PORTSMOUTH GASEOUS DIFFUSION PLANT, X-300A PROCESS MONITORING BUILDING
(Computer Building)
3930 U.S. Route 23 South
Piketon vicinity
Pike County
Ohio

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240

HISTORIC AMERICAN ENGINEERING RECORD

PORTSMOUTH GASEOUS DIFFUSION PLANT, X-300A PROCESS MONITORING BUILDING (COMPUTER BUILDING)

HAER No. OH-142-N

Location: Portsmouth Gaseous Diffusion Plant (PORTS), 3930 U.S. Route 23 South, Piketon vicinity, Scioto Township, Pike County, Ohio

The X-300A Process Monitoring Building is located at Ohio State Plane South coordinates at easting 1826839.172 ft, northing 368420.7171 ft and at Universal Transverse Mercator Zone 17N easting 326961.0439 m, northing 4319838.56 m. The coordinate represents the approximate center of the X-300A Process Monitoring Building. This coordinate was obtained on November 3, 2019 by plotting its location in EnviroInsite 10.0.0.37. The accuracy of the coordinates is +/- 12 meters. The coordinate datum is North American Datum 1983.

Date of Construction: 1954

Designer/Builder: Peter Kiewit Sons' Construction Company

Previous Owner: N/A

Present Owner: The Atomic Energy Commission oversaw construction and operation of PORTS until 1974, when the Energy Research and Development Administration was established with responsibility for research and development duties from 1974-1977. In 1977, the U.S. Department of Energy was established, overseeing operations at PORTS.

Present Use: The X-300A Process Monitoring Building is currently not in use and is awaiting demolition.

Significance: The X-300A houses the electronic monitoring equipment to track plant processing, including the computer-processing unit for the cascade automatic data processing system. This building is part of PORTS, which was a part of the U.S. Cold War nuclear weapons complex. PORTS' primary Cold War era mission was the production of highly enriched uranium by the gaseous diffusion process for defense/military purposes.

Project Information: Fluor-BWXT Portsmouth LLC photographed the site in August 2014. Gray & Pape, Inc., Cincinnati, Ohio, served as the primary author of the historical narrative and resource descriptions drawing from numerous historical records and reports, drawings, photographs and plans. For additional contextual information, see Portsmouth Gaseous Diffusion Plant, HAER no. OH-142. This X-300A Process Monitoring Building HAER was completed in 2021.

Part I. Historical Infomation

In support of this report, there are three appendices:Appendix A through C, which consist of survey photographs, historical photographs, and historical drawings, respectively.

Construction History of the X-300A Process Monitoring Building:
The X-300A Process Monitoring Building was built in 1954, during the initial stage of construction at PORTS (Appendix B, Figures 5 and 6). Also known as the "Computer Building," the X-300A Process Monitoring Building houses the electronic monitoring equipment that tracks plant processing, including the computer processing unit for the cascade automatic data processing system.

Historical drawings of building plans are included in Appendix C (Figures 7 and 8).

Part II. Site Information

Description of the X-300A Process Monitoring Building:
The X-300A Process Monitoring Building is associated with the X-300 Plant Control Facility, and is located just west of the circular domed X-300 building. The X-300A Building is a one-story utilitarian building in a rectangular plan (Appendix A, Figures 2 through 4). The building has a poured concrete slab foundation, reinforced concrete walls, no window openings, and a relatively flat roof. There is an L-shaped concrete block addition on the west half of the southern façade. The main building has one entry located on the north façade with a heavy solid metal blast door. The addition has two metal entry doors on the west façade and one inset in the south façade. The main building has 1,400 square feet of floor space.

The interior of the building houses a variety of computers and equipment used in the monitoring of plant processing systems. Floors in the building are covered with linoleum, with certain panels perforated to allow for increased air flow to keep the computer equipment cool. The walls are clad in a fibrous wallboard material, and the building has a drop ceiling with acoustic tiles and inset troffer-type fluorescent lighting.

Part III. Sources of Information

Department of Energy. *The Role of the Portsmouth Gaseous Diffusion Plant in Cold War History*. Piketon, OH: U.S. Department of Energy, 2017.

Department of Energy. *Remedial Investigation and Feasibility Report for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, DOE/PPPO/03-0245&D3. Piketon, OH: U.S. Department of Energy, 2014.

Department of Energy. *National Historic Preservation Act Section 110 Survey of Architectural Properties at the Portsmouth Gaseous Diffusion Plant in Scioto and Seal Townships, Piketon, Ohio*, DOE/PPPO/03-0147&D1. Piketon, OH: U.S. Department of Energy, January 2011.

Department of Energy. *Highly Enriched Uranium: Striking a Balance, A Historical Report on the United States Highly Enriched Uranium Production, Acquisition, and Utilization Activities from 1945 to September 30, 1996*, Revision 1, National Nuclear Security Administration, Washington, D.C.: U.S. Department of Energy, 2001.

