



Department of Energy

Oak Ridge Office
P.O. Box 2001
Oak Ridge, Tennessee 37831

November 9, 2012

Multiple Addressees

TRANSMITTAL OF THE EXECUTED MEMORANDUM OF AGREEMENT, EXECUTION PLAN AND MITIGATION PLAN FOR HISTORICAL PROPERTIES AT EAST TENNESSEE TECHNOLOGY PARK

Enclosed please find copies of the Final Memorandum of Agreement (MOA), Execution Plan, and Final Mitigation Plan for the interpretation of historical properties at East Tennessee Technology Park. These documents were prepared pursuant to 36 CFR 800.6 and are being sent to you for information. These documents address the requirements set forth in Stipulation 2 of the Executed MOA.

In addition, in September 2012, the Department of Energy (DOE) awarded a grant to Knox Heritage, Inc., fiscal agent of the East Tennessee Preservation Alliance, for purchase and stabilization of the Alexander Inn. This \$500,000 grant addresses Stipulation 15 of the MOA. Additional details of DOE's activities to satisfy the stipulations in the MOA will be transmitted pursuant to Stipulation 19 in the February 2013 timeframe.

If you have any questions concerning this matter, please feel free to contact Karen Doughty at (865) 576-8787.

Sincerely,

A handwritten signature in black ink that reads "A. M. Cange".

Susan M. Cange, Deputy Manager
Oak Ridge Office of Environmental Management

Enclosures

cc's on page 2

Multiple Addressees

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November 9, 2012

**TRANSMITTAL OF THE EXECUTED MEMORANDUM OF AGREEMENT, EXECUTION
PLAN AND MITIGATION PLAN FOR HISTORICAL PROPERTIES AT EAST TENNESSEE
TECHNOLOGY PARK**

cc w/enclosure:

Terry Fehner, MA-75, GTN

DOE Information Center

Colin Colverson, CC-10

Rob James, CC-10

David Adler, EM-92

Susan Cange, EM-90

Karen Doughty, EM-92

TRANSMITTAL OF THE EXECUTED MEMORANDUM OF AGREEMENT, EXECUTION PLAN AND MITIGATION PLAN FOR HISTORICAL PROPERTIES AT EAST TENNESSEE TECHNOLOGY PARK

List of Addressees

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TRANSMITTAL OF THE EXECUTED MEMORANDUM OF AGREEMENT, EXECUTION PLAN AND MITIGATION PLAN FOR HISTORICAL PROPERTIES AT EAST TENNESSEE TECHNOLOGY PARK

List of Addressees (cont.)

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TRANSMITTAL OF THE EXECUTED MEMORANDUM OF AGREEMENT, EXECUTION PLAN AND MITIGATION PLAN FOR HISTORICAL PROPERTIES AT EAST TENNESSEE TECHNOLOGY PARK

List of Addressees (cont.)

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**MEMORANDUM OF AGREEMENT
AMONG THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT,
DEPARTMENT OF ENERGY FEDERAL PRESERVATION OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
RIDGE, TENNESSEE, AND THE EAST TENNESSEE PRESERVATION ALLIANCE,
PURSUANT TO 36 CFR PART 800.6(b)(2) FOR DECOMMISSIONING AND
DEMOLITION OF THE K-25 SITE AND INTERPRETATION OF
THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE**

WHEREAS the purpose of this Memorandum of Agreement (MOA) is to enable the Department of Energy Oak Ridge Office of Environmental Management (DOE-OREM) to continue and complete its undertaking involving historic properties located at the East Tennessee Technology Park (ETTP), formerly known as the Oak Ridge K-25 Site, in compliance with the National Historic Preservation Act (NHPA), (Pub. L. 89-665, as amended; 16 U.S.C. § 470 *et seq.*), and

WHEREAS, the undertaking consists of decontamination, decommissioning and demolition (hereafter referred to as "D&D" or "Undertaking") of historic properties in furtherance of DOE-OREM's overall responsibilities to complete the environmental restoration of the ETTP, and

WHEREAS, Senator Bingaman and Representative Hastings have introduced bills in the U.S. Congress (S.3300; H.R. 5987) with bipartisan, bicameral support to create a new "Manhattan Project National Historical Park" that would specifically include the K-25 site at the ETTP, and

WHEREAS, the proposed Manhattan Project National Historical Park Act contains provisions calling for the Secretary of the Interior to enter into a formal agreement with the Secretary of Energy governing their agency's respective roles in administering the facilities, land, or interests in land under the administrative jurisdiction of the U.S. Department of Energy (DOE) that is to be included in the Historical Park, including provisions for public access, management, interpretation, and historic preservation, and

WHEREAS the Consulting Parties to this MOA pursuant to 36 CFR § 800.6(c)(3) are DOE-OREM; Department of Energy Federal Preservation Officer (DOE-FPO); Tennessee State Historic Preservation Officer (Tennessee SHPO); Advisory Council on Historic Preservation (ACHP); City of Oak Ridge (COR); East Tennessee Preservation Alliance (ETPA); Atomic Heritage Foundation (AHF); National Trust for Historic Preservation (NTHP); Oak Ridge Heritage and Preservation Association (ORHPA); Oak Ridge Site Specific Advisory Board (ORSSAB); Community Reuse Organization of East Tennessee (CROET); and Department of the Interior, National Park Service (NPS) (each is a "Consulting Party," collectively "Consulting Parties"), and

WHEREAS, because the DOE-FPO coordinates historic preservation activities for the DOE, and has fully participated in consultations involving ETTP, and has signed both the 2005 MOA and the 2010 Bridge MOA, the DOE-FPO shall sign this MOA as a Signatory, and

WHEREAS the Signatories to this MOA pursuant to 36 CFR § 800.6(c)(1) are the DOE-OREM, DOE-FPO, Tennessee SHPO, and the ACHP (collectively "Signatories"), and

WHEREAS the other Invited Signatories to this MOA pursuant to 36 CFR § 800.6(c)(2) are the COR and the ETTP (collectively "Invited Signatories"), and

WHEREAS, AHF; NTHP; ORHPA; ORSSAB; CROET and NPS have been invited to concur in this MOA (collectively "Concurring Parties"), and

WHEREAS, previously DOE-OREM has executed MOAs for undertakings at ETTP that have mitigated adverse effects to historic properties (both terms as defined in 36 CFR § 800.16) that include the following: 1998 MOA for the K-29, K-31 and K-33 Buildings; 2003 MOA on the K-25 and K-27 Buildings; 2004 MOA on 108 Buildings at the ETTP; 2005 MOA on ETTP Site Interpretation; and the 2010 "Bridge" MOA on ETTP Site Interpretation, and

WHEREAS in 2005 the DOE-OREM, DOE-FPO, the Tennessee SHPO, and the ACHP executed a MOA (hereinafter "2005 MOA") regarding Site Interpretation of the ETTP, and pursuant to the 2005 MOA completed the following mitigative measures: collected and stored over 700 artifacts from throughout ETTP; sponsored a study to evaluate the feasibility of retaining the low chimneys of the S-50 Plant; sponsored over 70 oral history interviews with former K-25 workers and completed transcriptions for over 85 hours of interviews; sponsored two professional documentary videos utilizing the oral history interview and historic photographs; sponsored 12 Oak Ridge history videos designed to be used by public school teachers; sponsored the thorough documentation of the K-25 and K-27 Buildings through the completion of 360° interior IpiX photographs; compiled and stored a complete set of all unclassified architectural and engineering plans and specifications of the K-25 and K-27 Buildings, and

WHEREAS, Stipulations 1, 3, and 6, respectively, of the 2005 MOA called for DOE-OREM to preserve the North End Tower of the K-25 Building, retain the upper 10 feet of the interior walls in the legs of the "U," and salvage and preserve portions of the Roosevelt Cell, and

WHEREAS, by DOE-OREM's letter of June 9, 2009, DOE-OREM notified the Signatory and Consulting Parties (Tennessee SHPO, DOE-FPO, ACHP, COR and ORHPA) to the 2005 MOA of its conclusion that stipulations 1, 3, and 6 of the 2005 MOA could not be achieved due to the significantly deteriorated condition of the K-25 Building and resulting worker safety issues, and the Tennessee SHPO acknowledged this notification by letter of October 26, 2009, and

WHEREAS, in consequence, in 2010, the DOE-OREM, DOE-FPO, the Tennessee SHPO, and the ACHP executed the Bridge MOA regarding Site Interpretation of ETTP, and

WHEREAS, pursuant to the Bridge MOA, DOE-OREM commissioned two feasibility studies to assist in evaluating mitigation alternatives for interpreting the significant historic roles played by the K-25 Building and took the results of and the recommendations made in those studies into account, and

WHEREAS, the results of the studies were presented in two reports entitled *K-25 Historical Preservation Alternatives: Draft Structural Evaluation* by Degenkolb Engineers and *Feasibility of Interpretation of the Manhattan Project, Oak Ridge, Tennessee* by Informal Learning Experiences, Inc., and

WHEREAS, DOE-OREM provided the draft feasibility studies to all Consulting Parties to the Bridge MOA for 30 days to review and comment; took Consulting Party comments into account; prepared a Preferred Mitigation Plan; held a meeting of the Consulting Parties on November 17, 2011; took all comments derived from that meeting into account during the preparation of a proposed Final Memorandum of Agreement and proposed Final Mitigation Plan (including attachments consisting of an Execution Plan, cost estimates and proposed implementation schedules), which were released for review and comment on February 1, 2012, and

WHEREAS, the ACHP subsequently requested that the NPS, acting on behalf of the Secretary of the Interior, prepare a report pursuant to Section 213 of the NHPA (Pub. L. 89-665, as amended; 16 U.S.C. §470u.), and

WHEREAS, DOE-OREM obtained the completed Section 213 Report from the NPS on March 31, 2012 and has taken the recommendations of the report into account, and

WHEREAS, after receipt of the Section 213 report from the NPS, DOE-OREM received further comments from the ACHP recommending that DOE-OREM hold an additional consultation meeting to discuss the NPS Section 213 Report, and

WHEREAS, DOE-OREM accepted the recommendation of the ACHP and held a meeting of the Consulting Parties on May 17, 2012; invited the NPS to participate as a Consulting Party; took all comments made at the meeting into account, modified its proposed mitigation measures in response to those comments, and included the revised measures as Stipulations in this MOA, and

WHEREAS, DOE-OREM has not yet finalized the Final Mitigation Plan, which will implement the stipulations in this MOA, but will do so within three months of execution of this MOA, and

WHEREAS, the DOE-OREM enters into this MOA under the authority of Section 646 of the Department of Energy Organization Act (Pub. L. 95-91, as amended; 42 U.S.C. § 7256), and the National Historic Preservation Act (Pub. L. 89-665, as amended; 16 U.S.C. § 470 *et seq.*), and

WHEREAS, this MOA is subject to, and shall be carried out in compliance with, all applicable laws, regulations and other legal requirements.

NOW THEREFORE, in order to satisfy DOE-OREM's responsibilities under Sections 106 and 110 of the NHPA, DOE-OREM, DOE-FPO, Tennessee SHPO, ACHP, COR and ETPA agree

that the Undertaking shall be implemented in accordance with the following stipulations to take into account and mitigate the effect of the Undertaking on historical properties.

STIPULATIONS

DOE-OREM shall ensure that the following stipulations are implemented and shall undertake the following to interpret the significant role of the K-25 site in the Manhattan Project:

1. If, in the future, the K-25 site becomes part of a unit of the National Park System, DOE-OREM shall offer the opportunity to NPS to sign this MOA as an Invited Signatory to ensure that NPS has adequate opportunity to provide input on the implementation of this MOA. Whether or not NPS elects to become an Invited Signatory, DOE-OREM shall consult with the NPS and the Signatories to determine whether any of the stipulations of this MOA should be modified to reflect the inclusion of the K-25 site as part of a unit of the National Park System. If the Signatories agree on modifications, they shall undertake the necessary amendments pursuant to Stipulation 23.

2. No later than three (3) months after execution of this MOA, DOE-OREM shall appoint a K-25 Historic Preservation Coordinator and notify the Signatories of the appointment. The K-25 Historic Preservation Coordinator will be responsible for implementing the Stipulations in this MOA and will have access to the Secretary of the Interior qualified personnel, to the DOE-FPO, and to senior DOE-OREM personnel with decision-making and commitment authority in carrying out the responsibilities of the position. In furtherance of the stipulations of this MOA, within three (3) months after execution of this MOA, the K-25 Historic Preservation Coordinator will produce and attach to the MOA a Mitigation Plan and Execution Plan. The K-25 Historic Preservation Coordinator shall also be responsible for tracking compliance with deadlines related to mitigation stipulations.

3. DOE-OREM shall formally dedicate all of the area located inside the road that currently surrounds the K-25 Building, hereafter referred to as the "K-25 Preservation Footprint," for commemoration and interpretation activities, exclusive of DOE-OREM mission essential facilities and land (e.g., K-1600). DOE-OREM shall make this formal dedication of the K-25 Preservation Footprint coincident with the public opening of the Equipment Building (Stipulation 7), Viewing Tower (Stipulation 8), or the History Center (Stipulation 11), whichever occurs first. Unless related to the historic preservation activities contemplated herein, no future development of the K-25 Preservation Footprint will take place. Easements necessary or appropriate to allow adjacent site reuse will be allowed so long as there is no resulting interference with the K-25 Preservation Footprint viewshed from the Viewing Tower. Any future deed of transfer executed by DOE-OREM for land that includes any and all parts of the K-25 Preservation Footprint will include deed restrictions, running with the land in perpetuity. These restrictions will restrict the K-25 Preservation Footprint's uses to commemoration and interpretation activities. While the road

surrounding the K-25 Preservation Footprint may be used for commemoration and interpretation activities, it may also be used for other purposes as well. As DOE proceeds with transfer decisions for lands adjacent to the K-25 Preservation Footprint, consideration will be given to potential impacts to the K-25 Preservation Footprint viewshed.

4. In consultation with the Tennessee SHPO, ORSSAB, DOE-FPO and ORHPA, DOE-OREM shall evaluate retention of the concrete slab under the K-25 Building as follows: DOE-OREM will retain the slab during D&D of the K-25 building, and, no later than three (3) months after completion of D&D of the K-25 Building including transportation of all building debris and waste from the construction site, DOE-OREM will initiate an investigation to determine the contamination levels on and beneath the slab as well as the short- and long-term costs associated with leaving, covering, or removing the slab. If these investigations, estimated to take one (1) year from initiation, conclude that the slab can be safely and cost effectively left in place and exposed for public access, the slab will be integrated into the comprehensive design solution for the interpretation of the K-25 Preservation Footprint. Regardless of whether or not the slab is left in place for public access, the area occupied by the slab will be delineated by DOE-OREM to illustrate the original dimensions of the K-25 Building.

5. DOE-OREM shall obtain the services of a Professional Site Design Team, with experience interpreting historic sites, to prepare a design solution for the K-25 Preservation Footprint. Procurement of the Professional Site Design Team will be initiated no later than three (3) months after execution of this MOA. Prior to a solicitation to select a Professional Site Design Team, DOE-OREM shall seek input from the Consulting Parties on necessary components of a.-d. below to successfully commemorate and interpret the K-25 site. The input of the Consulting Parties will be shared with the selected Professional Site Design Team. The selected Professional Site Design Team shall, within one (1) year from procurement:
 - a. Recommend an approach for delineating the unique "U" shape of the K-25 gaseous diffusion process building, where practicable using materials salvaged from ETTP that conveys the size, height and magnitude of the former building;
 - b. Design and site a facility ("Equipment Building") for the display of authentic process gas equipment (Stipulation 7);
 - c. Design and site a viewing tower ("Viewing Tower") for site observation of the K-25 building footprint (Stipulation 8);
 - d. Design and recommend the placement of the low-profile NPS standard-type Wayside Exhibits (Stipulation 13);
 - e. Work with the COR on preliminary design for the K-25 History Center (Stipulation 11); and

- f. Prepare appropriate Design Documents that reflect these designs and recommendations.

