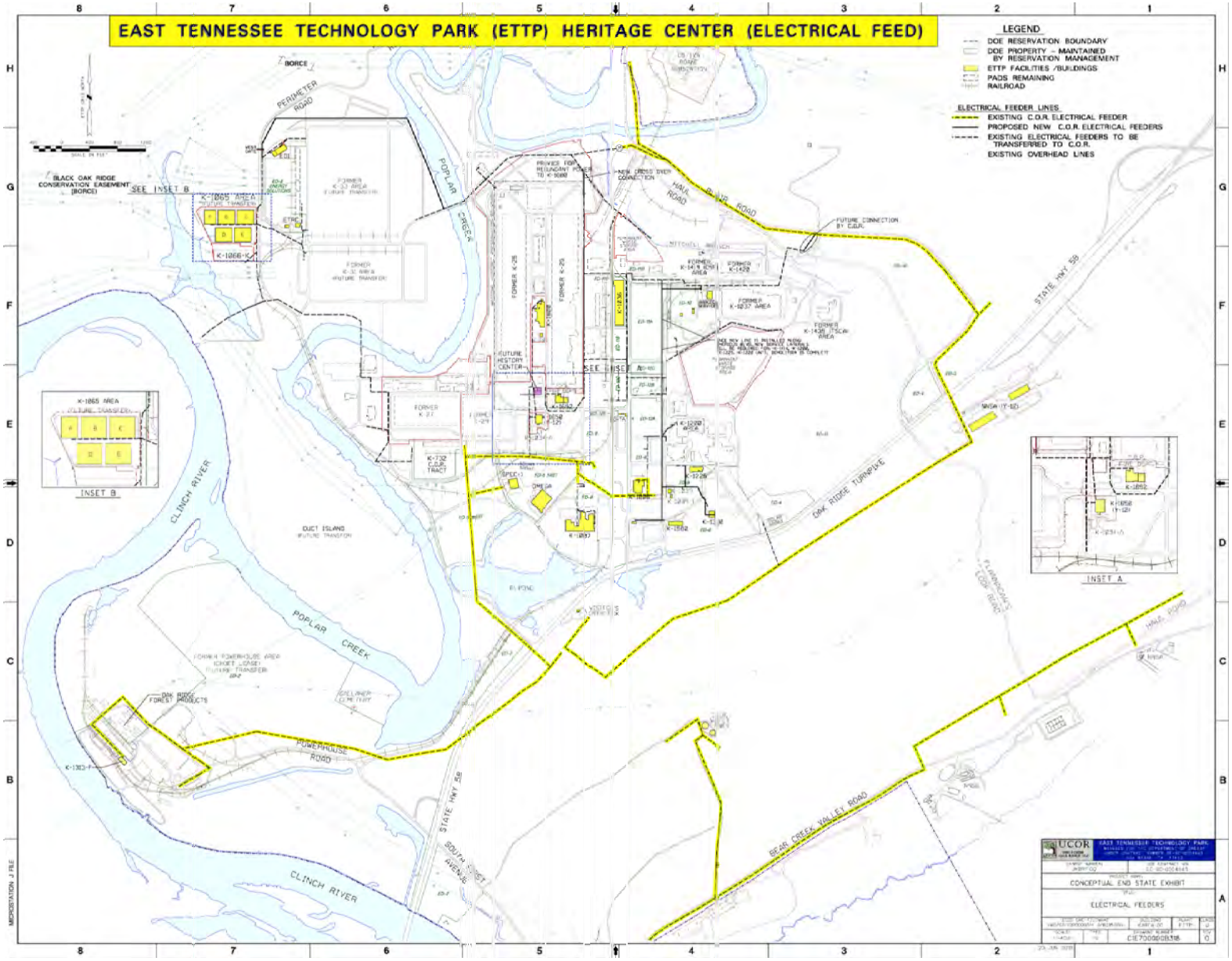
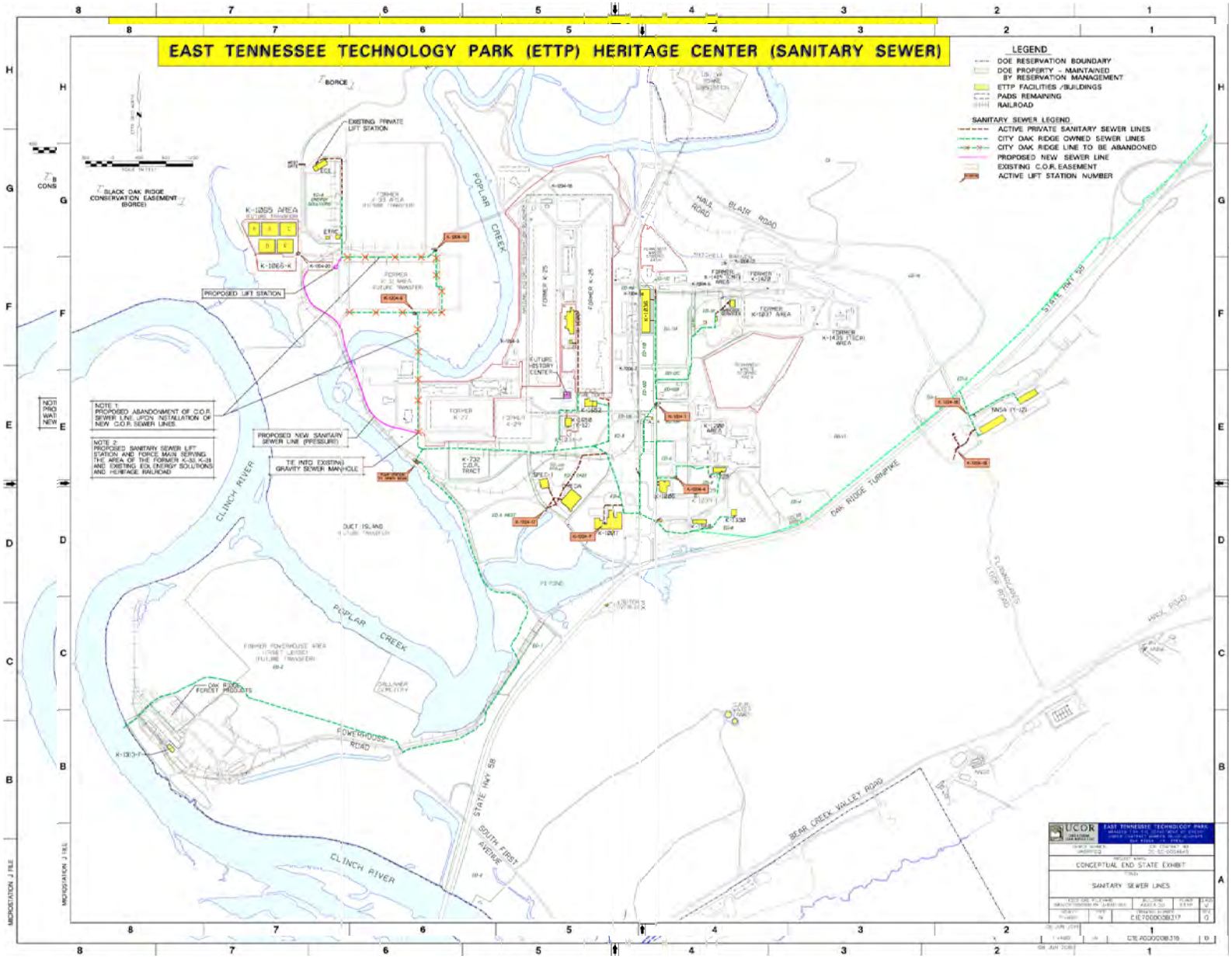

EAST TENNESSEE TECHNOLOGY PARK (ETTP) HERITAGE CENTER (ELECTRICAL FEED)
LEGEND
DOE RESERVATION BOUNDARY
DOE PROPERTY – MAINTAINED BY RESERVATION MANAGEMENT
ETTP FACILITIES /BUILDINGS
PADS REMAINING
RAILROAD
ELECTRICAL FEEDER LINES
EXISTING C.O.R. ELECTRICAL FEEDER
PROPOSED NEW C.O.R. ELECTRICAL FEEDERS
EXISTING ELECTRICAL FEEDERS TO BE TRANSFERRED TO C.O.R.
EXISTING OVERHEAD LINES
BORCE
PERIMETER ROAD
BLACK OAK RIDGE CONSERVATION EASEMENT (BORCE)
SEE INSET B
POPLAR CREEK
HAUL ROAD
BEAR CREEK ROAD
STATE HWY 58
FUTURE CONNECTION BY C.O.R.
