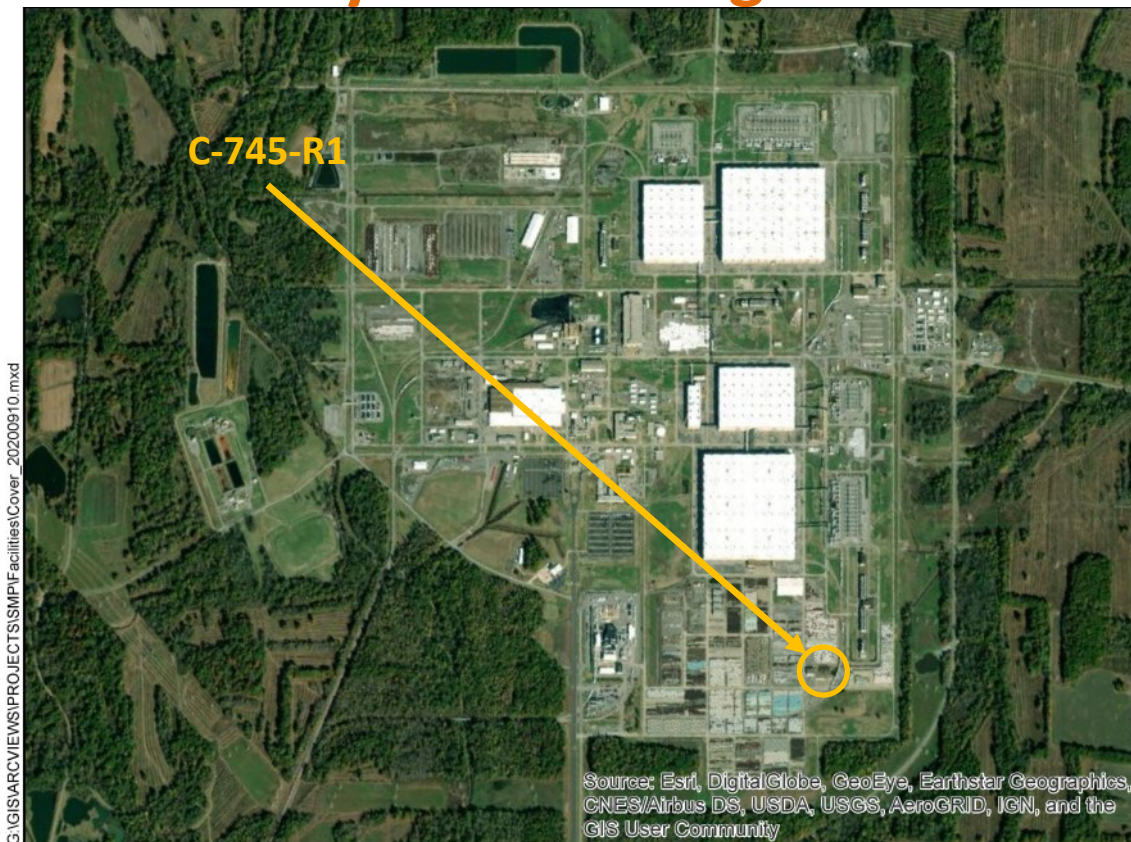


# C-745-R1 Cylinder Changeout Building



## Facility Overview Briefing

July 16, 2021

Reflects consultation with EPA and Kentucky in accordance with the Site Management Plan that occurred on July 12, 2021.