Within one (1) year from procurement, the Professional Site Design Team shall provide to DOE-OREM the information developed from a.-f., which will be shared with the Consulting Parties.

6. DOE-OREM shall carry out the following design review process for review of the Design Documents:
 - a. Design Documents will be developed in accordance with DOE Order 413B, which calls for review by the signatories at the conceptual, preliminary, and final design phases. DOE-OREM will share Design Documents with Consulting Parties after the selected Professional Site Design Team provides those Design Documents to DOE-OREM.
 - b. The Consulting Parties shall provide any written comments to DOE-OREM within ten (10) calendar days of receipt of each Design Document. Each Signatory Party's comments will state whether that Signatory Party believes that the Design Document is in conformance with this MOA and the final Mitigation Plan, and, if not, what steps are necessary to be in conformance. DOE-OREM shall respond to comments in writing within thirty (30) days.
 - c. Failure to Comment. If a Consulting Party does not provide written comments on a Design Document within ten (10) calendar days of receipt, DOE-OREM may assume that the Consulting Party does not have any comments regarding the Design Document, and DOE-OREM may continue the work associated with that Design Document.
 - d. Project Document Review and Comment by the ACHP and SHPO. The ACHP and SHPO may request, at their discretion, any or all Project Documents from DOE-OREM for review and comment purposes. The review and comment would then proceed within a 10 day time frame.
7. DOE-OREM shall construct an Equipment Building ("Equipment Building") at the southern end of the "U" in reasonable proximity to the firehouse located at ETTP. The Equipment Building shall follow the Design Documents and be a representation of a portion of the K-25 building and shall be built to achieve the height of the K-25 Building, with three stories and a basement and recreate a scale representation (representative cross section) of the gaseous diffusion technology contained within the K-25 Building, making the maximum use of available authentic equipment. The location of the Equipment Building will be determined by DOE-OREM in consultation with the NPS, DOE-FPO and Tennessee SHPO. The objective is to display and configure authentic equipment in a manner that is most representative of operational conditions. The Equipment Building will display authentic equipment consisting of two (2) Size 2 cells across a truck aisle

(withdrawal alley), valves, and representative operating floor equipment, fixtures and accessories consistent with Concept B of the Department of Interior Section 213 Report. The Equipment Building will also include space to display and interpret Cold War-era equipment consisting of a 0, 00, and 000 converter and axial compressors with motors, and one 40-ft centrifuge casing, which, to the extent possible, will be declassified and decontaminated to enable display. The Equipment Building will be enclosed and will be of a size sufficient to provide space for ingress, egress, miscellaneous storage, viewing and interpretation of the equipment and its informational materials, and will take into consideration the potential for expansion and the relationship of the structure to the Fire Station, where additional authentic artifacts, oral histories, and other displays will be featured. DOE-OREM shall open the Equipment Building to the public no later than four (4) years after execution of this MOA. If for any reason, DOE-OREM anticipates the schedule for this activity to exceed the duration identified above, DOE-OREM will notify the Signatories of anticipated delays and enter into consultation on revisions to the schedule as set forth by this MOA.

8. DOE-OREM shall design and construct a dedicated Viewing Tower ("Viewing Tower"). The Viewing Tower shall follow the Design Documents and be located in reasonably close proximity to the Equipment Building and History Center. In accordance with Stipulation 5 and Stipulation 6, the Professional Site Design Team shall recommend the best location and orientation of the tower, and recommend a height adequate to provide a view of the size, scale, and proportions of the K-25 Building. DOE-OREM shall open the Viewing Tower to the public within four (4) years of execution of this MOA. If for any reason, DOE-OREM anticipates the schedule for this activity to exceed the duration identified above, DOE-OREM will notify the Signatories of anticipated delays and enter into consultation on revisions to the schedule as set forth in the MOA. DOE-OREM shall obtain the services of a Museum Professional to design and layout all the interior spaces to be used to interpret the Manhattan Project and Cold War history of the K-25 Site.

9. DOE-OREM shall initiate procurement of the Museum Professional within one (1) year of execution of this MOA. The Museum Professional will meet the professional qualifications standards contained in the *National Standards and Best Practices for U.S. Museums*, published by the American Association of Museums. The Museum Professional shall have specific professional qualifications and experience in the interpretation of technological history and artifacts and shall, in consultation with the NPS, DOE-FPO, Tennessee SHPO, and ORHPA:
 - a. Design the exhibits and displays for the Equipment Building (Stipulation 7);
 - b. Design the exhibits and displays for the K-25 History Center (Stipulation 11);

- c. Develop the content of the 12 NPS standard-type Wayside Exhibits (Stipulation 13); and
 - d. Develop the historic information content of the self-guided tour brochure (Stipulation 14).
10. DOE-OREM shall perform an inventory and review of all equipment identified for preservation in prior MOAs for the ETTP site, including the equipment and materials collected to date and those not yet collected. The inventory and review will be conducted by a team that includes a Museum Professional, a historian who meets the *Secretary of the Interior's Historic Preservation Professional Standards*, a photographer, subject matter experts with information about the history and use of particular artifacts, DOE-FPO, an ORHPA representative, and a DOE-OREM representative. Based on the inventory and review, DOE-OREM shall determine the most appropriate and feasible equipment and artifacts to display in the Equipment Building (Stipulation 7) and in the K-25 History Center (Stipulation 11) and possibly elsewhere. DOE-OREM shall provide the completed inventory listing, which will identify the items to be retained, to the Tennessee SHPO, ACHP and COR. Equipment and materials selected for retention by DOE-OREM will be set aside and prepared for display, if needed, according to a schedule that will enable their timely relocation to either the Equipment Building or History Center once the facility is available to receive the items. DOE-OREM may offer equipment and artifacts not selected for retention and/or display to third parties, both Federal and non-Federal, such as the NPS, the Smithsonian, or others for use in their museum collections, consistent with 41 CFR § 109 *et seq.* The American Museum of Science and Energy and the COR are considered third parties for purposes of the excess equipment and artifacts.
11. Within three (3) months following the execution of the MOA, DOE-OREM shall initiate discussions with the COR regarding the K-25 History Center to be located on the second level of the Fire Station at ETTP. Discussions would include, but not be limited to, the lease arrangements, timing on availability of the space, additional space that may be available for expansion, and the coordination of History Center operations with Fire Station activities and responsibilities. The History Center will provide space to exhibit authentic equipment, artifacts, and other media to facilitate access to oral histories, film and video, and access to the K-25 Virtual Museum (Stipulation 12).
12. DOE-OREM shall fund the development and maintenance of a web-based K-25 Virtual Museum. DOE-OREM will initiate procurement for the K-25 Virtual Museum development services no later than six (6) months after execution of this MOA. DOE-OREM shall prepare and distribute to the Signatories, Invited Signatories, and NPS an outline of proposed Virtual Museum features no later than three (3) months after procurement. Signatories and Invited Signatories shall review and comment no later than

one (1) month of receipt, and DOE-OREM shall take those comments into account as it implements the Virtual Museum. DOE-OREM shall provide updates on the progress of the K-25 Virtual Museum development, including details on the hosting and maintenance of the Virtual Museum, in the semi-annual status reports (Stipulation 19) to be prepared by the K-25 Historic Preservation Coordinator (Stipulation 2). DOE-OREM shall offer a preview of the K-25 Virtual Museum to the Consulting Parties for review and comment no later than eighteen (18) months after procurement, and DOE-OREM shall launch the K-25 Virtual Museum no later than six (6) months after the preview, so long as, for both preview and launch, any necessary security, classification and/or cyber-security reviews of the K-25 Virtual Museum materials have been completed. If the K-25 Virtual Museum becomes part of a National Historical Park at some point in the future, DOE-OREM and DOE-FPO shall consult with the NPS as appropriate about the contents of the K-25 Virtual Museum. At a minimum, the K-25 Virtual Museum shall include multi-media opportunities for viewing, learning, and researching aspects of the K-25 site and its Manhattan Project and Cold War history. The K-25 Virtual Museum shall use an interactive map of the site where a viewer can click on a building or area that will open up to a menu of information types. Menu types may include, but not be limited to, photographs (archival and recent), oral histories, drawings and plans, videos, and descriptive materials of the buildings' purposes and functions. Additionally, users will be able to make their own contributions to the archive through a Digital Memory Box (DMB) that will use electronic multimedia to collect, preserve, and present the stories and digital records of former workers and their families. DOE-OREM shall retain the Virtual Museum on the Internet for a period of no less than ten (10) years from the date of execution of this MOA. The DMB shall contribute to the ongoing effort by DOE-OREM to preserve K-25's history by collecting first-hand accounts, on-scene images, and blog postings. Information from the Center for Oak Ridge Oral History (COROH) shall also be available to the Virtual Museum, whose DMB feature shall enable oral history collection efforts to continue after the funding for the COROH has been expended.

13. After consulting with NPS, COR and ORHPA, DOE-OREM shall fund the preparation, design, installation, and maintenance of 12 low-profile NPS standard-type Wayside Exhibits located within both the "K-25 Preservation Footprint" and elsewhere. DOE-OREM will use the Wayside Exhibits in coordination with a self-guided tour brochure (Stipulation 14). Wayside exhibits will be consistent with NPS' *Wayside Exhibit Guide*, October 2009. The K-25 Historic Preservation Coordinator will work with the Museum Professional (Stipulation 9) and DOE-FPO on the written and pictorial content of the exhibits and will coordinate the installation of the Wayside Exhibits with the implementation of the design for the dedicated K-25 Preservation Footprint. DOE-OREM shall complete the installation of all of the Wayside Exhibits no later than one (1) year after the opening of the History Center. As part of the design process for the wayside exhibits, DOE-OREM shall decide whether the bricks from the S-50 Boiler House Chimneys may also be used to facilitate historic interpretation in displays, markers, or for other applications, where appropriate. DOE-OREM shall fund the maintenance of the Wayside Exhibits for a period of no less than ten (10) years from the date of execution of this MOA.

14. DOE-OREM shall, no later than one (1) year after the opening of the History Center, prepare and publish 1000 copies of a self-guided tour brochure for ETPP and its immediate surroundings. DOE-OREM shall develop the brochure, which will supplement the Wayside Exhibits described in Stipulation 13, in consultation with the Consulting Parties and will include a map of the site area, photographs of the site over time, a map of the wayside exhibit locations, and other points of interest, such as the site of the K-25 Preservation Footprint, History Center, Viewing Tower, and the Equipment Building.

15. DOE-OREM intends to provide a grant upon execution of this MOA to ETPA or its fiscal agent, Knox Heritage, Inc., for purchase and stabilization of the Alexander Inn (also known as the Guest House), as partial mitigation for the adverse effects of the D&D of the K-25 Building at the ETPP site. The purpose of the grant is to support the preservation of the Alexander Inn and to transition the Alexander Inn to a private developer for economic benefit to the community, and to offset the loss of historic properties at ETPP by preserving similarly situated historic properties in Oak Ridge. The DOE-OREM intends to provide \$350,000 for purchase of the property, and an additional \$150,000 for building stabilization activity. The terms of the grant shall include, among other things, that within 180 days of receipt of the grant, ETPA will finalize the purchase or other acquisition of the Alexander Inn by ETPA, Knox Heritage or by a private owner. The grant funds may be used to acquire the Alexander Inn, including payment of any closing costs related thereto, or for acquisition and foreclosure of the first mortgage on the property.

16. ETPA shall ensure that The Secretary of the *Interior Standards for Rehabilitation of Historic Buildings* will be followed for the rehabilitation. ETPA shall submit all rehabilitation plans to the Tennessee SHPO and NPS, and Tennessee SHPO and NPS shall have thirty (30) days to review and comment to ensure the Secretary's Standards are met. The COR agrees to work with ETPA and the private owner in developing an acceptable schedule, not to exceed one (1) year from date of purchase, for bringing the Alexander Inn into compliance with all city ordinances. In the event the ETPA is unable to finalize the purchase and sale of the Alexander Inn in the agreed upon amount of time or any extended period approved by DOE-OREM, DOE-OREM shall terminate the grant and all monies refunded in full to DOE-OREM (less any funds paid for allowable costs incurred under the grant). The sale of the Alexander inn to private ownership or end user shall include or require a historic preservation easement for the external facade of the building to protect the historic and cultural values of the building. The historic preservation easement shall run with the land in perpetuity.

17. DOE-OREM shall work with the NPS to prepare Level I Historic American Engineering Record (HAER) Documentation including a written description and history, large-format photographs, historical photographs and measured drawings developed to meet the requirements of the *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation* for the entire K-25 Building (including what has already been demolished), the K-1037 Building and K-1028-54 (Portal 4). For parts of the K-25 Building that have already been demolished, large-format photographs of foundations and other archaeological remains, and copies of construction drawings and other existing documents, in addition to a historical report, may be substituted as Level II documentation, with the agreement of the HAER representative. Coordination with the NPS on the documentation for the K-25 Building will begin and fieldwork for the documentation of K-25 will be completed prior to any additional demolition of the North Tower. Coordination on the K-1037 and K-1028-54 (Portal 4) will begin no later than eighteen (18) months after execution of this MOA but prior to the demolition of the buildings. Alternate methods of information gathering, such as compilation of existing construction and maintenance drawings, historical documents including technical specifications and engineering studies, and historic photos, may be employed in consideration of physical, radiological and/or biological hazards, or classification concerns that may exist within the remaining portions of the K-25 and K-1037 buildings.
18. DOE-OREM shall furnish a reference list of its available unclassified documents on the K-25 Building activities post-World War II to the Consulting Parties and shall research its inventory of classified documents for potential future declassification. However, DOE-OREM does not guarantee to Consulting Parties or anyone else that it will declassify any documents. DOE-OREM shall provide the reference list no later than one (1) year after execution of the MOA. After consultation with representatives of HAER on the reference list of unclassified post-World War II K-25 documents, DOE-OREM shall provide electronic copies of mutually agreed-upon, unclassified documents to HAER.
19. Monitoring Progress: Twice each year, beginning six (6) months after execution of this MOA and every six (6) months thereafter until all stipulations have been completed, the K-25 Historic Preservation Coordinator shall prepare a progress report for the Consulting Parties. DOE-OREM shall make copies of the progress report available to the public. The progress report will summarize all work accomplished during the reporting period and identify concerns with future efforts. At the completion of all stipulations, the K-25 Historic Preservation Coordinator shall submit a final report to all Signatories and invited Signatories.
20. Consultation with experts: DOE-OREM shall obtain the assistance of the ORHPA, COR and the COR Historian, to help ensure that implementation of the MOA is technically and

historically accurate. ORHPA and the COR Historian have unique and demonstrated knowledge of K-25 Site. Upon request by DOE-OREM, ORHPA shall provide support during the design/build process on activities such as:

- a. Reviewing and commenting on the design, equipment layout, exhibits, and interpretation proposed for the Equipment Building and the K-25 History Center;
 - b. Providing information to the K-25 History Center Museum Professional on the selection, display, and interpretation of diffusion equipment, artifacts, timelines, models, photos and other items for presentation.
 - c. Collaborating in developing wayside markers the self-guided tour brochure and similar interpretive measures; and
 - d. Providing other support as requested by DOE-OREM.
21. **Funding:** The K-25 Historic Preservation Coordinator shall develop scopes of work and estimated costs for the mitigation stipulations set out in this MOA. The K-25 Historic Preservation Coordinator shall share information on budget development activity consistent with DOE policy for involvement of the public in budget development. After Presidential Budgets are submitted to Congress, information in these budgets relevant to implementation of this MOA shall be provided to the Signatories. DOE-OREM shall recognize the stipulations identified in the MOA as measures necessary to comply with the National Historic Preservation Act.
22. **Anti-Deficiency Act:** The DOE-OREM's responsibilities under this MOA are subject to the availability of appropriated funds, and the stipulations of this MOA are subject to the provisions of the Anti-Deficiency Act. The DOE-OREM will make reasonable and good faith efforts to secure the necessary funds to implement this MOA in its entirety. If compliance with the Anti-Deficiency Act alters or impairs the DOE-OREM's ability to implement the stipulations of this MOA, the DOE-OREM will consult in accordance with the amendment and terminations procedures found in this MOA.
23. **Periodic Inspection:** DOE-OREM shall permit periodic inspections of the progress of the interpretation of K-25 by representatives of the Signatories and Invited Signatories. Those representatives who desire to participate in these inspections shall request them through the K-25 Historic Preservation Coordinator and allow sufficient time for the Coordinator to make appropriate arrangements, which shall be complete no later than one (1) month after receiving the request. Failure of these representatives to provide any necessary security documentation requested by the K-25 Historic Preservation Coordinator will have the effect of negating the inspection request.