Appendix A: Survey Photographs

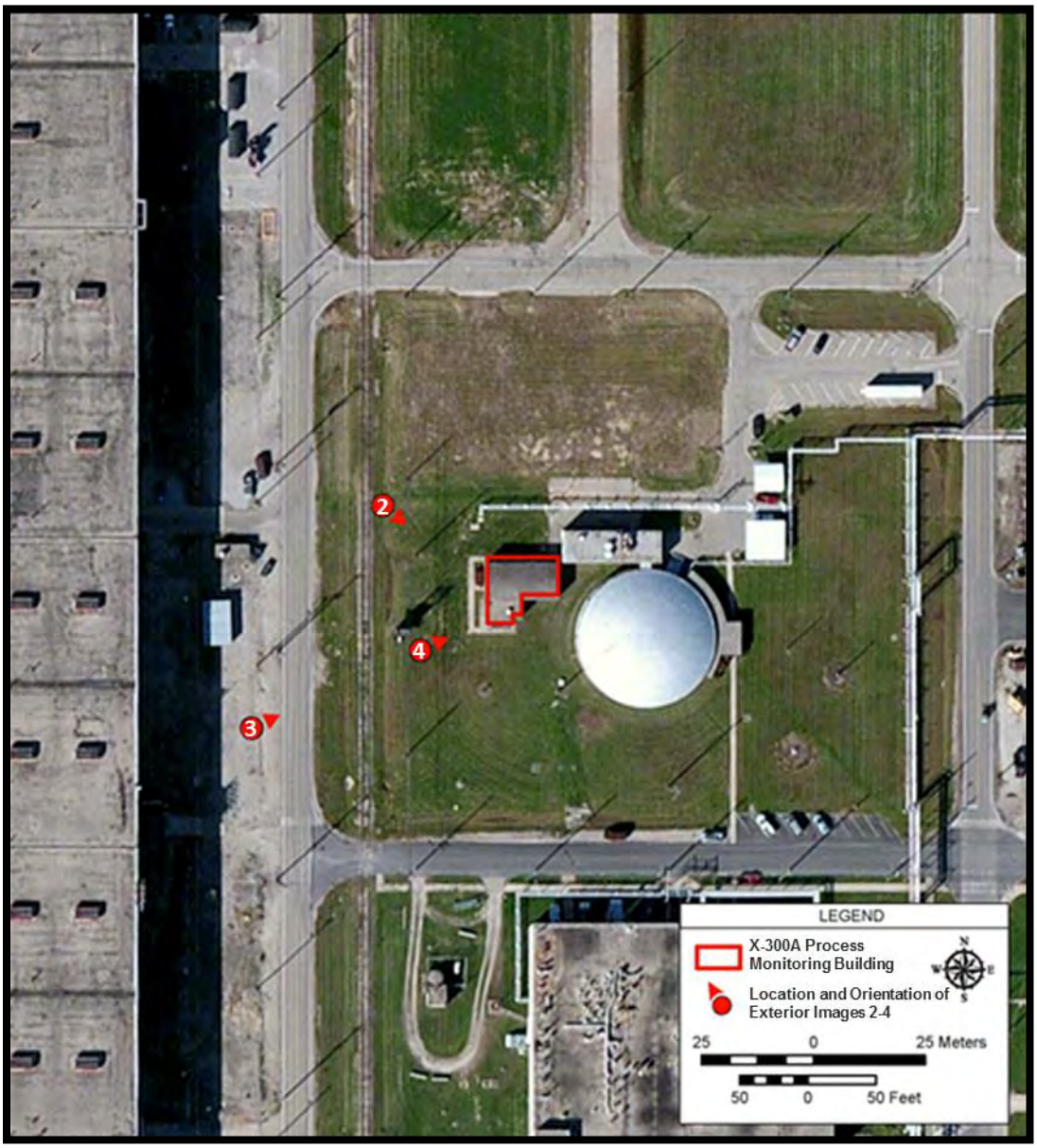

Figure 1: Location and Orientation of Exterior Photographs (2 through 4)

Figure 2: North Side of the X-300A Process Monitoring Building, August 2014, Facing Southeast

Figure 3: South Side of the X-300A Process Monitoring Building, August 2014, Facing Northeast

Figure 4: South Side of the X-300A Process Monitoring Building, August 2014, Facing Northeast

