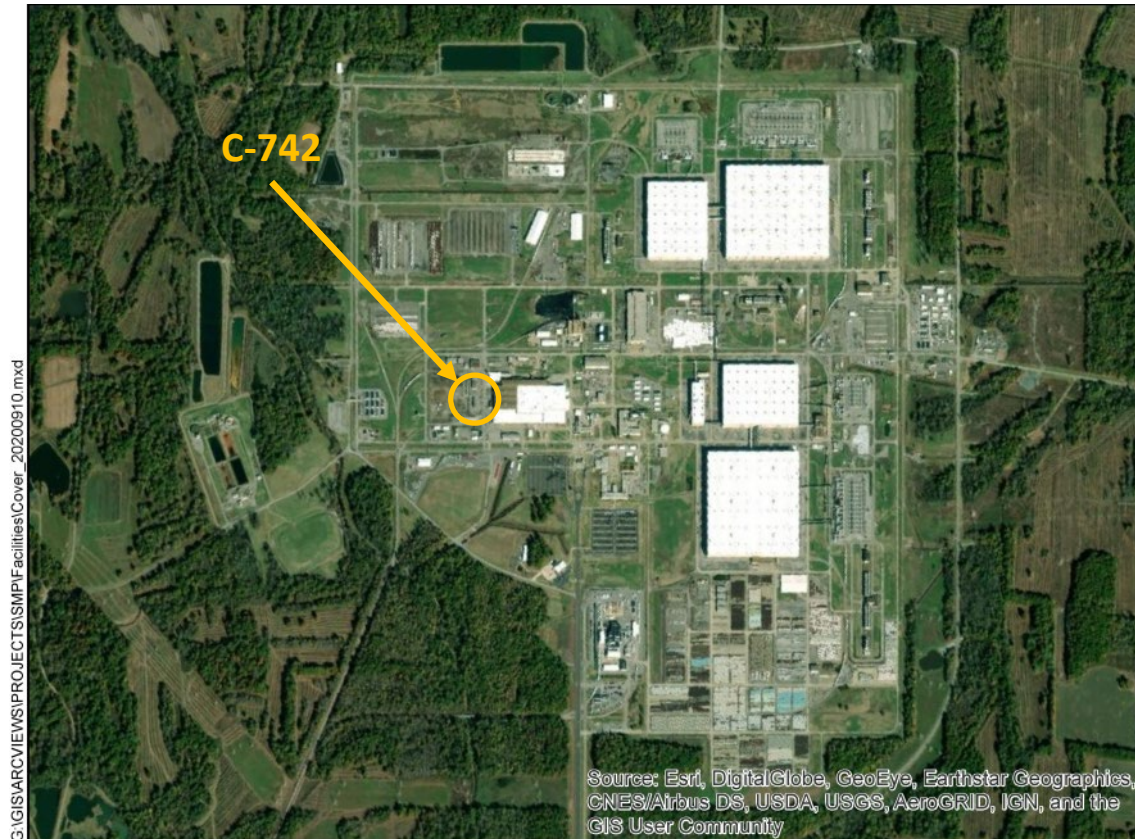


C-742 Cylinder Storage Building



Facility Overview Briefing

July 13, 2021

Reflects consultation with EPA and Kentucky in accordance with the Site Management Plan that occurred on June 28, 2021.