24. Amendments: Any Signatory to this MOA may propose to the other Signatories that it be amended, whereupon the Signatories will consult in accordance with 36 *CFR* Part 800.6(c)(7) to consider such amendments. This MOA may be modified by mutually acceptable written amendment, duly executed by authorized officials.

25. Dispute Resolution: Should any Signatory or Invited Signatory to this MOA object to any action carried out or proposed by DOE-OREM with respect to its implementation, that Signatory shall communicate their objection to the DOE-OREM K-25 Historic Preservation Coordinator, and DOE-OREM shall consult with the Signatory party to resolve the objection. If, after such consultation DOE-OREM determines that the objection cannot be resolved, DOE-OREM shall forward documentation relevant to the objection to the ACHP, including the DOE-OREM proposed response to the objection. Within forty-five (45) days after receipt of all pertinent documentation, the ACHP shall exercise one of the following options:
 - a. Advise DOE-OREM that the ACHP concurs in DOE-OREM's proposed final decision, whereupon DOE-OREM shall respond accordingly;
 - b. Provide DOE-OREM with recommendations, which DOE-OREM shall take into account in reaching a final decision regarding its response to the objection; or
 - c. Notify DOE-OREM that the objection will be referred to the ACHP's membership for formal comment and proceed to refer the objection and comment within forty-five (45) days. The resulting comment shall be taken into account by DOE-OREM in accordance with 36 *CFR* § 800.7(c)(4).

Should the ACHP not exercise one of the above options no later than forty-five (45) days after receipt of all pertinent documentation, DOE-OREM may assume the ACHP's concurrence in its proposed response to the objections. DOE-OREM shall take into account any ACHP recommendation or comment provided in accordance with this Stipulation with reference only to the subject of the objection; DOE-OREM shall continue to carry out all actions under this MOA that are not the subject of the objections. To the extent that this MOA contains a schedule commitment(s) that is the subject of the objection(s), the commitment(s) will be delayed by the period of time taken to resolve the dispute under this clause.

26. Termination of this MOA:
 - a. If DOE-OREM determines that it cannot implement the terms of this MOA, or any of the other Signatory Parties determines the MOA is not being properly

implemented, DOE-OREM or the objecting party may propose to the other parties to this MOA that it be terminated.

- b. The party proposing to terminate this MOA shall notify all Consulting Parties to this MOA explaining the reasons for termination and affording them at least thirty (30) days to consult and seek alternatives to termination.
- c. Should such consultation fail and the MOA be terminated, DOE-OREM shall either consult in accordance with 36 CFR § 800.6(a) to develop a new MOA or request the comments of the ACHP pursuant to 36 CFR § 800.7(c).

27. Termination by date: If for any reason and at any time, DOE-OREM anticipates the schedule for completing the Stipulations set forth in this MOA will exceed the duration of five (5) years, DOE-OREM will notify the Signatories and Invited Signatories in writing, at that time the MOA may be amended with agreement from the Signatories and Invited Signatories.

If DOE-OREM has not successfully concluded all Stipulations of this MOA and no amendments have been agreed upon by the Signatory Parties no later than seven (7) years after execution of the MOA, the MOA shall be terminated. DOE-OREM shall then comply with procedures in 36 CFR §§ 800.3 - 800.7 with regard to mitigation of the effects of the Undertaking.

Execution of this MOA and implementation of its terms demonstrate that DOE-OREM has taken into account the effects of the Undertaking at the K-25 Site, and afforded the Consulting Parties a reasonable opportunity to comment on the measures proposed to address the adverse effects resulting from the Undertaking at ETTP. The stipulations in this MOA identify the full extent of the mitigative measures DOE-OREM will take to interpret the ETTP. This MOA constitutes the entire agreement between the Signatories, Invited Signatories and Concurring Parties and supersedes previous MOAs and/or other understandings relative to this matter. This MOA is effective once all of the Signatories and Invited Signatories have signed the MOA. This MOA is limited to the instant Undertaking and is entered into solely for that purpose. This MOA in no way restricts any Consulting Party from participating in any activity with other public or private agencies, organizations, or individuals. This final MOA does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not a party to this final MOA against the Signatory Parties, their officers, or employees or any person not a Signatory or Party to this final MOA. This final MOA shall not be interpreted as limited, superseding, or otherwise affecting DOE-OREM's normal operations or decisions in carrying out its statutory or regulatory duties.

MEMORANDUM OF AGREEMENT
AMONG THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT,
DEPARTMENT OF ENERGY FEDERAL PRESERVATION OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
RIDGE, TENNESSEE, AND THE EAST TENNESSEE PRESERVATION ALLIANCE,
PURSUANT TO 36 CFR PART 800.6(b)(2) FOR DECOMMISSIONING AND
DEMOLITION OF THE K-25 SITE AND INTERPRETATION OF
THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

SIGNATORY:

DEPARTMENT OF ENERGY, OAK RIDGE OFFICE OF ENVIRONMENTAL
MANAGEMENT

By: *A. M. Curry* Date: August 6, 2012
Agency Official for Purposes of Section 106
Deputy Manager, Oak Ridge Office of Environmental Management

MEMORANDUM OF AGREEMENT
AMONG
THE U.S. DEPARTMENT OF ENERGY OAK RIDGE OFFICE OF ENVIRONMENTAL
MANAGEMENT, DEPARTMENT OF ENERGY, FEDERAL PRESERVATION
OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
RIDGE, TENNESSEE, AND THE EAST TENNESSEE PRESERVATION ALLIANCE,
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TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

DEPARTMENT OF ENERGY, FEDERAL PRESERVATION OFFICER

By: James R. Fahn Date: 7/24/12
Federal Preservation Officer

TENNESSEE

Date:

MEMORANDUM OF AGREEMENT
AMONG THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT,
DEPARTMENT OF ENERGY FEDERAL PRESERVATION OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
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THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

SIGNATORY:

TENNESSEE STATE HISTORIC PRESERVATION OFFICER

By: E. Patrick McIntyre, Jr. Date: August 7, 2012
State Historic Preservation Officer

MEMORANDUM OF AGREEMENT
AMONG
THE U.S. DEPARTMENT OF ENERGY OAK RIDGE OFFICE OF ENVIRONMENTAL
MANAGEMENT, DEPARTMENT OF ENERGY, FEDERAL PRESERVATION
OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
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ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

SIGNATORY:

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: John M. Fulk
Executive Director

Date: 8/3/12

MEMORANDUM OF AGREEMENT AMONG
THE U.S. DEPARTMENT OF ENERGY,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
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THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

INVITED SIGNATORY:

CITY OF OAK RIDGE

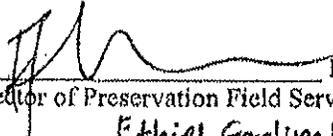
By: Thomas J. Bell
Mayor

Date: 6/22/12

MEMORANDUM OF AGREEMENT AMONG
THE U.S. DEPARTMENT OF ENERGY,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
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THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

INVITED SIGNATORY:

EAST TENNESSEE PRESERVATION ALLIANCE

By:  Date: June 27, 2012
Director of Preservation Field Services
Ethiel Garlington

MEMORANDUM OF AGREEMENT
AMONG
THE U.S. DEPARTMENT OF ENERGY OAK RIDGE OFFICE OF ENVIRONMENTAL
MANAGEMENT, DEPARTMENT OF ENERGY, FEDERAL PRESERVATION
OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
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TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

CONCURRING PARTY:

DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

By: _____

Dawdle

Date: _____

August 1, 2012

MEMORANDUM OF AGREEMENT
AMONG THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT,
DEPARTMENT OF ENERGY FEDERAL PRESERVATION OFFICER,
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ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

CONCURRING PARTY:

ATOMIC HERITAGE FOUNDATION

By: *Agnacia C. Kelly* Date: *Aug 8, 2012*

MEMORANDUM OF AGREEMENT
AMONG THE U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT,
DEPARTMENT OF ENERGY FEDERAL PRESERVATION OFFICER,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
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ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

CONCURRING PARTY:

NATIONAL TRUST FOR HISTORIC PRESERVATION

By: David J. Brown Date: 10/9/12

David J. Brown
Executive Vice President and Chief Preservation Officer

MEMORANDUM OF AGREEMENT AMONG
THE U.S. DEPARTMENT OF ENERGY,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
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ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

CONCURRING PARTY:

OAK RIDGE HERITAGE AND PRESERVATION ASSOCIATION

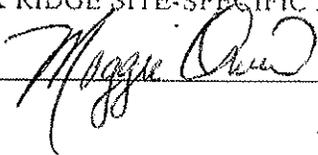
By: Dan R Bradshaw Date: July 10, 2012
President

MEMORANDUM OF AGREEMENT AMONG
THE U.S. DEPARTMENT OF ENERGY,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
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THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

CONCURRING PARTY:

OAK RIDGE SITE-SPECIFIC ADVISORY BOARD

By:



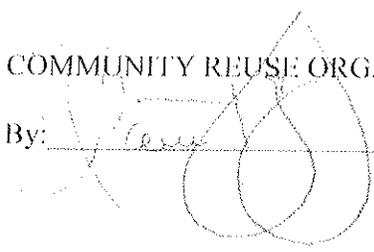
Date:

7-11-12

MEMORANDUM OF AGREEMENT AMONG
THE U.S. DEPARTMENT OF ENERGY,
THE TENNESSEE STATE HISTORIC PRESERVATION OFFICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, THE CITY OF OAK
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THE EAST TENNESSEE TECHNOLOGY PARK,
ON THE OAK RIDGE RESERVATION, ROANE COUNTY, TENNESSEE

CONCURRING PARTY:

COMMUNITY REUSE ORGANIZATION OF EAST TENNESSEE

By:  Date: 07/13/2012

FINAL MITIGATION PLAN

SITE INTERPRETATION
EAST TENNESSEE TECHNOLOGY PARK

DEPARTMENT OF ENERGY
OAK RIDGE OFFICE
OF ENVIRONMENTAL MANAGEMENT

November 2012

PREFACE

The citizens of Oak Ridge are heirs to an important historical legacy. Founded during World War II, the city was created in an effort to rapidly develop new technologies needed to preserve American democracy. Working under intense pressure, thousands of men and women built—then operated—some of the largest and most sophisticated facilities ever constructed. Their contributions to winning the greatest war in human history are part of a story that more than six decades later still defines the character of the Oak Ridge community.

One of the story's most important chapters took place at K-25, a 2 million square foot facility that in 1945 was the largest building in the world. Using a new gaseous diffusion process to separate Uranium-235, an isotope suited for achieving nuclear fission, from Uranium-238, the "K-25 site" became the name associated with a vast complex of some 500 buildings constructed for the purpose of uranium enrichment at a cost that today would exceed \$6 billion. Employing more than 12,000 workers at its peak, the project's enormous scale was necessary to produce only a few grams of U-235. The small amount, however, was enough to help end the war with Japan and make Oak Ridge synonymous with the great achievements of American history.

After some four decades of producing enriched uranium for the American nuclear industry, the K-25 gaseous diffusion complex was closed in 1987. Unfortunately, several of the buildings contained significant contamination, a byproduct of housing radioactive materials that, at least in the early years, were sometimes not fully understood. For these buildings, which included the original K-25 structure, the enormous cost of remediating the contamination effectively foreclosed options for preservation or renovation. Supported by the Congress, the U.S. Department of Energy (DOE) determined in 1996 that risks to public health and the region's environment made it necessary to demolish the K-25 complex and remove the contaminated materials. The K-25 complex in 1997 was renamed the East Tennessee Technology Park, designed as a brownfield site suitable for reindustrialization after completion of environmental remediation.

The decision to demolish the buildings in the former K-25 Site was accompanied by a commitment to recognize for posterity the historic contributions represented by the site and by the thousands of workers who contributed to its success. This commitment was shared by a number of consulting parties, including, but not limited to, DOE, the City of Oak Ridge, the state of Tennessee, the Advisory Council on Historic Preservation, and the East Tennessee Preservation Alliance (ETPA). While all of the consulting parties shared the goal of commemorating K-25's historic legacy, each originally brought to the consultation process a distinctly different perspective. Not surprisingly, these unique perspectives produced recommendations that varied greatly in scale, cost, and the approach to preserving K-25's history. Some recommendations were projects confined to the K-25 Site. Within this group were proposals to retain substantial portions of existing buildings, along with options to build an interpretive center on the site of the existing K-25 Building. Other consulting parties sought to link the commemoration of K-25 to the broader story of Oak Ridge's role in the Manhattan Project, an effort that would include the preservation or construction of buildings not located on the K-25 Site. As advocated and embraced by the consulting parties in the past, the broader history of the Manhattan Project in Oak Ridge may be best interpreted using a "hub and spoke"

approach. This approach would link the stories of each of the DOE facilities in a thorough and appropriately balanced interpretive effort. The Department will work on this effort with other DOE programs in Oak Ridge, as well as the National Park Service, American Museum of Science and Energy and other consulting parties.

In response to a request from the Advisory Council on Historic Preservation to prepare a National Historic Preservation Act “Section 213 Report”, the National Park Service submitted their Section 213 Report in late March 2012. The Park Service recommended three interpretive options that both echoed and enhanced earlier proposals that had been made. Two options proposed saving portions of the K-25 Building itself, while a third option proposed a recreation of a portion of the K-25 Building. The Park Service also recommended several documentation efforts to further support the historic record. Correspondence followed from the Advisory Council on Historic Preservation who suggested that DOE hold a meeting of the consulting parties to enable a discussion of the Park Service Section 213 Report.

DOE held a final meeting of all of the consulting parties and the National Park Service on May 17, 2012. The meeting enabled an open discussion of the Park Service Report among all of the consulting parties in attendance. While the focus of the meeting was to discuss and gain a greater understanding of the preservation options from the informed opinion of the Park Service, the need for necessary haste in concluding the consultation was also provided by DOE. DOE confirmed that they had funding set aside to initiate a number of preservation measures within the 2012 fiscal year. DOE also pointed out that further delays in reaching an agreement risked the loss of those funds for preservation measures in the fiscal year as well as the even greater financial, regulatory, contracting, and personnel impacts that would ensue without an executed MOA.

All of the recommendations received were evaluated and considered and have contributed to the executed August 2012 Memorandum of Agreement and this Final Mitigation Plan (November 2012). For over a decade, the collective input resulted in a process of rethinking both the goals and strategies for commemorating the K-25 Site and its contribution to our history. Against the backdrop of this input, the Final Mitigation Plan represents an effort to align these priorities with national financial constraints. A sustained effort to restrain federal spending means that proposals that only 7 years ago appeared viable today have little chance of obtaining funding. In this context, previous agreements were weighed against the need to acknowledge this new fiscal environment and the executed August 2012 MOA reflects the present fiscal limitations.

The Final Memorandum of Agreement and Mitigation Plan reflect DOE’s commitment to begin immediate implementation of a project to pass on the K-25 legacy to our children. If we tell it well, the story is one that will introduce them to our history, and connect them to our country and our achievements.