FUTURE HISTORY CENTER
SEE INSET A
OAK RIDGE TURNPIKE
CLINCH RIVER
DUCK ISLAND
FUTURE TRANSFER
POPLAR CREEK
OAK RIDGE FOREST PRODUCTS
POWERHOUSE ROAD
STATE HWY 58
SOUTH OUTER AVENUE
CLINCH RIVER
BEAR CREEK VALLEY ROAD
INSET B
INSET A
UCOR
EAST TENNESSEE TECHNOLOGY PARK
CONCEPTUAL END STATE EXHIBIT
ELECTRICAL FEEDERS


EAST TENNESSEE TECHNOLOGY PARK (ETTP) HERITAGE CENTER (SANITARY SEWER)
LEGEND
DOE RESERVATION BOUNDARY
DOE PROPERTY - MAINTAINED BY RESERVATION MANAGEMENT
ETTP FACILITIES /BUILDINGS
PADS REMAINING
RAILROAD
SANITARY SEWER LEGEND
ACTIVE PRIVATE SANITARY SEWER LINES
CITY OAK RIDGE OWNED SEWER LINES
CITY OAK RIDGE LINE TO BE ABANDONED
PROPOSED NEW SEWER LINE
EXISTING C.O.R. EASEMENT
ACTIVE LIFT STATION NUMBER
BORCE
EXISTING PRIVATE LIFT STATION
BLACK OAK RIDGE CONSERVATION EASEMENT (BORCE)
K-1065 AREA
K-1066-K
PROPOSED LIFT STATION
NOTE 1:
PROPOSED ABANDONMENT OF C.O.R. SEWER LINE, UPON INSTALLATION OF NEW C.O.R. SEWER LINES.
NOTE 2:
PROPOSED SANITARY SEWER LIFT STATION AND FORCE MAIN SERVING THE AREA OF THE FORMER K-33, K-31 AND EXISTING EDL ENERGY SOLUTIONS AND HERITAGE RAILROAD