Appendix B: Historical Photographs

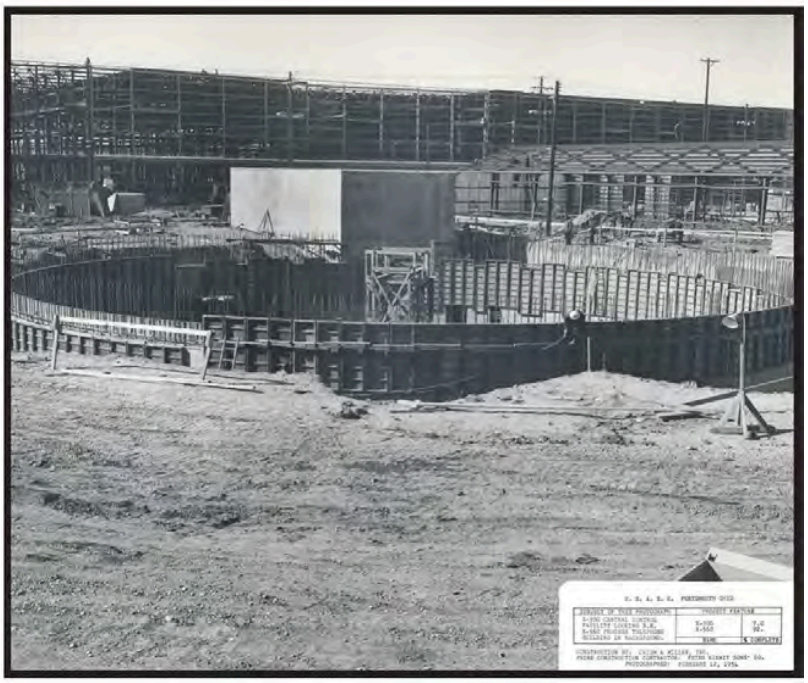

Figure 5: X-300A Process Monitoring Building, X-300 Plant Control Facility Under Construction in Foreground February 1954

Figure 6: X-300A Process Monitoring Building, X-300 Plant Control Facility Under Construction to Right of X-300A, May 1954