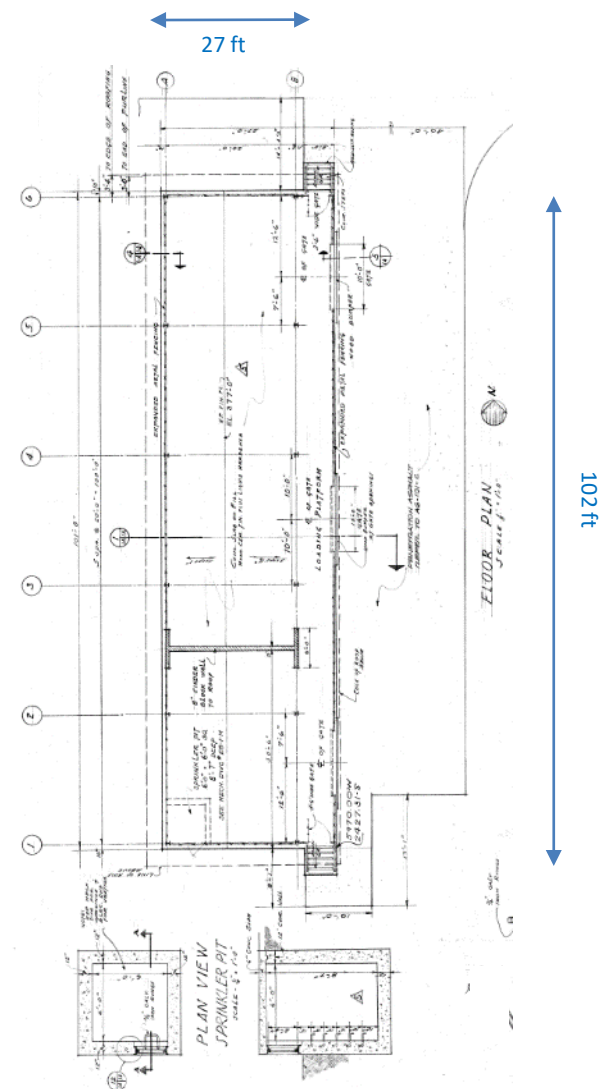
Purpose

- The C-742 Cylinder Storage Building is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation is intended to serve as consultation, providing the basis for demolition and disposal of the aboveground structure outside of the FFA/CERCLA process.
- The remaining slab, vault, and soils will be subject to a future CERCLA evaluation under Geographical Area (GA) 14.



Construction History

- C-742 is located within the Paducah Site security fence, west of the C-720 Maintenance and Stores Building.
- Construction began in 1951/1952 and was completed in 1953.
- The facility is constructed of an open structural steel frame with a corrugated transite roof on an elevated concrete foundation.
 - ❑ The structure was specifically designed and constructed for the storage of gas cylinders, is caged, and has a support wall that divided flammable cylinders from inert cylinders.
 - ❑ The structure is approximately three and one-half feet above ground elevation to allow for easy transfer of cylinders to and from the facility.
 - ❑ The structure is not fully enclosed; it is open on three sides.
 - ❑ The structure has a small enclosed office area on the north end measuring ~ 12 ft x ~ 20 ft.
 - ❑ The structure has a vault (labeled as a confined space) on the south end that houses the sprinkler system measuring ~ 6 ft x ~ 8 ft.
- The facility is approximately 2,754 ft².
 - ❑ Measuring ~ 27 ft x ~ 102 ft.



Floor Plan View: Excerpt from Engineering Drawing E8-1-A-0001-0008-U017446, dated 1958 3

Operational History

- C-742 was constructed and has been operated as a gas cylinder storage facility for various types of gas cylinders from its construction in 1953 to present.
 - ❑ Types of gas cylinders stored included acetylene, argon/methane, ammonia, nitrogen, Freon 22, Freon 12, helium, argon, oxygen, and carbon dioxide.
 - ❑ Enclosed office area on the north end of the facility was designed and originally served as a Stores Department receiving/shipping area for the gas cylinders.
- USEC leased the facility in the early 1990s and continued to use C-742 as a gas cylinder storage facility.
- C-742 transitioned from USEC to DOE in 2014 and continued to operate as a gas cylinder storage facility.
 - ❑ The enclosed office area on the north end of the facility was no longer used by the Stores Department and served as a temporary office area for Health Physics from November 2019 to August 2020.



Various types of gas cylinders



Enclosed Office – North End

Current Status

- C-742 continues to be used as a gas cylinder storage facility.
- The enclosed office area located on the north end of the facility is no longer in use.
- Walkdown inspection conducted in March and April 2021 and employee interviews confirmed no unusual conditions.
 - ❑ Acetylene, Freon, carbon dioxide, oxygen, methane/argon, and refrigerant gas cylinders are currently stored.
 - ❑ Vault for fire sprinkler system is present and designated as a confined space.
 - ❑ No generator staging area (GSA) or satellite accumulation area (SAA).
 - ❑ Flammable cabinet containing aerosol sprays (wasp spray, hornet spray, etc.).
 - ❑ Asbestos-containing material (ACM) has been identified in the roof.
 - ❑ Columns and siding have been painted with lead-based paint.
 - ❑ No known chemical spills.
 - ❑ No radiological contamination.
 - ❑ Office area currently is not in use.