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1.0 INTRODUCTION

The Final Mitigation Plan for Site Interpretation of the East Tennessee Technology Park (ETTP) is the product of the Bridge Memorandum of Agreement (MOA) executed in 2010 by the U.S. Department of Energy's Oak Ridge Office (DOE ORO). Signatories to the 2010 agreement included the Department of Energy Federal Preservation Officer, the Tennessee State Historic Preservation Office (SHPO), and the Advisory Council on Historic Preservation (ACHP). The agreement stipulated that DOE prepare a Final Mitigation Plan for interpretation of the history of the former K-25 complex, a component of the Manhattan Project located in the ETTP.

The Final Mitigation Plan incorporates extensive comment from a variety of stakeholders interested in the historic preservation of K-25. A draft plan, along with a MOA directing the plan's implementation, was circulated to consulting parties for review. DOE hosted an all-day consulting parties meeting on November 17, 2011, at which attendees were encouraged to share questions and comments about the draft plan. Additional written comments were accepted through November 30, 2011.

A copy of the proposed Final Mitigation Plan was issued to the consulting parties on February 1, 2012. Comments were received and were considered, resulting in document revisions. A final meeting of the consulting parties was held on May 17, 2012; at which time, additional comments were received.

Following the May 17, 2012, meeting and consideration of the comments received, DOE issued a final MOA for execution in June 2012. DOE interacted frequently with the signatories; all commentary was considered and the final MOA was executed among the signatories on August 7, 2012. This Final Mitigation Plan reflects the agreements from the executed MOA. In the event a discrepancy occurs between the content of the Mitigation Plan or the Execution Plan and the MOA; the MOA is the governing document.

2.0 PROJECT HISTORY

2.1 2005 Memorandum of Agreement

Acting in accordance with Section 106 of the National Historic Preservation Act (NHPA), DOE ORO in 2000 determined that decontamination and decommissioning activities at the former K-25 Site would have an adverse impact on historic properties eligible for inclusion in the National Register of Historic Places. Since that initial determination, the Department has sought input of consulting parties and members of the public, commissioned studies, and hosted numerous public meetings in an effort to identify among competing recommendations the most appropriate method of commemorating K-25's historic legacy.

In 2005, the parties agreed that the use of the North End of the K-25 Building was the appropriate method of site interpretation that would take into account the adverse effects on historic properties. As a result, DOE, the SHPO, and the ACHP entered into a MOA that included the retention of the North End of the K-25 Building as well as numerous additional mitigation measures.

Subsequent to the execution of the 2005 MOA, DOE began the demolition of the K-25 Building, with the exception of the North End. The following mitigation measures contained in the 2005 MOA have been completed:

- Collection and storage of approximately 700 K-25 artifacts determined to be historically significant through a process agreed upon by consulting parties and documented in consultation meeting minutes
- Retention of Portal 4, also known as K-1028-45. It should be noted that as of October 2012, Portal 4 is extant. In February 2012, a group of consulting parties agreed, and confirmed in May 2012, that Portal 4 not be retained for preservation and restoration in favor of funds being directed to other preservation initiatives. DOE does not plan to retain Portal 4 but will be documenting it as a part of the Department's Level I documentation effort (identified as Stipulation 17 in the MOA)
- Feasibility evaluation of retaining the low chimneys of the S-50 Boiler House
- Transcription of approximately 70 oral history interviews conducted with former K-25 workers
- Production of two documentary videos utilizing oral history interviews and historic photographs
- Documentation of the K-25 and K-27 Gaseous Diffusion Process Buildings with the use of 360° IpiX-type photographs
- Collection and storage of a complete set of unclassified architectural and engineering plans and specifications of the K-25 and K-27 Buildings

2.2 2010 "Bridge" Memorandum of Agreement

In 2006, as demolition of the K-25 Building continued in compliance with the 2005 MOA, an employee working inside the K-25 Building fell 30 feet through the floor. Fortunately, the worker survived the fall; however, the incident called into question both the safety of the facility and the plans to retain the facility's North End. Work halted while DOE reevaluated the path forward for demolition of the K-25 Building.

During several subsequent meetings with the consulting parties, DOE described in detail the deteriorated conditions that presented serious safety concerns at the K-25 Building, including the North End. In 2009, the Department advised the consulting parties that both prohibitive costs and safety considerations would render three stipulations of the 2005 MOA no longer feasible. The three stipulations were preserving the North End of the K-25 Building, salvaging and preserving portions of the Roosevelt Cell, and retaining 10 feet of the interior walls of the U-shaped K-25 Building.

As efforts proceeded to implement the remaining stipulations of the 2005 MOA, DOE requested that the consulting parties consider other potential mitigation measures that might serve as alternatives to the three deleted stipulations. The parties offered a number of distinctly different alternatives that varied greatly in scope and cost. The Oak Ridge Heritage and Preservation Association/Partnership for K-25 Preservation (ORHPA/PKP) presented “Option K,” otherwise referred to as the “stand-alone history center.” In addition to the construction of a new 33,000 sf facility, Option K included the following mitigation measures:

- Demarcation and preservation of the K-25 footprint in perpetuity
- Display of authentic equipment in the history center
- Construction of a viewing tower
- Renovation of Portal 4
- Installation of historic markers throughout ETTP

Some of the consulting parties expressed concern that the proposed “Option K History Center” would prove too costly and requested consideration of other options, including a smaller and potentially open-air structure that would not require permanent staffing. Other parties continued to advocate for the preservation of a section of the K-25 Building. Although many suggestions were made, no consensus emerged.

In the absence of consensus on how best to commemorate the K-25 Building, in 2010 DOE, the SHPO, and the ACHP entered into a Bridge MOA. The Bridge MOA enabled DOE to remain in compliance with the NHPA until the parties could reach agreement on a Final MOA. DOE agreed to continue consultation with the parties while undertaking two feasibility studies designed to evaluate the various proposals for interpreting K-25’s historical significance to the Oak Ridge community. The feasibility studies included a structural evaluation of the North End of the K-25 Building by Degenkolb Engineers and a review of potential interpretation options conducted by Informal Learning Experiences, Inc.

A key goal of the evaluation studies was to validate the structural integrity of the North End of the K-25 Building. Although DOE engineers had determined safety and cost considerations arising from contamination and deteriorated conditions prevented the retention of the North End of the K-25 Building, some of the consulting parties continued to advocate strongly for the preservation of a portion of the building. To address this issue, Degenkolb Engineers was directed to conduct a structural evaluation of four basic schemes for the preservation of a portion of the North End of the K-25 Building. The four schemes included the following:

- Retention of approximately one-third of the North End of the K-25 Building, including process equipment, primary piping, and the historic structure representing one operating unit of equipment
- Retention of two cells of the North End of the K-25 Building, including process equipment, primary piping, and the historic structure representing about one-twelfth of the structure

- Demolition of the entire North End of the K-25 Building and construction of a new visitor's center with a recreated stage that would display original equipment
- Demolition of the entire North End of the K-25 Building except for a portion of the face frame and wall and a small portion of the original Cell Floor retained to support one stage or one converter of original equipment, and provide adjacent space for additional exhibits

Degenkolb noted that the four schemes examined in the study were arbitrary in the sense that parts of each scheme might prove viable in a final option. While their task was to compare the cost and viewer experience of the four independent alternatives, the firm predicted that the ultimate proposal would likely vary somewhat from any of the specific alternatives evaluated in the study. Degenkolb also emphasized that conceptual budgets were prepared for comparative purposes only and should not be assumed to reflect total project costs. For example, the conceptual budgets did not include "soft" costs for exhibit design, installation, or maintenance; the cost of removing, decontaminating, or reinstalling equipment; the cost for addressing safety issues; or the cost for additional mitigation measures that might be implemented in addition to retaining a portion of the building. Degenkolb was not asked to evaluate the historic integrity of building remnants, worker safety issues, or mitigation options other than the four specified schemes.

In addition to the structural evaluation, Informal Learning Experiences examined two commemoration and interpretation approaches to Oak Ridge's Manhattan Project Experience. One option included reservation-wide interpretation that would incorporate each of the Oak Ridge Reservation's three "signature facilities" (the K-25 Gaseous Diffusion Process Building, the Graphite Reactor at Oak Ridge National Laboratory, and the Beta 3 Racetracks and Pilot Plant at the Y-12 National Security Complex). (The term "signature facilities" is a DOE designation and not a designation used under the NHPA. DOE defines their signature facilities as nationally significant historic properties that best convey and interpret the scale and importance of the Manhattan Project and provide the core of the Department's ability to successfully interpret, whether *in situ* or through a museum or other interpretive setting, its Manhattan Project mission of developing atomic bombs during World War II). The second option focused solely on K-25. The study concluded that the visitor would receive the best experience if all three signature facilities were interpreted through a "hub and spoke" concept that provided a location in the city's center (the hub) to learn the broader story of Oak Ridge's contribution to the Manhattan Project. This would be combined with physical or visual access to each of the three facilities (the spokes), including a portion of the K-25 Building and its equipment. The study also concluded the following:

- A new museum facility or a faithful replica would be less desirable than preservation of the original structure
- The Department should work with the National Park Service (NPS) to develop the most effective interpretive and operational programming

- Interpretive efforts should be coordinated with other local and state organizations that have keen interests in preservation planning.
- Visitors could be offered a more personalized experience using modern technologies
- The footprint of the K-25 Building should be marked to delineate scale and shape.

2.3 2011 Preferred Memorandum of Agreement

In January 2011, DOE distributed the Degenkolb and Informal Learning Experiences feasibility studies to the consulting parties accompanied by an invitation for comment. The Department received written comments from representatives of eight agencies and organizations (Informal Learning Experiences, Oak Ridge Reservation Local Oversight Committee, ACHP, the National Trust for Historic Preservation, Randall Travel Marketing, City of Oak Ridge, ORHPA/PKP, and the Atomic Heritage Foundation). The comments confirmed that despite a variety of opinions and perspectives on some major issues, consensus had emerged in a number of areas. The Department merged the areas of consensus into a draft Preferred Mitigation Plan. The plan's key elements included the following:

- Support for the adoption of the “hub and spoke” concept
- Consultation with the NPS for sitewide interpretation
- Delineation of the K-25 footprint for commemoration and interpretation activities

Comments reflected significant disagreement on the two proposals to retain a remnant of the K-25 Building and to construct a history center (Option K). Despite the lack of agreement, the comments and ensuing discussions provided DOE with excellent suggestions concerning the objectives of interpretation for each proposal. DOE incorporated several of these priorities, as well as the following factors, in preparing the Preferred Mitigation Plan:

- Feasibility study recommendations
- Public interest
- Visitor experience
- Accessibility
- Historic integrity
- Safety
- Cost

2.4 2012 Proposed Final Memorandum of Agreement

In October 2011, the Department issued the Preferred Mitigation Plan described in Section 2.3, above, and on November 17, 2011, a meeting of the consulting parties was held. It should be noted that in the period between the execution of the Bridge MOA in 2010 and the November 2011 meeting that a number of new consulting parties were added. The consulting parties added were the East Tennessee Preservation Alliance (ETPA), the Atomic Heritage Foundation (AHF), the National Trust for Historic Preservation (NTHP), the Oak Ridge Heritage and Preservation Association, (ORHPA) (which includes the Partnership for

K-25 Preservation – PKP), and the Community Reuse Organization of East Tennessee (CROET) A comment period was open on the materials provided to the consulting parties until November 30, 2011. During the comment period DOE received additional comments on the preservation measures proposed by DOE. Private individuals, and individuals or representatives of seven agencies and organizations (NTHP, AHF, the City of Oak Ridge, ORHPA/PKP, the Oak Ridge Site-Specific Advisory Board, and CROET) provided written comments. The comments indicated that despite differences of opinion on three major issues, namely:

- retaining a remnant of the K-25 Building,
- equipment preservation and display, and
- the features and attributes of a History Center,

it was evident that the differences were narrowing and the issues becoming less numerous. The Department studied the comments, evaluated them for feasibility, implementability, and cost, and made modifications to the Preferred MOA to reflect, as appropriate, the input received from the consulting parties and members of the public. The proposed Final MOA that was issued by the Department in February 2012, reflected the input of the commenting parties.

2.5 2012 Final Memorandum of Agreement

After issuing the proposed Final MOA and proposed Final Mitigation Plan in February 2012, the Department received a limited number of comments. Six consulting parties and three interested parties submitted one consolidated set of comments. This collective group of nine was unified in offering their consensus opinion of the Department's proposed mitigation measures and included a concise request for selected modifications to the February 2012 Memorandum of Agreement.

The modifications sought included requests for preservation of additional process gas equipment, a request for formal dedication of the K-25 Building footprint, suitable space within proposed interpretive facilities for storage of additional equipment, design of the proposed Viewing Tower so that it could view the entire K-25 Building footprint, an agreement to consider future expansion opportunities for the space within the Fire Station (proposed to house the K-25 History Center) and other minor modifications.

Comments from the other consulting parties requested that DOE prioritize preservation initiatives to preserve site resources before off-site resources (such as the Alexander Inn), and increase the level of specificity in the Memorandum of Agreement, in particular to provide scheduling and implementation information, where possible.

In late March 2012, the NPS submitted a NHPA Section 213 Report. The NPS was asked to prepare a report pursuant to Section 213 of the NHPA at the request of the ACHP. The NPS report offered recommendations on how DOE could best provide interpretive opportunities. The insights of the NPS are important, in particular because of the possibility of a future NPS "Manhattan Project Historical Park" unit that has been proposed in Congress and includes

selected facilities in Oak Ridge, including the K-25 Building. The need for suitable interpretive opportunities is understood.

Correspondence followed from the ACHP who suggested that DOE hold a meeting of the consulting parties to enable a discussion of the NPS Section 213 Report. DOE agreed with the ACHP recommendation and held a final meeting of all of the consulting parties and the NPS on May 17, 2012. The meeting enabled an open discussion of the NPS report among all of the consulting parties in attendance. The NPS recommended three interpretive options that both echoed and enhanced earlier proposals that had been made. Two NPS options proposed saving portions of the K-25 Building itself, while a third option proposed a recreation of a portion of the K-25 Building. The NPS also recommended several documentation efforts to further support the historic record.

2.6 2012 Executed Memorandum of Agreement

After issuing the Final MOA and Final Mitigation Plan for signature in June 2012, the Department interacted frequently with the signatory parties. Because these documents were detailed and had been refined based on the input received throughout the consultation process, the commentary of the signatory parties was very focused. Signatories sought only narrow modifications and adjustments aimed at offering clarification and further specificity, such as in areas involving review and comment periods on particular stipulations.

All of the comments received following the February 1, 2012, proposed Final MOA, those offered at the May 17, 2012, consulting parties meeting, and the input that was obtained in discussions between DOE and the signatory parties were all considered in the development of the MOA that was ultimately executed on August 7, 2012. The Final Mitigation Plan and Final Execution Plan were not a part of August 7, 2012, MOA. However, the executed MOA stipulates that the Final Mitigation Plan and the attached Final Execution Plan be produced within 3 months after execution of the final MOA. The executed MOA directly informs the content of this Final Mitigation Plan, and the attached Final Execution Plan. If clarification is needed regarding the final content, the executed MOA of August 7, 2012, should be consulted.

To enable a more cohesive presentation of the comment topics and DOE's responses to them, the responses to the comments received from consulting parties on the February 2012 and June 2012 transmittals have been added to the earlier responses. This cumulative information is provided in Section 3. The comments submitted by the NPS in the Section 213 Report have also been considered and are addressed in Section 3.3.1.

3.0 RESPONSE TO COMMENTS RECEIVED REGARDING THE PREFERRED MITIGATION PLAN (OCTOBER 2011), THE PROPOSED FINAL MITIGATION PLAN (FEBRUARY 2012), THE NATIONAL PARK SERVICE SECTION 213 REPORT, AND THE FINAL MITIGATION PLAN (JUNE 2012)

DOE distributed the Preferred Mitigation Plan to the consulting parties in October 2011. The Department hosted an all-day consulting parties meeting on November 17, 2011, to provide an opportunity for the parties to share questions and comments. Sixty individuals, including the consulting parties as well as other parties, completed the sign-in sheet. Each party was invited to provide comments through transcribed oral testimony at the meeting, comment cards provided at the meeting, or comments submitted by letter or email through November 30, 2011. DOE received written comments from 24 organizations and/or individuals.