PROPOSED NEW SANITARY SEWER LINE (PRESSURE)
TIE INTO EXISTING GRAVITY SEWER MANHOLE
POPLAR CREEK
CLINCH RIVER
DUCK ISLAND
FORMER POWERHOUSE AREA
OAK RIDGE FOREST PRODUCTS
POWERHOUSE ROAD
DALLAMY CEMETERY
FORMER K-25
FORMER K-27
FORMER K-29
FUTURE HISTORY CENTER
K-732 C.O.R. TRACT
K-1037 AREA
K-1435 (TSCA) AREA
HALL ROAD
BLAIR ROAD
STATE HWY 58
OAK RIDGE TURNPIKE
TANSA (Y-12)
BEAR CREEK VALLEY ROAD
SOUTH FIRST AVENUE
CONCEPTUAL END STATE EXHIBIT
SANITARY SEWER LINES

ATTACHMENT C.
ROAD MAPS

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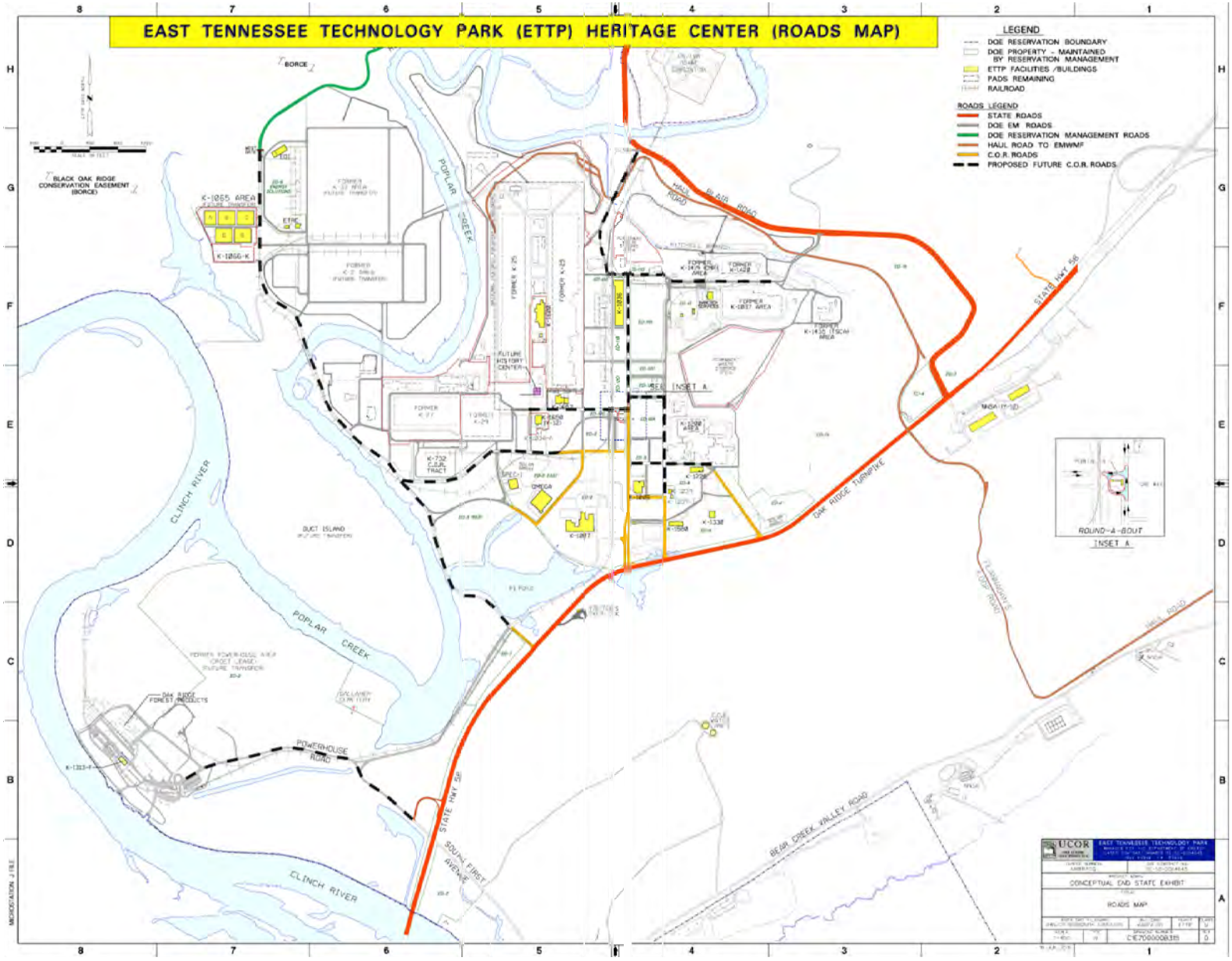
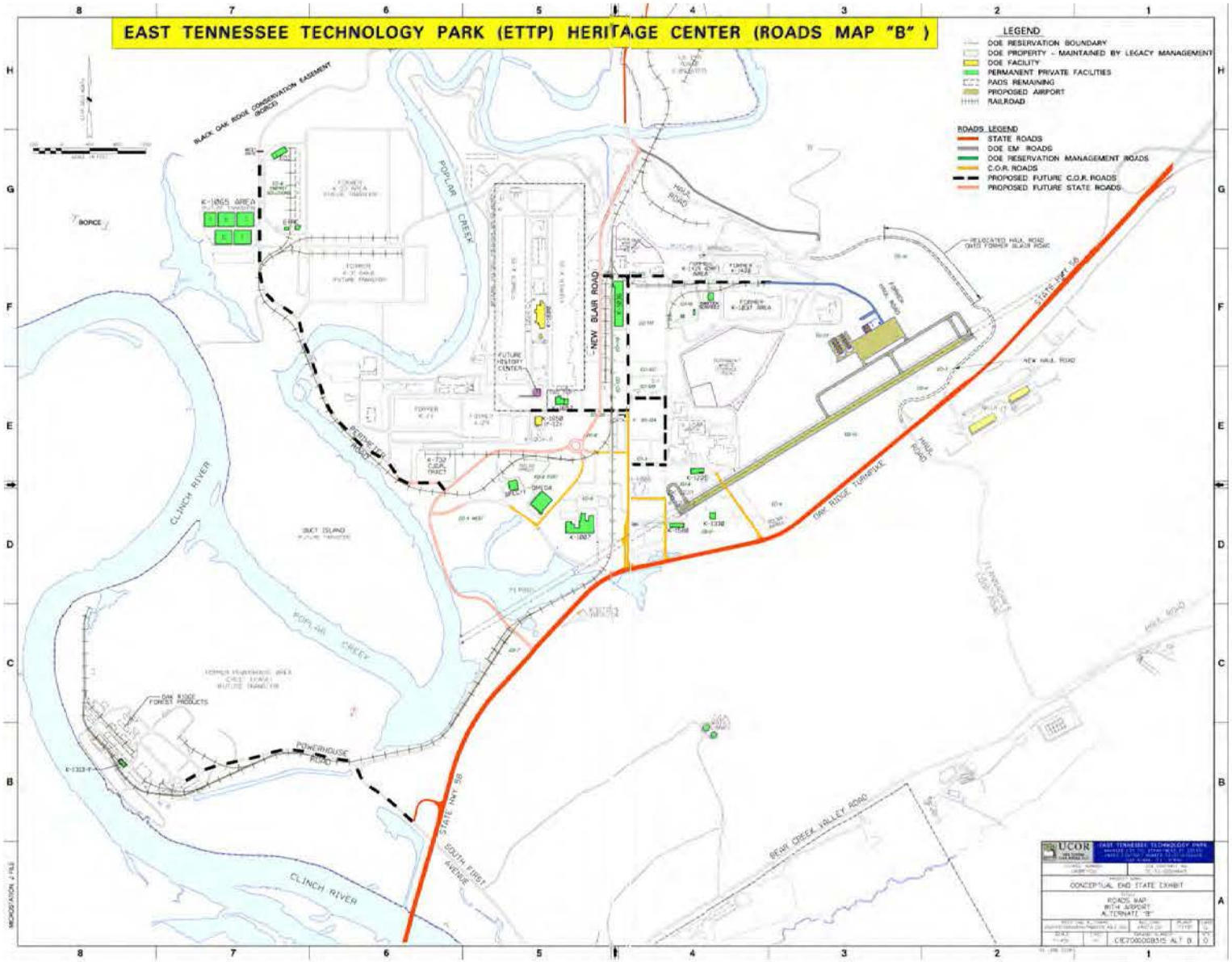

EAST TENNESSEE TECHNOLOGY PARK (ETTP) HERITAGE CENTER (ROADS MAP)
LEGEND
DOE RESERVATION BOUNDARY
DOE PROPERTY - MAINTAINED BY RESERVATION MANAGEMENT
ETTP FACILITIES /BUILDINGS
PADS REMAINING
RAILROAD
ROADS LEGEND
STATE ROADS
DOE EM ROADS
DOE RESERVATION MANAGEMENT ROADS
HAUL ROAD TO EMWMF
C.O.R. ROADS
PROPOSED FUTURE C.O.R. ROADS
BORCE
BLACK OAK RIDGE CONSERVATION EASEMENT (BORCE)
K-1065 AREA
K-1066-K