Oxygen
Cylinders



Refrigerant Cylinders
Targeted for Recycle

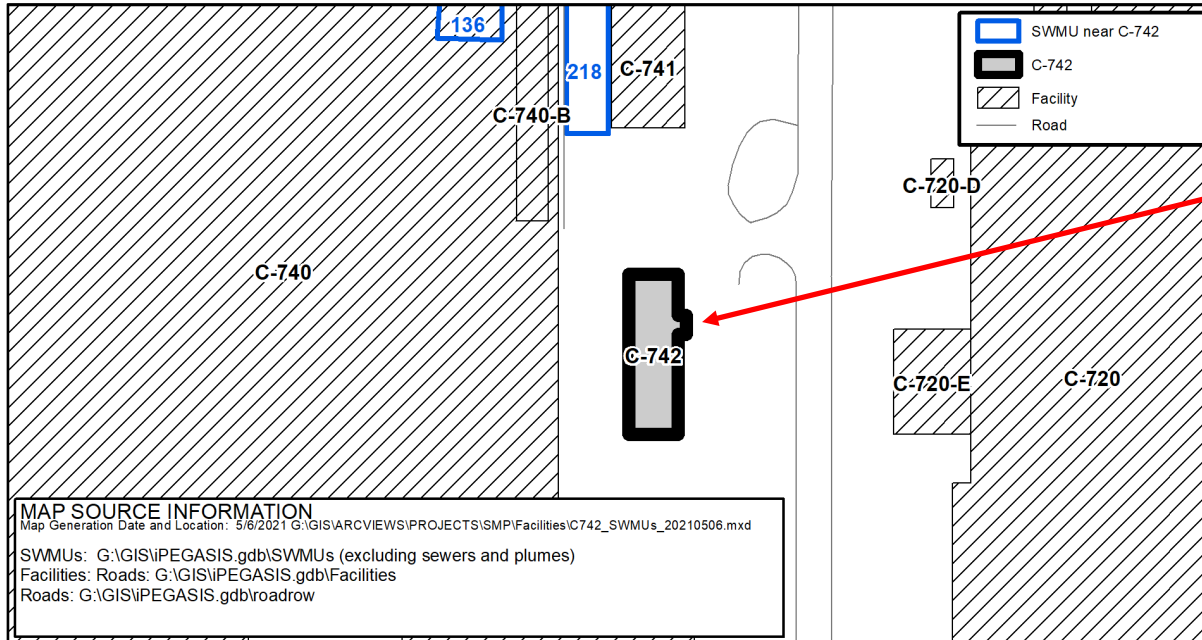


Flammable cabinet -
contains wasp spray,
hornet spray, and
other types of
aerosol sprays



Confined Space Entry
for Sprinkler System
Vault – South End

Environmental Impacts (Solid Waste Management Units)



• C-742 is not designated as a SWMU/AOC.

SWMU No.	Facility Name	Current Status	NFA Approval By
136	C-740 TCE Spill Site	NFA	EPA and KY via WAG 1&7 ROD 8/10/1998
218	OS-07 slab and underlying soils	Soils and Slabs OU	

Environmental Impacts

- No information to indicate a release or threatened release of a hazardous substance that would require an evaluation for a potential response action to protect future public health or welfare or the environment.
 - ❑ C-742 has been operated as a gas cylinder storage facility from its construction in 1953 to present.
 - ❑ Building materials used for construction could contain lead-based paints and ACM, both of which can be effectively verified during a predemolition inspection and properly managed using standard demolition and waste management practices.
 - C-742 roofing material is transite known to be an ACM.
 - Columns and siding have been painted with lead-based paint.
 - ❑ No history or records of chemical use or spills that would pose environmental release threat.
 - The vault that houses the sprinkler system is connected to the water/sprinkler main and sewer main.

Conclusion and Recommendations

- Walkdown inspection of the facility, employee interviews, and other reviewed historical information did not identify any unusual conditions that would pose a potential threat of environmental release during future demolition of the aboveground structure.
 - ❑ Deactivation will include removal of any accessible loose items (including the gas cylinders) being stored (to the extent practicable) prior to demolition.
 - ❑ Any floor drains will be delineated, documented, and isolated prior to demolition.
- Pending ceasing of operation, deactivation, and availability of funding, proceeding with demolition and disposal of the C-742 facility (aboveground structure) outside of the FFA/CERCLA process, contingent upon the fact that no additional changes have occurred that would affect the CERCLA determination of the facility prior to demolition, is recommended.
- All applicable laws, regulations, and DOE procedures/protocols will be followed to ensure the demolition and disposal of the aboveground structure occurs in a safe, compliant manner, including conducting any additional radiological characterization through confirmation radiological surveys (as necessary) to support demolition and waste disposition.