The comments and related DOE responses are organized into six general categories:

1. The “hub and spoke” concept and consultation with the NPS
2. Demarcation of the K-25 Building footprint
3. Retention of a remnant of the K-25 Building
4. Preservation of equipment
5. Display of authentic equipment and other artifacts at the History Center
6. Restoration of the Alexander Inn

The six general categories of verbal and written comments (as enumerated above) provided to DOE were responded to in the proposed Final Mitigation Plan that DOE issued for a 15-day comment period in February 2012. The documents were transmitted to the signatories, invited signatories and consulting parties for their review. Comments on the February 2012 Proposed Final Mitigation Plan came from one group of six consulting parties and three interested parties who had consolidated their comments, offering a consensus opinion, and two organizations who commented separately.

As described in more detail in Section 2.5 above, the NPS submitted a report prepared pursuant to Section 213 of the NHPA in late March 2012. The comments and recommendations of the NPS fall within the same categories as those noted above. A review and discussion of the NPS recommendations and how they were considered in regard to mitigation needs, is found within Section 3.3.1, below.

All of the comments received on the October and February transmittals were either responded to in the subsections below and/or were incorporated in the June 2012 MOA. After the June 2012 final draft MOA, Mitigation Plan and Execution Plan were issued for signature, all efforts were directed at the execution of the Final MOA, which was achieved on August 7, 2012. The executed MOA provides clear language that has enabled the completion of this Final Mitigation Plan (November 2012). Noteworthy modifications are included in each of the sections below, however the executed MOA should be referred to if further clarification is sought; it is the document of record. The stipulation numbers from the executed MOA are also provided in the discussions below.

Copies of the written comments are available upon request from the DOE Oak Ridge Information Center.

3.1 The “Hub and Spoke” Concept and the National Park Service

DOE concluded that most parties supported the decision to adopt a “hub and spoke” concept for a coordinated and comprehensive reservation-wide interpretation program. Some but not all of the parties requested that DOE include language in the Final Mitigation Plan that would express a commitment to use the American Museum of Science and Energy, or an expanded library and city civic center that incorporated the museum, as the “hub.”

As envisioned under the “hub and spoke” concept, visitors would begin their tour at a “hub” located in the center of Oak Ridge, where they would receive an overview of Oak Ridge’s three Manhattan Project “signature” facilities and their linkages with other Manhattan Project facilities in Hanford, Washington, and Los Alamos, New Mexico. From the “hub,” visitors would be directed to the “spokes” or the location of the three signature facilities at the Y-12 Nuclear Security Complex, Oak Ridge National Laboratory, and the ETTP to receive a more detailed interpretation. Because the three signature facilities are located at sites that are managed respectively by DOE’s National Nuclear Security Administration and the Office of Nuclear Energy, the Office of Science, and the Office of Environmental Management, approval for the “hub and spoke” option will require coordination with each departmental element.

One version of the “hub and spoke” proposal would be contingent upon a decision by Congress and the President on whether to implement the NPS’s recommendations contained in the *Manhattan Project Sites Special Resource Study*. A decision to designate and fund Oak Ridge as part of a new national park would play a major role in determining the potential location and character of the “hub.”

Whether Congress ultimately will approve Oak Ridge as part of a new national park is uncertain, making it impossible at present to finalize decisions regarding both the size and specific location of the “hub.” The Oak Ridge Office of Environmental Management will continue discussions with other DOE ORO Programs, the NPS, the City of Oak Ridge, and others to implement the concept for reservation-wide historic interpretation. Because of the uncertainty associated with the new national park as well as the need to consider the input from the range of Departmental programs and the various stakeholders, the final MOA (November 2012) for the interpretation of ETTP does not include the adoption of the hub and spoke concept. DOE recognizes that K-25 is a “spoke”, but acknowledges that additional development of the overall “hub and spoke” approach is needed. Provided the other parties support the “hub” concept, the location will be determined as the discussion for the other signature facilities proceed. The NPS in their Section 213 Report recommended that DOE and its consulting parties explore additional site-specific strategies for the interpretation of the K-25 Site during World War II and in the post-war contexts; DOE is committed to this consultation in the larger context of the “hub and spoke” discussion. Stipulation 1 of the executed MOA notes that should the legislation for the proposed “Manhattan Project National Historical Park” (S.3300; H.R. 5987) be enacted, the executed MOA includes a provision for offering the opportunity to the NPS to sign the executed MOA as an Invited Signatory.

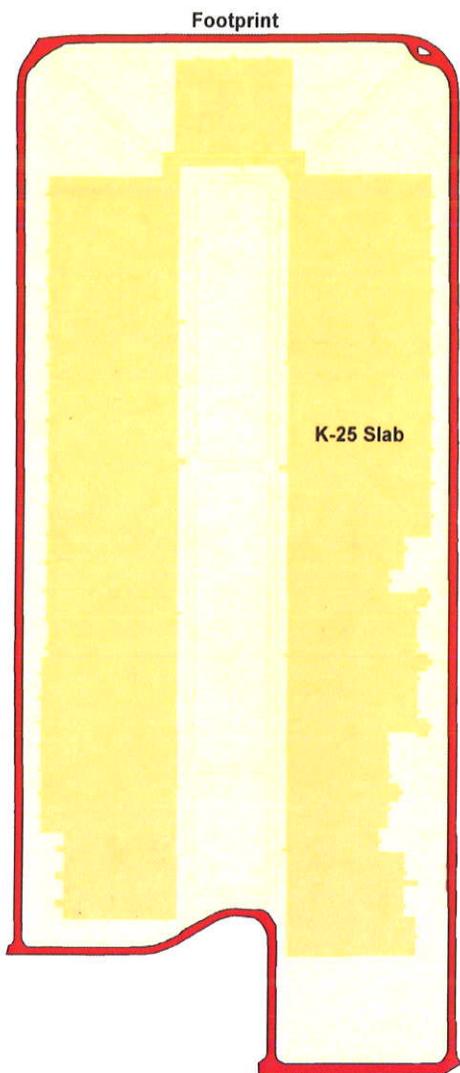


Figure 1, K-25 Preservation Footprint

The collective commemoration of the Manhattan Project will depend on the histories and contributions of the Oak Ridge National Laboratory, the Y-12 National Nuclear Security Administration facility, the Oak Ridge community itself, as well as the Hanford Site in Washington and the Los Alamos National Laboratory in New Mexico. DOE EM at the K-25 Site is committed to “doing its part” in telling the larger story of the Manhattan Project.

3.2 Marking the K-25 Footprint

Comments at the November 17, 2011, meeting included requests that DOE expand the area around the K-25 Building associated with interpretive activities to include more than just the building footprint. In response to a comment on the February 2012 proposed Final MOA, DOE agrees to the formal dedication of a K-25 “Preservation Footprint”, shown in Figure 1. Dedication is proposed to coincide with the opening of the Equipment Building, Viewing Tower, or History Center, whichever of these events occurs first. As indicated in Stipulation 3 of the executed MOA, all of the area located inside the road that currently surrounds the K-25 Building (exclusive of mission-essential property), will be dedicated in perpetuity, to commemoration and interpretation activities. Those easements that are necessary for DOE mission, for historic

interpretation or for safety reasons that may impact the K-25 footprint or its viewscape will be considered only when a compelling need is demonstrated for the easement. The road will continue to be open for access to this area as well as for other potential uses to support the clean-up mission and future brownfield industrial park establishment and other mission essential functions should they arise.

Some parties requested that the Final Mitigation Plan include additional detail about how the K-25 Building footprint will be marked. DOE will employ the services of a Professional Site Design Team to determine a design solution that best interprets the scale, proportion, and height, and the unique mile-long “U” shape of the structure, including how the scale and shape of the building was influenced by the repetitive nature of the uranium enrichment process. The design team will be instructed to consider all design solutions previously recommended by consulting parties. A final design for the K-25 Building footprint will include a viewing tower with a height sufficient to enable observation of the entire K-25 Building footprint. The tower may be newly constructed or an existing facility may be

modified; the design team will make recommendations on how best to integrate this important aspect of the Building's interpretation into the overall plan.

Comments regarding the K-25 building also included consideration of leaving the structure's concrete pad intact after demolition of the facility. While the Comprehensive Environmental Response, Compensation, Liability Act (CERCLA) Record of Decision calls for the concrete floor or slab of the K-25 Building to be removed or covered, DOE will leave the concrete pad in place during demolition of the building. After demolition, DOE will examine contamination levels on and beneath the slab and attempt to determine short - and long-term costs associated with removing the slab, covering the slab, or leaving the slab as is. While DOE agrees that retaining the slab would improve site interpretation, a decision concerning the slab's role as part of the facility's historic interpretation will depend upon whether the slab can be safely and cost-effectively left in place and exposed for public access. A feasibility study evaluating the aforementioned factors will be conducted once demolition of the building and the transportation of all building debris and waste from the construction site has been completed. DOE will make the findings of the study available to the public, and implement the recommended action pursuant to the schedule in the Final Execution Plan that is to be attached, along with this Final Mitigation Plan to the executed MOA. As noted in Stipulation 4 of the executed MOA, if the slab can be safely and cost-effectively left in place, it will be integrated into the final design for the dedicated building footprint.

3.3 Retention of a Remnant of the K-25 Building

Some consulting parties recommended the complete demolition of the K-25 Building and its replacement with an interpretive history center. Others requested adoption of Degenkolb's Scheme 2, which would retain a two-cell portion of the structure, or approximately one-twelfth of the North Tower.

At a 2009 consultation meeting, DOE described deteriorated conditions and contamination issues that presented serious safety concerns at K-25. These include:

- Structural deterioration, including damage to more than 160 corbels and beams, roof deterioration, water damage that had weakened concrete precast panels where workers walked, and rusted rebar
- Operations floor conditions, including concrete panel failure that restricted access and hazardous falling panel material that had collected on the Cell Floor whose replacement was constrained by lack of access
- Safety conditions resulting from wartime code exemptions, including concrete columns and vault walls not anchored to footers, inadequate fire protection, and a 60-year-old electrical system

DOE noted additional worker safety issues associated with some of the preservation work stipulated in the 2005 MOA. The issues included additional corbel repairs that require more elevated work, fall potential during roof replacement, risk from falling debris during

equipment removal, radiological exposure during decontamination, and removal of transiting siding that would require asbestos protection.

In 2009, DOE engineers concluded that due to the safety issues caused by the deteriorated conditions and contamination as well as the resultant costs for addressing the issues, retaining a portion of the K-25 Building would be cost prohibitive. (Degenkolb was not asked to provide cost estimates for decontamination and declassification of building remnants left in place.) In response to several requests from the consulting parties, DOE reconsidered Degenkolb Scheme 2 to retain a two-cell portion of the structure. Although Degenkolb engineers demonstrated the structural feasibility of retaining a remnant of the K-25 Building, DOE concluded that significant costs associated with visitor safety, security, and historic integrity rendered the proposals to retain a portion of the K-25 Building financially unfeasible.

Working with all of this information, DOE developed a comprehensive mitigation plan that, without retaining a remnant of the building, would seek to illustrate the structure's enormous scale and unique "U" shape. The plan also sought to emphasize the repetitive nature of the diffusion process by providing visitors access to authentic equipment, artifacts, and oral histories. The Final Mitigation Plan adopts a number of measures recommended by Degenkolb, and other consulting parties, including demarcation of the building footprint, construction of a viewing tower, and a structure (the "Equipment Building") on or in proximity to the original footprint for exhibiting authentic equipment.

In light of fiscal constraints, several consulting parties requested that DOE implement the mitigation plan in phases to accommodate the possibility of additional funds in the future. In response to these requests, the February 2012 proposed Final Mitigation Plan contained a number of contingencies, including a building scaled to house a single cell that would be suitably sized space for interpretation, miscellaneous storage, viewing, ingress and egress.

In response to the recommendations offered by the NPS in their Section 213 report, DOE has agreed to make additional changes to the measures previously proposed in the February 2012 proposed Final Mitigation Plan. The Equipment Building proposed by DOE will be sized to achieve the height of the K-25 Building, with three stories and a basement to enable equipment displays to be configured in a manner that is most representative of operational conditions. DOE agreed that the structure would be designed to replicate the scale and shape of two cells of the original structure and, along with the design solution for demarcating the footprint, would demonstrate to visitors how the single cell, six converters, a basic unit of the enrichment process, was repeated approximately 500 times inside the unique mile-long "U" shaped footprint. DOE went on to note that should additional funds become available following a future decision by the NPS to designate Oak Ridge as part of a Manhattan Project National Park, the structure would be able to be expanded to house additional authentic equipment. The building will be proximate to the Fire Station, where additional authentic equipment, artifacts, and oral histories will be made available to visitors. The Viewing Tower will be located nearby and will reinforce the scale and dimension of the K-25 Building and the unique "U" shape of the footprint. The design team will work to create a cohesive interpretive experience for visitors to the various points of interest.

In response to the comments received on the February 2012 proposed Final Mitigation Plan, DOE's June 2012 version of the Final Mitigation Plan was modified to preserve additional authentic equipment. The Final Mitigation Plan (November 2012) contains a larger building (the "Equipment Building") scaled to house additional equipment to that identified in the February 2012 proposed Final Mitigation Plan. The following expanded list of items will be preserved for display as requested: (a) two size 2 cells and their associated equipment and piping, (b) representative operating floor equipment; (c) a 0, 00, and 000 converters, axial compressors and motors; and (d) one 40-ft centrifuge casing. These preservation measures are found in Stipulation 7 of the executed MOA.

3.3.1 Consideration of Comments Provided in the National Park Service Section 213 Report

In January 2012, the ACHP requested that the Department of the Interior, through the NPS, review the preservation measures proposed by DOE. The review was requested by ACHP pursuant to Section 213 of the NHPA. The Department welcomes the comments of the NPS for providing additional insight especially as it relates to interpretation and visitor experience.

In its report, the NPS recommended that DOE retain the maximum practical amount of the original building and equipment to enable the best possible interpretation of the facility and its operation. The NPS also noted the value of location, of being at the actual K-25 Site; and the concept of "authenticity" to the interpretive experience. As a part of their report, the NPS offered three interpretive options for the K-25 Building. Through consultation, DOE has modified the mitigation proposal reflective of the 213 report's "concept B", the interpretation of a two-cell arrangement with a truck alley to illustrate and interpret the gaseous diffusion process.

DOE agrees that preservation of the maximum practical amount of the original building and equipment would clearly enable the best possible interpretation of the building. However, the need for the Department to address the risks and hazards posed by the environmental contamination of the structure and equipment to meet DOE's Comprehensive Environmental Response, Compensation, Liability Act (CERCLA) obligations is the necessary focus. The duality of, and in this instance, conflicting objectives of environmental clean-up and preservation wherein both purposes could be attained represent laudable goals, but result in expenditures of both time and funding that cannot be supported in the present fiscal climate. In order to complete DOE's clean-up requirements effectively and with worker safety as the priority, and address all of the contaminants and contaminated media, it is necessary for the building to be removed down to the slab.

Stipulation 4 of the executed MOA contains the provisions associated with preservation of the original K-25 Building slab. DOE will retain the slab during building demolition and then evaluate it for preservation purposes. If it is suitable for access it will be integrated in the Department's preservation planning and become the centerpiece of the interpretation of the building site as noted in Stipulation 3 of the executed MOA. As described above in 3.2, DOE

will be setting aside the entire K-25 Building footprint, which is larger than the slab, for commemorative and interpretive purposes. These mitigation measures integrate preservation of the slab and the footprint together and afford many aspects of historic integrity, including location, setting, materials, and the industrial design and workmanship of the period. The Department will work with the Professional Site Design Team to maximize interpretation of the building on the slab by demarcating the corners, featuring displays and markers, and including other attributes to provide visitors with as much of the feeling and association of the original setting as possible.