Appendix C: Historical Drawings

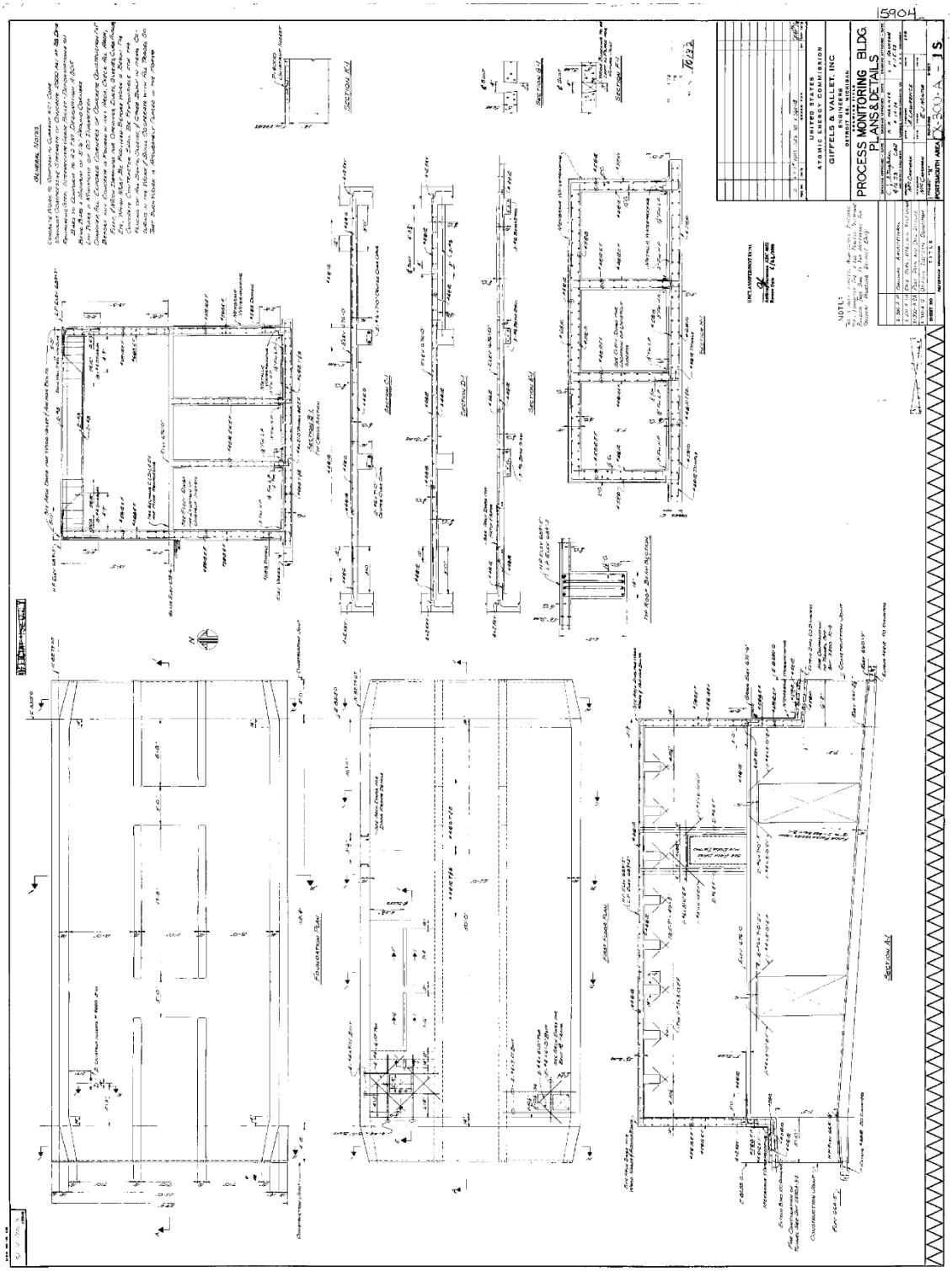

Figure 7: Plans and Details

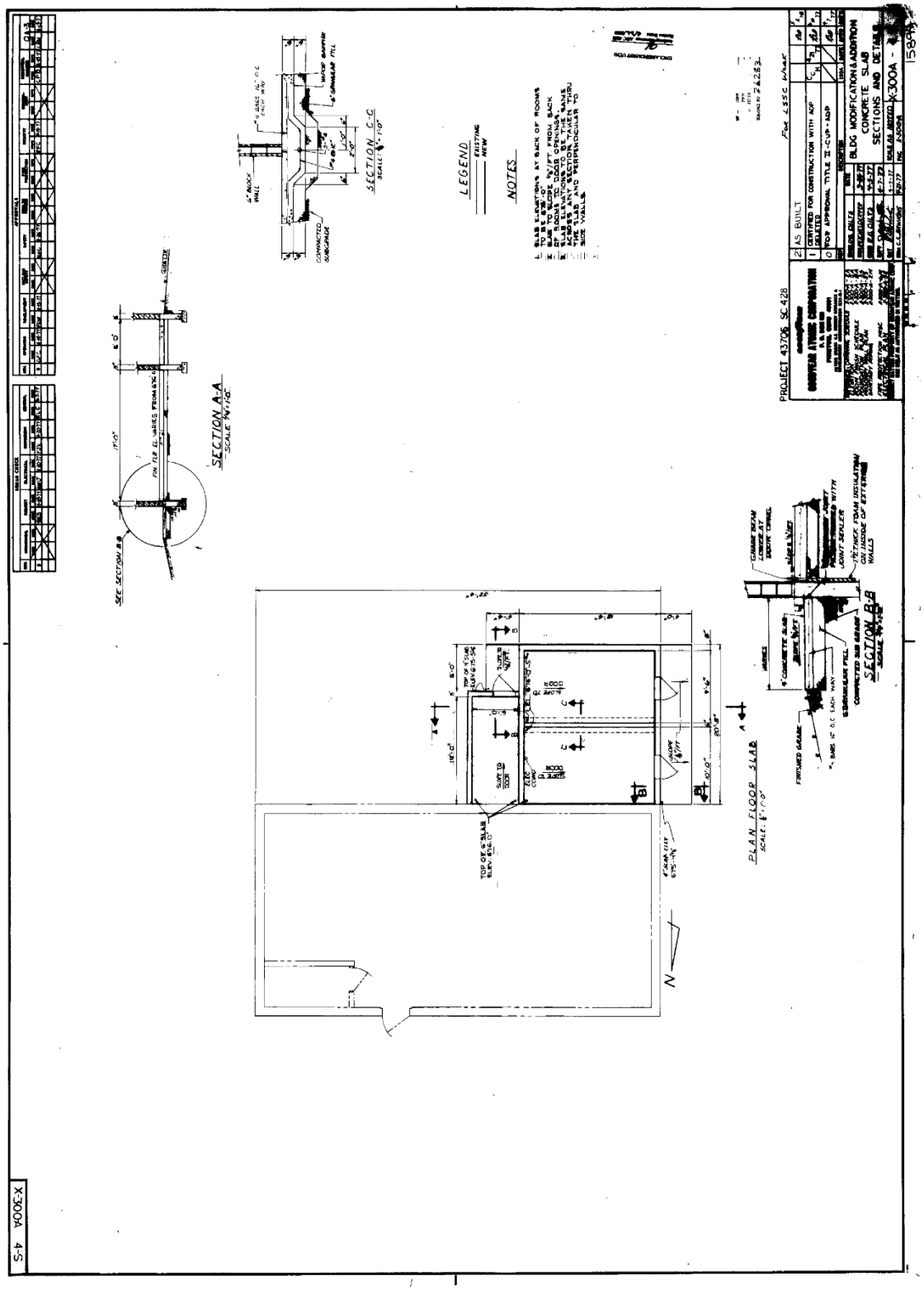

Figure 8: Concrete Slab Section and Details