Conclusion and Recommendations

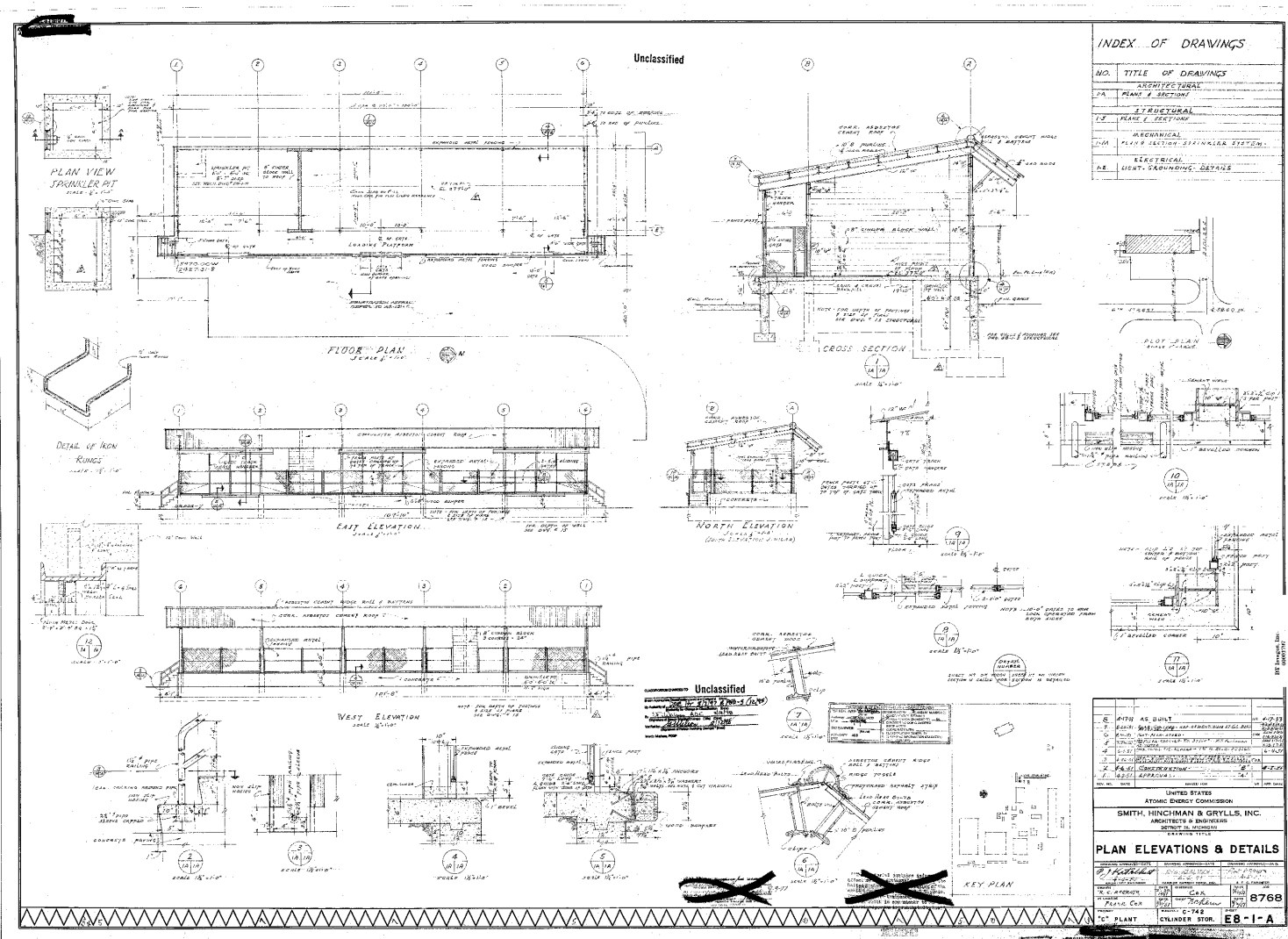
- As part of the demolition of the aboveground structure, the appropriate best management practices (BMPs) will be evaluated and implemented (as needed) to prevent/minimize the pooling and/or migration of storm water that may come into contact with any contamination that may exist on the pad/subsurface structure(s). For example, the following BMPs will implemented as necessary:
 - ❑ Radiological surveying will occur following demolition.
 - ❑ Decontamination and/or application of fixatives and/or barriers to contaminated surfaces above regulatory posting limits.
 - ❑ Isolation measures and other types of barriers to minimize and/or control runoff/pooling of contaminated storm water [e.g., seal inlets to drains/sumps/subsurface structure(s)].