The NPS also provided recommendations on equipment preservation and many of the interpretive opportunities that could be provided not only by preserving the equipment, but preserving it *in situ*. DOE has, in working with the consulting parties, developed a robust effort to inventory and review, document, preserve and display equipment. The gaseous diffusion process is well documented and DOE will work with the Museum Professional to impart as much of this technological information for visitors, researchers and scholars as possible. The review process that will occur between DOE and several of the consulting parties with regard to the commemoration and interpretation of the K-25 Site's history is further detailed in numerous stipulations in the executed MOA.

The concept views provided by the NPS will be able to be referred to in the museum design phase to assist with design decision-making. Methods to recreate the "worker experience" will be of paramount importance. The worker experience will also feature photographs and other means to depict life at Happy Valley. The worker experience in the K-25 Building will be exhibited by providing critical attention to displaying the equipment in a manner that recreates the orientation and other attributes found in the operating facility. We will use the Equipment Building, the History Center, and the multi-media attributes of the Virtual Museum to showcase this important and truly unique aspect of K-25's technological history from the macro-scale to the details. It is planned that the display of the technological to the typical will be available in the interpretive facilities. In addition to the process equipment to be featured, people will be able to see examples of items such as telephones, bicycles, signage, fire alarm boxes, newspapers and other historic artifacts that provide a greater sense of setting and context, including the context provided by the tenor of the war years.

Another stipulation has been added to the MOA to address the recommendation of the NPS for a Level I Historic American Engineering Record (HAER) Documentation effort for the K-25 Building, and the K-1037 and K-1028-54 buildings. DOE will work with the NPS on the development of this important recordation and documentation effort. DOE has a significant body of materials including drawings, photographs, plans and other items that will assist with the Level I HAER documentation. Our objective is to use as much of the existing archival materials as possible, including archival photographs taken by Ed Westcott. Close coordination with the NPS will occur throughout the documentation effort. The stipulation associated with the HAER recordation is Stipulation 17 of the executed MOA.

DOE has included Stipulation 18 of the executed MOA to address the development of a reference list of available unclassified documents on the K-25 Building activities post World War II and will research its inventory of classified documents to be considered for potential

future declassification. DOE will continue to maintain these materials and all classified documentation on the overall process; it will not be lost with the demolition of the K-25 Building. Additionally, should the technology or information related to it be declassified in the future, provisions may be able to be made to provide more information at that time through the Virtual Museum or other venues at the K-25 Site.

3.4 Mitigation Measures for the K-25 North End Demolition

DOE replaced the retention of the North End contained in the 2005 MOA with the mitigation measures contained in the proposed Final MOA (February 2012), which was revised to note the mitigation measures contained in the June 2012 version of the MOA. The executed MOA (August 2012) is consistent with each of these items.

- Formal dedication of all land inside the road that surrounds the K-25 Building footprint, exclusive of DOE mission-essential facilities, to commemoration and interpretation activities (Executed MOA Stipulation 3)
- Assessment of the feasibility of leaving the original concrete slab exposed (Executed MOA Stipulation 4)
- Construction of a viewing tower of sufficient height that oversees the building footprint (Executed MOA Stipulation 8)
- Commitment to decontaminate and display two size 2 cells similar to the Roosevelt Cell; representative operating floor equipment; a 0, 00, and 000 converter, axial compressors and motors; and a 40-ft centrifuge casing as well as additional equipment and artifacts identified by an inventory team selected to perform this function (Executed MOA Stipulation 7)
- Agreement to utilize, where appropriate, salvaged materials such as the bricks from S-50 Boiler House Chimneys in a display or displays (Executed MOA Stipulation 13)
- Design and establishment of the K-25 History Center on the second level of the Fire Station, overlooking the footprint of the K-25 building. This is in addition to the separate structure (the Equipment Building) for the two size 2 cells and additional equipment to be preserved as described above, which includes Cold War era equipment. DOE will also be providing information on the K-25 Site's contribution to the Cold War through written materials, displays, and/or through the Virtual Museum (Executed MOA Stipulation 11)
- Design, development, and maintenance of an interactive K-25 Virtual Museum (to be available on- line) (Executed MOA Stipulation 12)
- Display or interpretation, through the Virtual Museum, of equipment previously identified for preservation (Executed MOA Stipulation 12)

- Design, fabrication, and installation of 12 NPS standard-type wayside exhibits throughout the site to commemorate points of historic significance (Executed MOA Stipulation 13)
- Design and make available print copies of a self-guided tour brochure that utilizes Quick Response Codes to provide additional information and links to the Virtual Museum (Executed MOA Stipulation 14)
- Appointment of a K-25 Historic Preservation Coordinator to oversee implementation of the MOA (Executed MOA Stipulation 2)

As described in Section 2.1 above, DOE has determined that the preservation and renovation of Portal 4 is not a significant component of the interpretation of the K-25 Site and has removed it from the final Memorandum of Agreement. The Portal retention and renovation, agreed to in the 2005 MOA and the Bridge MOA, respectively, would utilize resources better directed to the additional equipment preservation DOE will be performing. In comments received by DOE from the consolidated group of six consulting parties and three interested parties, the parties indicated to DOE that the Portal 4 stipulation be deleted in favor of other preservation initiatives.

3.5 Preservation and Display of Equipment

Recommendations in the 2005 MOA presumed that the North End of the K-25 Building would be retained. Some of the building's original equipment was identified for retention until a determination was made whether it was feasible to include the equipment as part of historic interpretation inside the facility. Subsequent to the decision documented by DOE in the June 9, 2009, letter to the signatories and consulting parties to the 2005 MOA that it was not feasible to retain the North End of the building, the ORHPA/PKP presented an option, referred to as Option K, for displaying a portion of the equipment. Option K included construction of a new, approximately 33,000 sf structure to display equipment identified in the 2005 MOA. The remarkable knowledge of the Association's membership on K-25's history, and the membership's contributions to the mitigation plan recommendations were invaluable. Various parties expressed concern, however, with the costs for the construction, operation, and maintenance of the History Center proposed by ORHPA/PKP. One less costly alternative proposed was a smaller center, possibly a pavilion. The equipment identified for temporary retention in the Bridge MOA was based largely on equipment identified by ORHPA/PKP for use in the exhibits they had designed. DOE agreed to retain all of the equipment previously held for potential future interpretation during preparation of a Final Mitigation Plan that would determine what equipment would be retained for interpretation and commemoration.

The Department's Preferred Mitigation Plan included an unstaffed open-air pavilion as well as a K-25 History Center to be housed on the second level of the Fire Station. The plan would house large authentic pieces of equipment in the pavilion, with smaller equipment and artifacts displayed in the Fire Station's History Center.

Numerous consulting parties voiced concern about the potential for weather damage to equipment as well as the discomfort of visitors in an open-air pavilion. In response, the Final Memorandum of Agreement includes a provision that DOE will obtain the services of a professional site design team to address options for an enclosed building referred to as the "Equipment Building", to house authentic equipment (as described above) and enable suitable space for interpretation, miscellaneous storage, ingress, egress, and visitor viewing.

In addition to the comments received on the earlier proposals for equipment display, DOE received further comments on equipment display in the proposed Final Mitigation Plan issued in February 2012. Comments provided by the consolidated group of six consulting parties and three interested parties requested that DOE honor the Bridge MOA by preserving at least 13 Size-2 compressor assemblies and appurtenances to recreate a Process Alley; one example each of the 0, 00, and 000 converters, axial compressors with motors, a 40-ft centrifuge casing; and other equipment that may be identified during the equipment review and inventory. As described in Sect. 3.4., above, DOE will preserve a significant portion of the additionally requested equipment, namely the representative operating floor equipment, 0, 00, and 000 converters, axial compressors with motors, 40-ft centrifuge casing, and other equipment that may be identified during the equipment review and inventory. DOE will also plan to facilitate the timely transition from the preparation of equipment for display to the actual display in the Equipment Building to facilitate earlier public viewing opportunities.

The equipment records, photos of the equipment and its layout and configuration, IpiX photos, photos during operation, drawings, plans, and other information that will enhance the visitor's experience and knowledge will be available via the K-25 Virtual Museum. The History Center will also feature photographs, plans, drawings, equipment records and other information that will offer many opportunities for interpretation and understanding of the technological history of the K-25 Site and its critically important role in the Manhattan Project and later, in the Cold War-era. Numerous stipulations in the executed MOA speak to the aspects of this comprehensive interpretive effort.

Since 2002, DOE has collected, catalogued, photographed, and stored approximately 700 artifacts identified with both the Manhattan Project and Cold War eras of K-25's history. A team selected by the consulting parties identified the artifacts chosen to convey the history of K-25, which included machinery, equipment, photographs, newspapers, models, phones, and bicycles. The artifacts are being stored in dedicated Sea-land containers inside K-25 or at the Office of Science and Technical Information. The storage location is based on the size, material, classification, and contamination level of the artifacts.

To identify the equipment and artifacts most appropriate for public display, DOE will conduct an inventory of all the objects identified for preservation in prior MOAs, including those already salvaged from K-25. The inventory shall be conducted in a manner consistent with Section 110(a) (2) of the NHPA, the U.S. Department of the Interior's "Guidelines for Archaeology and Historic Preservation." The inventory will be designed to record the condition of the artifacts as well as the appropriate methods for preservation. The inventory will begin with the establishment of historic contexts and a database system that can be used to evaluate the significance of each artifact. The database will be designed so that similar

artifacts can be grouped by type to avoid duplication. An evaluation statement that makes clear the significance of the artifact within one or more historic contexts will be included in the database. The inventory will include information for any activities required to make the artifacts accessible to the public. Further details of the make-up of the inventory team, taken from the executed MOA, are provided below. Stipulation 10 of the executed MOA addresses the inventory effort itself.

Some confusion existed about the preservation of equipment from K-25. A number of parties expressed concern that the absence of specifically listed equipment in the Preferred Mitigation Plan did not conform to the commitments of the Bridge or prior MOAs. These stipulations specified what equipment should be preserved while DOE determined which items could practically and cost effectively be displayed. The stipulations did not contain commitments to display specific equipment or any of the other 700 artifacts that have been collected and stored. DOE addresses equipment stipulations from the 2005 Bridge MOA in the final MOA, and a summary is provided below.

DOE will decontaminate two size 2 cells, similar to the Roosevelt Cell, for public display. In response to comments from consulting parties received on the February 2012 proposed Final Mitigation Plan and MOA, DOE will also decontaminate representative operating floor equipment; a 0, 00, and 000 converter, axial compressors and motors; and a 40-ft centrifuge casing. As noted above, DOE will also conduct an inventory designed to identify the equipment and artifacts most appropriate and feasible for display in the Equipment Building that will display the authentic process equipment, and the History Center. Stipulation 10 of the executed MOA notes that the inventory will be completed by a team that will include a Museum Professional, a historian who meets the Secretary of the Interior's Historic Preservation Professional Standards, subject matter experts with information about the history and use of the artifacts, a photographer, the DOE-FPO, a representative of ORHPA, and a representative of DOE-ORO EM program. The executed MOA also stipulates (in Stipulation 9) that the Museum Professional will work with members of the ORHPA, the City of Oak Ridge, DOE-FPO, the NPS, and the TN SHPO on the design of the exhibits, displays, and brochures that will be used to interpret the site's history.

DOE will decontaminate equipment and artifacts that the inventory team determines are appropriate and feasible for display. The team will consider what additional equipment and artifacts might be appropriate for display if additional funds become available in the future to expand the areas used for display of equipment and artifacts. A portion of the equipment and artifacts not identified by the inventory team for display will be able to be interpreted via the Virtual Museum.

In response to consulting party comments, the proposed Final MOA issued in February 2012 stipulated that after the equipment and artifacts not selected for display in the History Center at K-25 are documented for interpretation in the Virtual Museum, DOE may offer them to third parties such as the Smithsonian or the NPS or others for use in museum collections if the equipment or artifacts are determined to be an appropriate, safe, and secure repository for the artifacts. In response to the issuance of the proposed Final MOA in February 2012, DOE received comments from the consulting parties requesting that DOE should loan equipment

and artifacts not selected for retention or display to third parties, while retaining ownership of all of the inventoried equipment.

DOE understands the desire of the consulting parties that we retain these artifacts in perpetuity. However, in light of space limitations, storage costs, and what would constitute an ongoing management responsibility (essentially a curatorship) and its costs, DOE will plan to do as described above, namely to offer the equipment not selected for retention and/or display to third-parties with appropriate and secure repositories. As found in Stipulation 10 of the executed MOA, the results of the equipment inventory and review will be provided to the SHPO, the ACHP, and the COR.

The discussion of how best to display the artifacts included concerns about the appropriateness of using the second level of the Fire Station as the K-25 History Center. Most of the concerns were associated with the 7,500 sf of space available in the Fire Station compared to the 33,000 sf proposed by the ORHPA/PKP as Option K for the History Center. DOE concluded that the combination of the Fire Station and the Equipment Building is the most viable and affordable method for displaying authentic equipment and artifacts. The Fire Station has no contamination issues; is Americans with Disabilities Act accessible; has heating, ventilation, and air conditioning and restroom facilities, and has 24-hour security. In addition, the facility offers opportunities for use as a history center. For example, a classified conference room located in the second floor and used during the Cold War era could be used as a theater for presentations. Since the Fire Station building was originally constructed to house the K-25 plant protection facilities during the Cold War era, the Fire Station is located within short walking distance of the K-25 Building site, providing easy access to the building's footprint, displays, wayside markers, etc. The Fire Station also provides important historic context.

The History Center will be located on the second level of the Fire Station. If additional funds become available and the City of Oak Ridge (the owner of the building) offers additional space for lease, the History Center could be expanded to the first level to utilize more of the building's features for interpretation. Stipulation 11 of the executed MOA addresses the History Center.

DOE currently leases the second level of the Fire Station from the City of Oak Ridge, which owns the building. While DOE will own and be responsible for the design, development, installation, and maintenance of the History Center exhibits, the City of Oak Ridge will retain ownership and maintenance responsibilities for the structure. The History Center will be operated and maintained by volunteers. Although there will be costs associated with reconfiguring the non-load-bearing walls and raising the drop ceilings to accommodate exhibits, the rehabilitation of the Fire Station provides an affordable solution that includes the preservation of a structure directly associated with K-25's Cold War era.

The History Center exhibits will be designed by a museum professional who will utilize a wide range of authentic artifacts, oral histories, interactive opportunities, and social media. The integration of personal digital devices likely will be combined with more traditional interpretive strategies. The exhibits will interpret K-25's full history, from the Manhattan

Project and Cold War eras through demolition, and will commemorate both the scientific and social history of K-25, including Happy Valley, an area near the site where construction workers were housed.

In addition to the equipment, artifacts, and oral histories displayed in the History Center, additional artifacts will be available for viewing through the K-25 Virtual Museum. The Virtual Museum will be professionally developed and designed, and will provide a web presence that will offer users easy, 24-hour access to oral histories, photographs, video footage, photographs of material objects, architectural drawings, and sound recordings. Information from the Center for Oak Ridge Oral History (COROH) will also be available to the Virtual Museum, whose “Digital Memory Box” feature will enable oral history collection efforts to continue after the funding for the COROH has been expended.

The time that visitors to Oak Ridge have to explore the K-25 site may be limited. With virtual access to these materials, they can enrich their experience by exploring K-25’s history at their leisure and at any location with internet access. Since the Virtual Museum’s information may be periodically updated, visitors will have access to materials and exhibits unavailable at the time of their visit. The Virtual Museum also will give individuals who cannot physically visit the site access to resources that will help them gain a better understanding of K-25’s history. The Virtual Museum also offers appeal to younger visitors more accustomed to electronic and interactive learning opportunities. The Virtual Museum is discussed in executed MOA Stipulation 12.