POPLAR CREEK
CLINCH RIVER
DUCK ISLAND
POWERHOUSE ROAD
OAK RIDGE FOREST PRODUCTS
BEAR CREEK ROAD
BEAR CREEK VALLEY ROAD
STATE HWY 58
SOUTH FIRST AVENUE
OAK RIDGE TURNPIKE
HAUL ROAD
FUTURE HISTORY CENTER
INSET A
ROUND-A-BOUT
INSET A
UCOR
CONCEPTUAL END STATE EXHIBIT
ROADS MAP


EAST TENNESSEE TECHNOLOGY PARK (ETTP) HERITAGE CENTER (ROADS MAP "B")
LEGEND
DOE RESERVATION BOUNDARY
DOE PROPERTY - MAINTAINED BY LEGACY MANAGEMENT
DOE FACILITY
PERMANENT PRIVATE FACILITIES
PADS REMAINING
PROPOSED AIRPORT
RAILROAD
ROADS LEGEND
STATE ROADS
DOE EM ROADS
DOE RESERVATION MANAGEMENT ROADS
C.O.R. ROADS
PROPOSED FUTURE C.O.R. ROADS
PROPOSED FUTURE STATE ROADS
BLACK OAK RIDGE CONSERVATION EASEMENT (BORCED)
POPLAR CREEK
NEW BLAIR ROAD
HAUL ROAD
RELOCATED HAUL ROAD ONTO FORMER BLAIR ROAD
FUTURE HISTORY CENTER
K-1005 AREA
BORCE
POWERHOUSE ROAD
OAK RIDGE TURNPIKE
STATE HWY 58
CLINCH RIVER
BEAR CREEK VALLEY ROAD
SOUTH FIRST AVENUE
DUCK ISLAND
OAK RIDGE FOREST PRODUCTS
CONCEPTUAL END STATE EXHIBIT
ROADS MAP WITH AIRPORT ALTERNATE "B"

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