- Removal of the C-742 facility will be documented in the appropriate annual SMP revision.

- The future evaluation conducted for GA 14 will further evaluate the potential threat of release associated with the slab, vault, and soils from the C-742 facility.

BACKUP INFORMATION

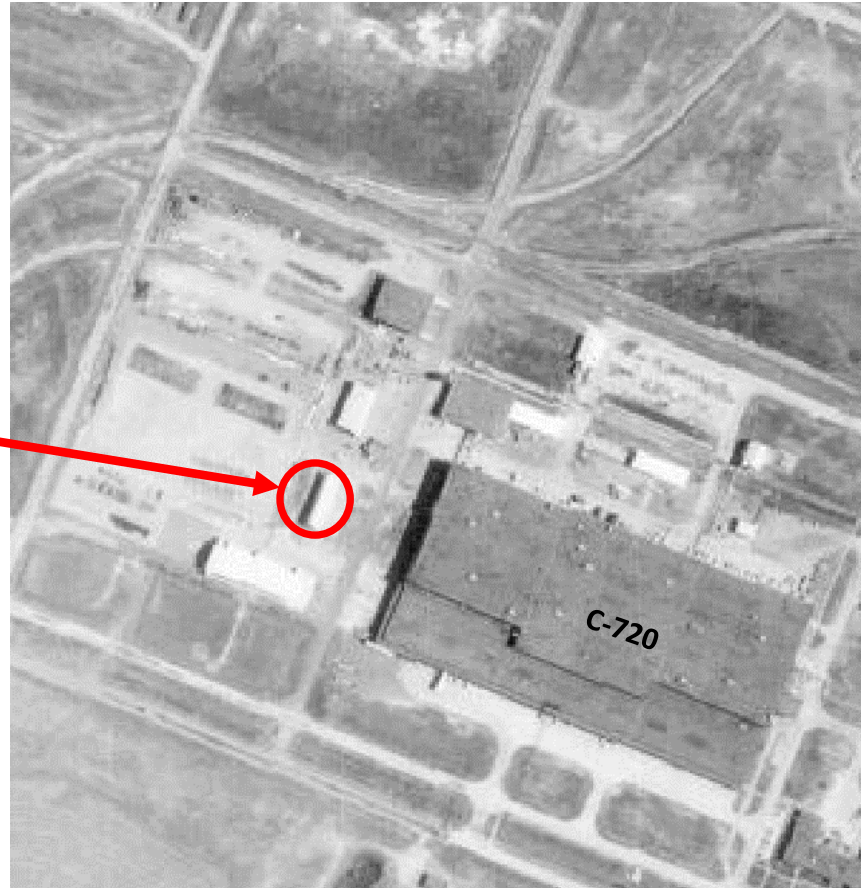
C-742 Engineering Drawings



Engineering Plan View Drawing : E8-1-A_0001_0008_U-017446

C-742 Aerial Photograph

C-742



Modified from Aerial Photograph: July 3, 1971

C-742 Sources

- Engineering Drawings:
 - Provided in presentation
- Databases:
 - USEC's BPS
 - Issues Management System
 - Regulatory Compliance Archive Spill Log (pre-2018)
 - PCB Database (1989 – 2021)
 - Active GSAs and SAAs Master List
 - Asbestos Walkdown (October 2020)
- Employee Communication:
 - Facility Manager (25 years plant expertise)
 - Compliance Subject Matter Expert (45 years plant expertise)
- Documents:
 - Report for Environmental Audit Supporting Transition of the Gaseous Diffusion Plants to the United States Enrichment Corporation, DOE/OR/1087&V5, June 1993
 - Fluor Federal Services, Inc., Paducah Deactivation Project Comprehensive Environmental Compliance Due Diligence Review, CP5-ES-0101, October 2014