The Virtual Museum will cover the plant’s history from construction through demolition. The Museum will provide interpretation of the K-25 gaseous diffusion building as well as the broader plant complex. A unique, three-dimensional archive interface will enable visitors to navigate through a 3D recreation of the K-25 complex and the K-25 gaseous diffusion process building in particular. The 3D recreation will combine both education and exploration in interpreting the places and people of K-25’s history. The reproduction of K-25’s historical setting will immerse the visitor in the environment of the actual processing building, cafeteria, portals, and other day-to-day aspects of the complex. The Virtual Museum’s goal is an interactive, multimedia engagement that enables users to experience, with the support of primary and secondary archival materials, a historically recreated environment.

In summary, the executed MOA (August 2012) includes a number of stipulations that address equipment inventory, decontamination, preservation, interpretation, and display by various means, including physical displays on site as well as via a Virtual Museum. The combination of the Equipment Building to display equipment, the History Center in the Fire Station, the wayside markers, Virtual Museum, and the overall measures to interpret the formally dedicated building footprint will provide both excellent display space and a diversity of opportunities for DOE to tell the story of the K-25 Site. The support of a Professional Site Design Team with experience interpreting historic sites, and a Museum Professional are also stipulated to best achieve a cohesive interpretive experience for visitors, students, researchers, and others with an interest in this important aspect of our national and technological history.

3.6 The Alexander Inn

A proposed grant to help restore the historic Alexander Inn was the only recommendation contained in the Preferred Mitigation Plan that did not represent a request from the consulting parties. Off-site mitigation is a technique commonly used in the Section 106 process when an agency determines that it is not feasible to avoid adverse effects to an historic property, such as a necessary demolition. In many instances, agencies have provided preservation funds for endangered historic properties to partially compensate the public for the loss of a historic property. On occasion, as is the case with the Alexander Inn and the K-25 Site, the two properties are connected historically.

DOE added a number of mitigation measures to the Preferred Mitigation Plan to compensate for the three measures that were removed from the 2005 MOA. DOE also sought to strengthen the plan by assisting with the preservation of another endangered Manhattan Project facility known to be important to the preservation interests of the larger Oak Ridge and East Tennessee community. DOE also believes that preservation of the Alexander Inn, also known as “The Guest House” is important. Other consulting parties expressed similar views during the May 17, 2012 consultation. The proposed legislation for the Manhattan Project Historical Park (S.3330 and H.R. 5987) also identifies the Guest House as an important Oak Ridge facility.

DOE heard varying perspectives about the appropriate level of funding for the Alexander Inn, ranging from nothing to approximately \$900,000, the amount the ETPA indicated at the consulting parties meeting in November 2011, would be needed to purchase and stabilize the structure, address code violations, and ready the exterior of the building for transfer to a developer. Other parties urged a smaller grant of approximately \$500,000 to purchase and stabilize the structure from further deterioration. DOE has increased the amount of the grant from the \$350,000 proposed in November 2011 to \$500,000 with funds separately associated with purchase and stabilization.

Given the number of competing interests for limited funds, DOE never entertained the idea of providing all of the money needed to prepare the Alexander Inn for use or transfer. As a mitigation alternative, DOE wished to provide the preservation community with “seed money” needed to leverage additional funds needed for the Inn’s renovation. Following consultation with the ETPA, the two parties determined that the following measures would be appropriate for the Alexander Inn:

Following the execution of the MOA by all signatory parties, DOE intends to provide a grant in 2012 to East Tennessee Preservation Association (ETPA) or its fiscal agent, Knox Heritage, Inc., for purchase and stabilization of the Alexander Inn (also known as the Guest House), as partial mitigation for the adverse effects of the decontamination, decommissioning and demolition of the K-25 Building at the ETTP site. The purpose of the grant is to support the preservation of the Alexander Inn and to transition the Alexander Inn to a private developer for economic benefit to the community, and to offset the loss of historic properties at ETTP by preserving similarly situated historic properties in Oak Ridge.

Stipulations 15 and 16 of the executed MOA provide the details of this innovative mitigation measure.

3.7 Mitigation Plan Costs

As of the execution of the Final MOA in August 2012, DOE had expended approximately \$3 million on K-25 mitigation measures. DOE estimates that implementation of the additional final mitigation measures will cost approximately \$17.5 million, for a total conceptual estimated cost of ~\$20.5 million. Further information on the cost estimate is found in the Final Execution Plan which is attached to this Final Mitigation Plan.

The Execution Plan also includes DOE's plans for requesting funds until implementation of the mitigation measures is estimated to be complete. Funding for the remaining mitigation items will be subject to Congressional appropriations.

4.0 IMPLEMENTING, MONITORING, AND FUNDING THE MITIGATION PLAN

As specified in the Bridge MOA Stipulation 8, the final MOA (June 2012) and its appended Execution Plan include specific stipulations dealing with the order of completion, commitment to seek firm funding, timetables for completion, and methods for monitoring and progress tracking. In order to support the timely implementation of the mitigation plan, DOE EM will appoint a K-25 Historic Preservation Coordinator upon execution of the MOA. This appointment is captured in Stipulation 2 of the executed MOA. The Coordinator, who will have access to both Secretary of the Interior qualified personnel and to senior DOE personnel with decision-making and commitment authority, will be responsible for carrying out the stipulated provisions noted above and in the MOA. Priority will be given to funding mitigation measures with tangible and visible results when project sequencing allows. Twice per year, the K-25 Historic Preservation Coordinator will submit a progress report to all signatories. The report will summarize all work accomplished during the reporting period and identify concerns with future efforts. At the completion of all mitigation measures, the Coordinator will submit a final report to all signatories. Copies of the aforementioned reports will also be available to the public. The overall responsibilities of the K-25 Historic Preservation Coordinator's are found throughout the executed MOA, and include but are not limited to Stipulations 2, 19, 20, 21, 23 and 25.

The K-25 Historic Preservation Coordinator will continue to develop scopes of work and estimated costs for the mitigation stipulations. DOE shall submit on an annual basis, through established channels, appropriate budget requests to the Director of the Office of Management and Budget that adequately address agreed upon schedules for implementation of the final MOA. The stipulations identified in the MOA shall be recognized by DOE as measures necessary to comply with the NHPA. The completion of all stipulations contained in the Final Mitigation Plan is subject to annual Congressional appropriations.

EXECUTION PLAN

SITE INTERPRETATION
EAST TENNESSEE TECHNOLOGY PARK

DEPARTMENT OF ENERGY
OAK RIDGE OFFICE
OF ENVIRONMENTAL MANAGEMENT

November 2012

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ACRONYMS

COR-	City of Oak Ridge
COE-OREM	Department of Energy Oak Ridge Office of Environmental Management
ETPA	East Tennessee Preservation Alliance
ETTP	East Tennessee Technology Park
HAER	Historic American Engineering Record
MOA	Memorandum of Agreement
NPS	National Park Service
ROD	Record of Decision
WBS	Work Breakdown Structure

Execution Plan for the Final Memorandum of Agreement Regarding Site Interpretation of the East Tennessee Technology Park

November 2012

This Execution Plan provides the conceptual description for how the Department of Energy (DOE) Oak Ridge Office of Environmental Management (DOE-OREM) will manage and implement the Stipulations as outlined in the “Memorandum of Agreement among the U.S. Department of Energy Oak Ridge Office of Environmental Management, Department of Energy Federal Preservation Officer, the Tennessee State Historic Preservation Office, the Advisory Council on Historic Preservation, the City of Oak Ridge (COR), Tennessee, and the East Tennessee Preservation Alliance (ETPA), Pursuant to 36 CFR Part 800.6(B)(2) for Decommissioning and Demolition of the K-25 Site and Interpretation of the East Tennessee Technology Park (ETTP), on the Oak Ridge Reservation, Roane County, Tennessee.” The descriptive information, estimate and schedule provided herein are directly supportive of the Stipulations documented in the Executed Memorandum of Agreement (MOA).

DOE-OREM will manage this effort as described below in accordance with the MOA. The proposed implementation scope is organized into 11 Work Breakdown Structure (WBS) elements:

- 1.0 Project Management**
- 2.0 Level 1 Historic Documentation**
- 3.0 Procurement**
- 4.0 Professional Site Design Team**
- 5.0 Museum Professional**
- 6.0 Equipment and Artifact Decontamination and Declassification**
- 7.0 Slab Feasibility Study**
- 8.0 Site Construction and Build**
- 9.0 K-25 Virtual Museum**
- 10.0 Dedication/Opening**
- 11.0 Post-Dedication/Opening**

Also included in this Execution Plan are estimates of the project’s cost and schedule. Implementation of the Execution Plan is planned for completion within five (5) years from the Executed MOA, subject to annual Congressional appropriations. (This Execution Plan does not obligate or commit Federal funds, and does not serve as the basis for the transfer of Federal funds. Nothing in this Execution Plan shall be construed as implying that the Congress will, at a later date, appropriate funds sufficient to meet deficiencies. No provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. Section 1341. [**Stipulation 22**])

WBS Scope Element Descriptions

1.0 Project Management

This planning and coordination WBS element includes the assignment of a Historic Preservation Coordinator (**Stipulation 2**), the scope to be performed by the Coordinator (**Stipulations 19, 21**), as well as the Grant for the Alexander Inn (**Stipulations 15, 16**).

1.1 K-25 Historic Preservation Coordinator

The key scope item performed in this element includes the assignment of a K-25 Historic Preservation Coordinator. (**Stipulation 2**) No later than November 7, 2012, DOE-OREM will appoint a Coordinator to manage the implementation of this Execution Plan.

This WBS element also includes the Coordinator's scope (**Stipulations 15, 19, and 21**), which is comprised of preparation for implementation of all stipulations to the MOA found in this Execution Plan. This work scope includes identification and mitigation of concerns, coordination and tracking of work, preparation of progress reports to be submitted to signatory parties twice per year, beginning February 7, 2013, and every six (6) months thereafter until all stipulations have been completed. Also included is the preparation of a close-out report at the completion of all stipulations in this Execution Plan, as well as the commitment to seek project funding, project management, and oversight.

1.2 Grant for Purchase of Alexander Inn

This WBS element includes DOE's award of a \$500,000 grant to the ETPA through its fiscal agent Knox Heritage, Inc. for purchase and stabilization of the Alexander Inn. This element includes administration of the grant as stated in of the MOA. (**Stipulations 15, 16**)

2.0 Level I Historic Documentation

In coordination with the National Park Service (NPS), this WBS element addresses the Level I Historic American Engineering Record (HAER) Documentation of K-25, K-1037, and K-1028-54 (Portal 4) (**Stipulation 17**). The HAER process will produce a written description and history, large-format photography, historical photographs, and measured drawings – all in accordance with the “Secretary of Interior’s Standards and Guidelines for Architectural and Engineering Documentation.” Due to the progress of K-25’s demolition, HAER work on K-25 will begin immediately. Work on K-1037 and Portal 4 will begin no later than February 7, 2014, but prior to their demolition.

Additionally, DOE-OREM shall furnish a reference list of available, declassified documents regarding K-25’s activities following World War II. (**Stipulation 18**) DOE-OREM will research classified documents for potential declassification; although, there is no guarantee DOE-OREM will declassify these documents. DOE-OREM will provide this reference list to NPS no later than August 7, 2013. After the HAER team and DOE-OREM consult and finalize the reference list, DOE-OREM will provide electronic copies of the mutually agreed-upon, unclassified documents to HAER.

3.0 Procurement

This WBS element pertains to the procurement of the:

- K-25 History Center (2nd Floor Fire Station Lease) (**Stipulation 11**)
- Professional Site Design Team (**Stipulation 5**)
- K-25 Virtual Museum (**Stipulation 12**)
- Museum Professional (**Stipulation 9**)

3.1 K-25 History Center (2nd Floor Fire Station Lease)

In order for the K-25 History Center be located on the 2nd floor of the Fire Station, DOE-OREM and the COR must determine the long-term arrangements by initiating discussions no later than November 7, 2012 (**Stipulation 11**). This WBS element addresses the scope required to successfully complete the task of procuring the 2nd floor of the fire station for use as the K-25 History Center. Required construction and renovation for the History Center will be addressed in Section 9.0 of this plan.

3.2 Professional Site Design Team

This WBS addresses the procurement of the Professional Site Design Team, a team who has experience in interpreting historic sites, must be initiated no later than November 7, 2012 (**Stipulation 5**). Within one year from procurement of the Professional Site Design Team, the Professional Site Design Team will:

- Recommend their approach for delineating K-25's unique "U" shape (**Stipulation 3**)
- Site and conceptual design of the Equipment Building (**Stipulation 7**)
- Site and conceptual design of the Viewing Tower (**Stipulation 8**)
- Conceptual design and placement of the NPS-standard type Wayside Exhibits (**Stipulation 13**)
- Work with the COR on the preliminary design of the K-25 History Center (**Stipulation 11**)
- Prepare appropriate design documents (conceptual, preliminary, and final design) in accordance with DOE Order 413.3B (**Stipulation 6**)

Professional Site Design Team's activities are outlined in Section 4.0 of this plan.

3.3 K-25 Virtual Museum

This WBS element addresses the activities necessary for procurement of the K-25 Virtual Museum which must occur no later than February 7, 2013 (**Stipulation 12**). The development of the Virtual Museum will be addressed in Section 8.0 of this Execution Plan.

3.4 Museum Professional

This WBS element addresses the procurement of the Museum Professional which must occur no later than August 7, 2013. The Museum Professional must meet the professional qualifications standards contained in the “National Standards and Best Practices for U.S. Museums,” published by the American Association of Museums, as well as the “Secretary of the Interior’s Historic Preservation Professional Standards” (**Stipulations 9 and 10**). The duties of the Museum Professional, as required in the MOA, are outlined in section 5.0 of this plan.

The Museum Professional will be responsible for:

- Design and development of Exhibits and displays for the Equipment Building (**Stipulation 7**)
- Design and development of Exhibits and displays for the K-25 History Center (**Stipulation 11**)
- Development of the content of 12 NPS Wayside Exhibit (**Stipulation 13**)
- Development of historic information content of the self-guided tour brochure content (**Stipulation 14**)

4.0 Professional Site Design Team

This WBS element consists of professional design work, to be conducted by the Professional Site Design Team that supports the interpretation of the historical significance of ETP:

- Recommend their approach for delineating K-25’s unique “U” shape (**Stipulation 3**)
- Site and conceptual design for the Equipment Building (**Stipulation 7**)
- Site and conceptual design for the Viewing Tower (**Stipulation 8**)
- Placement and conceptual design of the NPS-standard type Wayside Exhibits (**Stipulation 13**)
- Conceptual design of the K-25 History Center (**Stipulation 11**)
- Prepare appropriate design documents (conceptual, preliminary, and final design) in accordance with DOE Order 413.3B (**Stipulation 6**)

DOE-OREM will ensure that the Professional Site Design Team, will carry out their design process according to DOE Order 413.3 B and the review, comment, comment resolution, and comment incorporation timeline outlined in the MOA.

4.1 Delineation of the K-25 Footprint

This WBS element addresses the comprehensive design delineating K-25’s footprint. (**Stipulation 3**) The approach to slab preservation will depend on results of the Slab Feasibility Study (**Stipulation 4**) which is addressed in section 7.0 of this plan. While the Professional Site Design Team will provide their recommendations for the delineation of K-25’s footprint, the Professional Site Design Team’s final design will incorporate the Slab Feasibility Study’s findings prior to completing the footprint’s final design. Ultimately, the K-25 footprint formal dedication will coincide with the public opening of the Equipment Building (**Stipulation 7**), Viewing Tower (**Stipulation 8**), or the History Center (**Stipulation 11**), whichever occurs first.