# Purpose

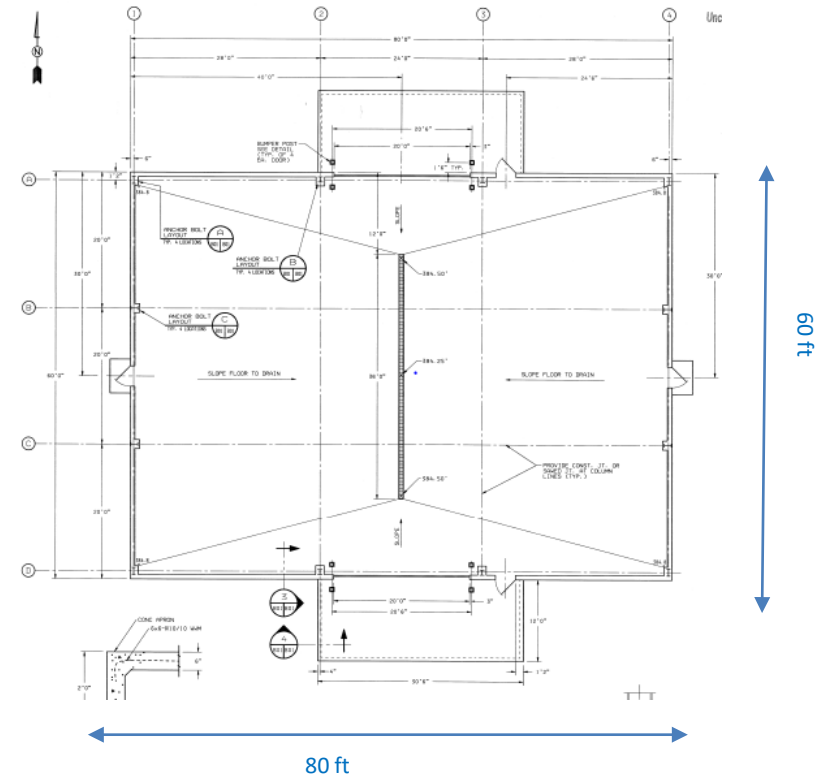
- The C-745-R1 Cylinder Changeout Building is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation is intended to serve as consultation, providing the basis for demolition and disposal of the aboveground structure outside of the FFA/CERCLA process.
- The remaining slab/soils will be subject to a future CERCLA evaluation under Geographical Area (GA) 4.



C-745-R1 Facility Photo: 4/2021

# Construction History

- C-745-R1 is located outside the Paducah Site security fence, near the intersection of Alabama Avenue and 16<sup>th</sup> Street. It is southeast of C-745-Q.
- The facility was constructed in 2003.
- The facility is constructed of prefabricated metal on a concrete slab (10-inches thick).
  - ❑ The structure is fully enclosed.
  - ❑ Sump pumps were not included as part of the structure design.
  - ❑ A single floor drain that discharges to the storm drain system is located in the center of the facility.
- The facility is approximately 4,800 ft<sup>2</sup>.
  - ❑ Measuring ~80 ft x ~60 ft.



Floor Plan View: Excerpt from Engineering Drawing C5E-ZA5190-B01, dated 2002

# Operational History

- USEC constructed C-745-R1 in 2003.
- USEC operated C-745-R1 from 2003 to 2014 as a cylinder changeout facility that prepared 30B cylinders for shipment.
  - ❑ 30B UF6 overpacks were brought to the facility; inspected; and repaired, if necessary.
  - ❑ 30B cylinders (previously inspected with valve protector caps installed) were loaded into the overpacks via a forklift and boom.
  - ❑ Overpacked 30B cylinders were prepared for transportation and shipped to an off-site facility.
- C-745-R1 transitioned from USEC to DOE in 2014.
- In 2015, DOE transferred C-745-R1 to DUF6.
- Since 2015, DUF6 has operated C-745-R1 as a waste storage and maintenance shop.
  - ❑ An office trailer is located inside the facility.
  - ❑ The facility includes a hot work area for fabricating stainless steel process piping.