4.2 Equipment Building

This section addresses the Professional Site Design Team's role for siting and conceptual design activities for the Equipment Building. The MOA stipulates that the Equipment Building will be in reasonable proximity to the firehouse located at ETTP and be a representative portion of the K-25 building. **(Stipulation 7)** It will be built to achieve the height of the K-25 Building, with three stories and a basement, and recreate a representative cross section of the gaseous diffusion technologies contained within the K-25 building. This will include the display of authentic equipment consisting of two Size 2 Cells across a truck aisle (withdrawal alley), valves, and representative operating floor equipment, fixtures, and accessories consistent with Concept B from NPS' Section 213 Report. The Equipment Building will also include space to display and interpret Cold War-era equipment consisting of a 0, 00, 000 converter and axial compressors with motors, and one 40-ft centrifuge casing, which will be declassified and decontaminated to enable display for public viewing. The Equipment Building will be an enclosed space, built to achieve the height of the K-25 Building, with three stories and a basement and recreate a representation of the gaseous diffusion technology contained within the K-25 Building, making the maximum use of available authentic equipment. The objective is to display and configure authentic equipment in a manner that is most representative of operational conditions. The Equipment Building will be of a size sufficient to provide space for ingress, egress, miscellaneous storage, viewing, and interpretation of the equipment and its information materials, and will take into consideration the potential for expansion and the relationship of the structure to the History Center **(Stipulation 11)** which will be located at the Fire Station, where additional authentic artifacts, oral histories, and other displays will be featured. The Equipment Building will open no later than August 7, 2016. Construction of the Equipment Building is covered under WBS element 9.1 in this plan.

4.3 Viewing Tower

This section addresses the Professional Site Design Team's role for siting and conceptual design activities for the Viewing Tower, which is to be located in reasonable proximity to the Equipment Building **(Stipulation 7)** and History Center **(Stipulation 11)**. The Professional Site Design team will recommend the best location, orientation, and height of the tower in order to provide a view of the size, scale, and proportions of the K-25 Building. The Viewing Tower will be open to the public no later than August 7, 2016. Construction of the Viewing Tower is discussed in WBS 9.2 of this plan.

4.4 Wayside Exhibits

Design and placement of the Wayside Exhibits is an essential element to the comprehensive commemoration of the ETTP site. As such, the Professional Site Design Team, in consultation with those parties identified in the MOA, will construct the 12 Wayside Exhibits according to the NPS' "Wayside Exhibit Guide," dated October 2009. As part of the design process, the Professional Site Design Team will consider whether the S-50 Powerhouse bricks will be incorporated into displays, markers, or other applications. The Professional Site Design Team must work with the Museum Professional **(Stipulation 9)** and ensure the design of the Wayside Exhibits coincide with the written and pictorial content, as well as the self-guided tour brochures **(Stipulation 14)**. The Wayside Exhibits must be

installed no later than one year after the History Center opens to the public. Content of the Wayside Exhibits is addressed under Section 5.4 and installation is addressed under Section 11.1 of this plan.

4.5 K-25 History Center

The K-25 History Center will provide space to exhibit authentic artifacts and other media to facilitate access to oral histories, film and video, and access to the K-25 Virtual Museum (**Stipulation 12**). The K-25 History Center will house the K-25 Virtual Museum and serve as an access point for the Digital Memory Box, which will allow for additions to the K-25 oral histories already recorded. The K-25 History Center will open no later than August 7, 2016. Other activities related to the K-25 History Center can be found in Section 3.1, 3.4, 5.3 and 9.3 of this plan.

5.0 Museum Professional

This WBS addresses the roles of the Museum Professional. The Museum Professional (**Stipulations 9 and 10**) will be responsible for design and development of exhibits and displays for the Equipment Building (**Stipulation 7**); Design and development of exhibits and displays for the K-25 History Center (**Stipulation 11**); Development of the content of 12 NPS Wayside Exhibit; (**Stipulation 13**); and development of historic information content of the self-guided tour brochure content (**Stipulation 14**).

5.1 Equipment and Artifact Inventory and Curation

The Museum Professional, along with the team outlined in the MOA, will conduct an inventory and review of all equipment identified for preservation in prior MOAs, which includes the equipment and materials collected to date, as well as those that remain to be collected (**Stipulation 10**). Based upon the results from the inventory and review, the Museum Professional will advise DOE-OREM which equipment and artifacts are the most appropriate and feasible to display in the Equipment Building, the K-25 History Center, and possibly elsewhere. The Museum Professional's completed inventory and recommendation to DOE-OREM will include those items to be set aside, curated, and prepared for display or made available for third-party consideration, as outlined in the MOA. The inventory and review will be initiated as soon as possible after award of the procurement for the Museum Professional.

The design and development will be executed according to a schedule that allows for review, comment (by the outlined consulting parties), resolution, and incorporation prior to final construction, assembly, and installation. The design and development will comply with all applicable rules, regulations and DOE Orders.

6.0 Decontamination and Declassification

This WBS element addresses required activities for the decontamination and declassification of equipment and materials selected for retention by DOE-OREM, based upon the Museum Professional's inventory and recommendations. These items will be set aside and prepared for display according to a schedule that will enable their timely relocation to the Equipment Building

or History Center, as called for according to the Museum Professional's design (**Stipulation 9**), once the facility is available to receive the items (**Stipulation 10**). The equipment inventory will include the process gas equipment necessary to display the two cell configuration called for in NPS' report; representative operating floor equipment; Cold War-era equipment consisting of a 0, 00, and 000 converter and axial compressors with motors; and one 40-ft centrifuge casing. (**Stipulation 7**) The equipment and artifacts will be decontaminated and declassified in accordance with all applicable security requirements and as stipulated in the Executed MOA.

7.0 Building Slab Feasibility Study

This WBS element addresses the study of the K-25 building slab required in (**Stipulation 4**) of the Executed MOA. The results of this study will determine the level of contamination present on the K-25 building slab and ultimately its role in K-25 building slab interpretation of the dedicated footprint. The work includes a feasibility study for evaluating the retention of K-25's slab (**Stipulation 4**). This study will be initiated within three months of the completion of K-25's final demolition and waste removal. Due to the nature of this study (an examination to determine the contamination levels on and beneath the slab as well as quantifying the short- and long-term costs associated with leaving, covering, or removing the slab), this Feasibility Study will coincide with the Zone 2 Record of Decision (ROD) Characterization and Remediation. If the sampling and characterization evaluations, estimated to take one year from their initiation, determine the slab can be safely and cost-effectively left in place and be exposed for public access, the slab will be integrated into a comprehensive design solution for demarcating the building footprint and be formally dedicated. If the portions of the slab cannot be safely left in place, DOE-OREM will remediate the portions appropriately, in accordance with the Zone 2 ROD agreement. Whether or not the slab is left in place for public access, DOE-OREM will delineate and illustrate K-25's original dimensions and footprint.

8.0 K-25 Virtual Museum

This WBS element covers the development and launch of the K-25 Virtual Museum. For those who cannot experience the K-25 History Center or the Equipment Building, the K-25 Virtual Museum will allow them to learn about K-25's significant legacy. The web-based K-25 Virtual Museum (**Stipulation 12**) will serve to educate all without having to actually visit ETTP. Because the Virtual Museum's design and content is vital to the interactive learning experience, DOE-OREM will prepare an outline of proposed features no later than three months after the subcontract award. No later than 18 months after subcontract award, the web-designer will provide a preview of the K-25 Virtual Museum to the consulting parties. The K-25 Virtual Museum launch will occur no later than six months after the preview, so long as, for both preview and launch, any and all necessary security, classification, and/or cyber-security reviews of the K-25 Virtual Museum materials have been completed and standards are satisfied. DOE-OREM will provide updates on the progress of the K-25 Virtual Museum development, including details on the hosting and maintenance, in the semi-annual status reports (**Stipulation 19**) as prepared by the K-25 Historic Preservation Coordinator (**Stipulation 2**).

9.0 Site Construction and Build

This WBS element includes the fieldwork, construction, and installation of the final designs for the Equipment Building, Viewing Tower, and K-25 History Center, as well as Exhibits and

Displays, as developed by the Professional Site Design Team and the Museum Professional and agreed upon by the consulting parties (**Stipulation 6**). There will be fabrication and procurement activities costs associated with the Equipment Building's construction, process gas equipment installation and assembly, the Viewing Tower construction, K-25 History Center remodeling, and Exhibit and Display assembly and installation.

9.1 Equipment Building Completion

This WBS element consists of the elements required for the construction of the Equipment Building (**Stipulation 7**) will be according to the final design. This work includes the installation and assembly of the decontaminated, declassified authentic process gas equipment. The Equipment Building will open to the public no later than August 7, 2016.

9.2 Viewing Tower Construction

This WBS element contains items required for the construction of the Viewing Tower (**Stipulation 8**). The Viewing Tower will be constructed according to the final design and be open to the public no later than August 7, 2016.

9.3 K-25 History Center Construction

This WBS element consists of the essential elements required for renovation and remodeling of the 2nd Floor Fire Station (**Stipulation 11**). All construction activities will be in accordance with the final design and will open to the public no later than August 7, 2016.

9.4 Exhibits and Displays

This WBS element consists of the construction, assembly, and installation of the Exhibits and Displays (**Stipulation 9**) and will be constructed according to the final design. This element will be completed no later than August 7, 2016.

10.0 Dedication/Opening

ETTP's Site Interpretation and K-25 Historic Preservation culminates with the formal dedication of the K-25 footprint and the opening(s) of the Equipment Building (**Stipulation 7**), Viewing Tower (**Stipulation 8**), and the K-25 History Center (**Stipulation 11**). These activities are planned to occur no later than August 7, 2016. Also included in this element is the formal dedication of the K-25 Preservation Footprint which will be coincident with the public opening of the Equipment Building's, History Center's, and Viewing Tower's opening, whichever occurs first.

11.0 Post-Dedication/Opening

Following the Opening of the History Center, DOE-OREM will finalize the installation of the Wayside Exhibits (**Stipulation 13**) and the publication of the self-guided tour brochure (**Stipulation 14**).

11.1 Installation of Wayside Exhibits

This WBS element contains the scope for assembly and installation of 12 low-profile NPS standard wayside exhibits per the Professional Site Design Team's and Museum Professional's design (**Stipulations 5 and 9**) will occur no later than one year after the opening of the History Center.

11.2 Prepare & Publish Self-Guided Tour Brochure

This WBS element addresses the design, approval, and publication of 1,000 self-guided tour brochures, which supplement the wayside exhibits described in (**Stipulation 10**). These brochures will include a map of the site area, photographs of the site over time, a map of the Wayside Exhibit locations, and other points of interest, such as the site of the K-25 Building, History Center, Viewing Tower, and the Equipment Building. One thousand copies of the brochure will be available no later one year after opening of the History Center.

MOA Execution Plan - Total Estimated Cost

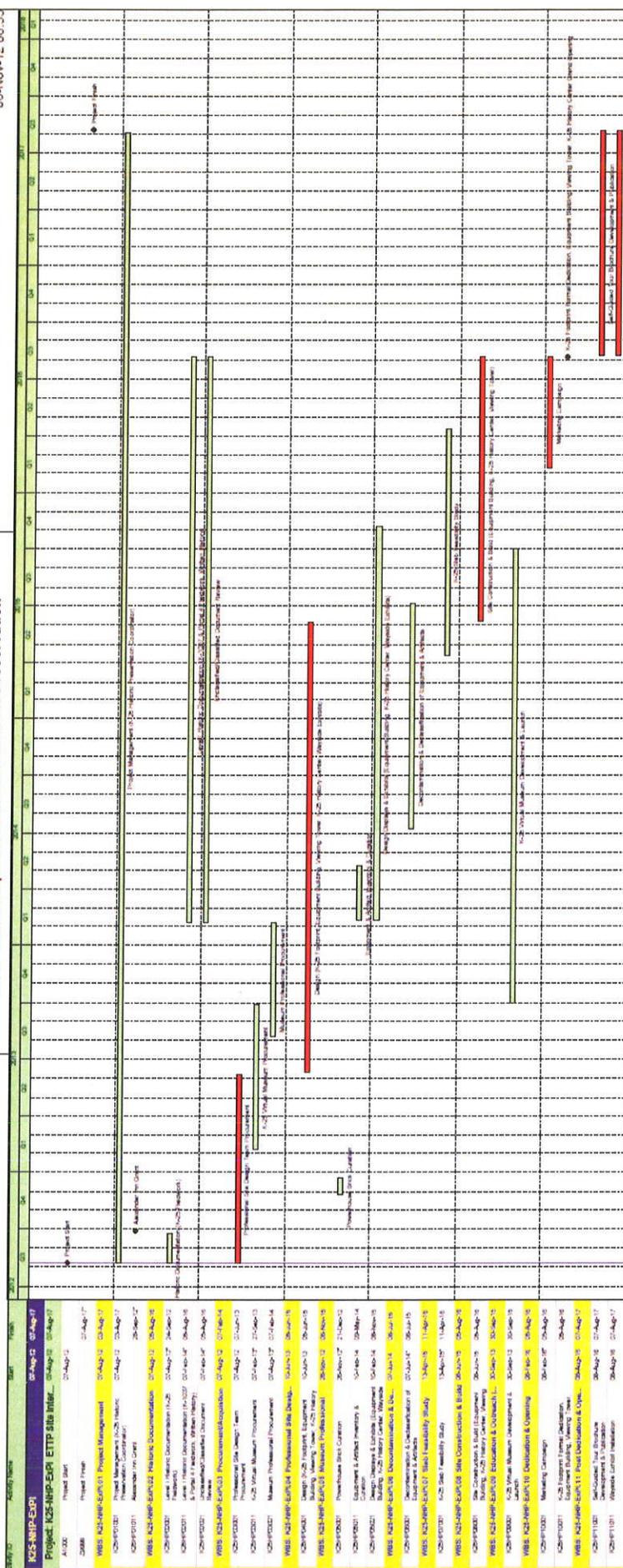
DOE-OREM has expended approximately \$3 million on K-25 mitigation measures. In addition to the \$3 million, the estimate for implementing the mitigation measures in the final MOA, to which this Execution Plan is appended, total approximately \$17.5 million, bringing the total conceptual estimated cost to \$20.5 million. The attached cost estimate does not include the overhead costs (e.g., project integration, planning and controls; information technology; quality assurance; document control, etc.) that may be incurred if the work was managed by a DOE contractor.

**ETTP Site Interpretation and K-25 Historic Preservation
Final Memorandum of Agreement (August 2012) Execution Plan
Rough Order of Magnitude (ROM) Cost Estimate, by Fiscal Year**
November 2012

WBS	Description	Fiscal Year (Unescalated \$)					Unescalated Total Cost (\$)
		12	13	14	15	16	
1.0	Project Management K-25 Historic Preservation Coordinator Grant for Purchase of Alexander Inn	500,000					500,000
2.0	Historic Documentation			80,000	200,000	80,000	360,000
3.0	Procurement Professional Site Design Team Museum Professional K-25 Virtual Museum		36,000 6,000 36,000		30,000		36,000 36,000 36,000
4.0	Professional Site Design K-25 Footprint & Wayside Exhibits Equipment Building/K-25 History Center Viewing Tower		48,500 79,500 25,000	175,500 901,000 113,000	127,000 821,500 88,000		351,000 1,802,000 226,000
5.0	Museum Professional Equipment and Artifact Inventory and Curation		6,500	204,500			211,000
6.0	Exhibits and Displays (Equipment Building, K-25 History Center, & Wayside Exhibits) Self-Guided Tour Brochure				132,500	132,500	265,000
7.0	Decontamination and Declassification Slab Feasibility Study			882,000	1,764,000		2,646,000
8.0	Site Construction and Build Equipment Building Viewing Tower K-25 History Center				4,450,000 751,000 720,000	4,112,000 751,000 720,000	8,562,000 751,000 1,440,000
9.0	Education & Outreach (K-25 Virtual Museum)			75,000	75,000		150,000
10.0	Dedication & Opening					30,000	30,000
11.0	Post Dedication & Opening Wayside Exhibit Installation Self-Guided Tour Brochure					36,000 1,000	36,000 1,000
ESTIMATE TOTALS		\$ 500,000	\$ 237,500	\$ 2,461,000	\$ 8,468,000	\$ 5,855,500	\$ 17,565,000

Note: This ROM cost estimate does not include project or construction management.

ETTP Site Interpretation & K-25 Historic Preservation



■ Actual Work
■ Remaining Work
■ Critical Remaining Work