Office Trailer



Hot Work Area for Pipe Fabrication

# Current Status

- C-745-R1 is currently used by DUF6 as a storage area and maintenance shop.
- Walkdown inspection conducted in April 2021 and employee interviews confirmed no unusual conditions.
  - ❑ No floor sumps; however, a single floor drain that discharges to the storm drain system is located in the center of the facility.
  - ❑ One generator staging area (GSA), GSA-C-002, containing:
    - Radiologically contaminated equipment.
    - Liquids used in chillers or to decontaminate equipment.
    - Calcium fluoride solids used to regenerate potassium hydroxide.
  - ❑ No satellite accumulation area(s).
  - ❑ No known asbestos-containing materials (ACM) or lead-based paint.
  - ❑ Propylene glycol used to replenish process chillers that cool end products.
  - ❑ Minor leaks of kerosene from heaters and hydraulic oil from forklifts that were immediately addressed; no known chemical spills.



Containment for Propylene Glycol Storage Area

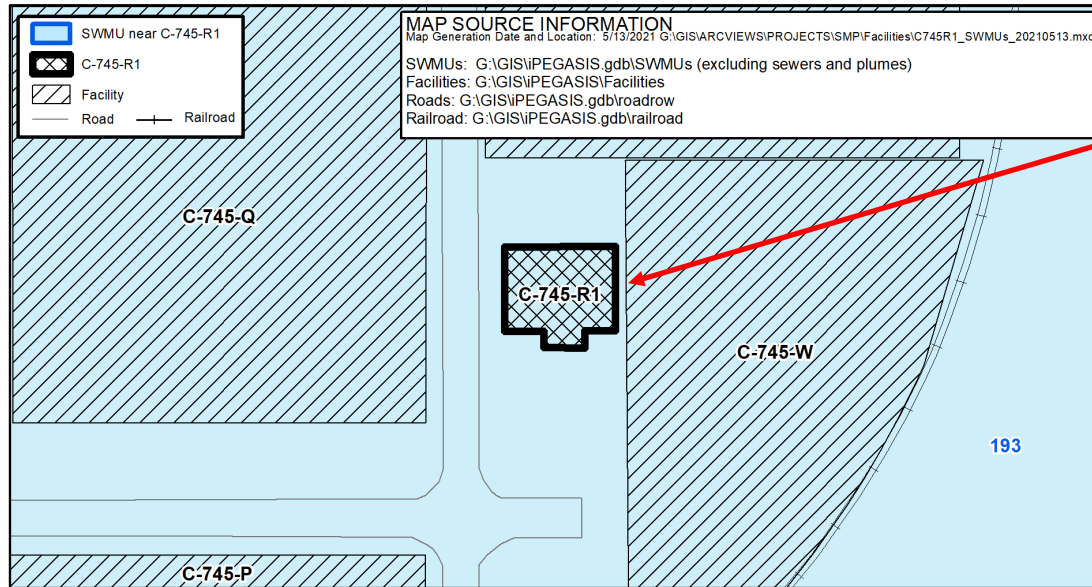


GSA-C-002



Empty Drums and Totes Storage Area

# Environmental Impacts (Solid Waste Management Units)



- The C-745-R1 Cylinder Changeout Building is not designated as a SWMU/AOC, but is located within the footprint of SWMU 193.

SWMU No.	Facility Name	Current Status
193	McGraw Construction Facilities (Southside Cylinder Yards)	DUF6 Footprint Underlying Soils 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-745-R1 was operated as a cylinder changeout facility from its construction in 2003 to 2014; since 2015 C-745-R1 has been used as a waste storage and maintenance shop.
  - ❑ Building materials used for construction are not known to contain ACM or lead-based paints.
  - ❑ C-745-R1 has a DUF6 GSA containing items listed below that are securely containerized. The GSA is operated in accordance with applicable requirements and procedures with no known releases or spills.
    - Radiologically contaminated equipment.
    - Liquids used in chillers or to decontaminate equipment.
    - Calcium fluoride solids used to regenerate potassium hydroxide.
  - ❑ No history or records of chemical use or spills that would pose environmental release threat.

# 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 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-745-R1 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.

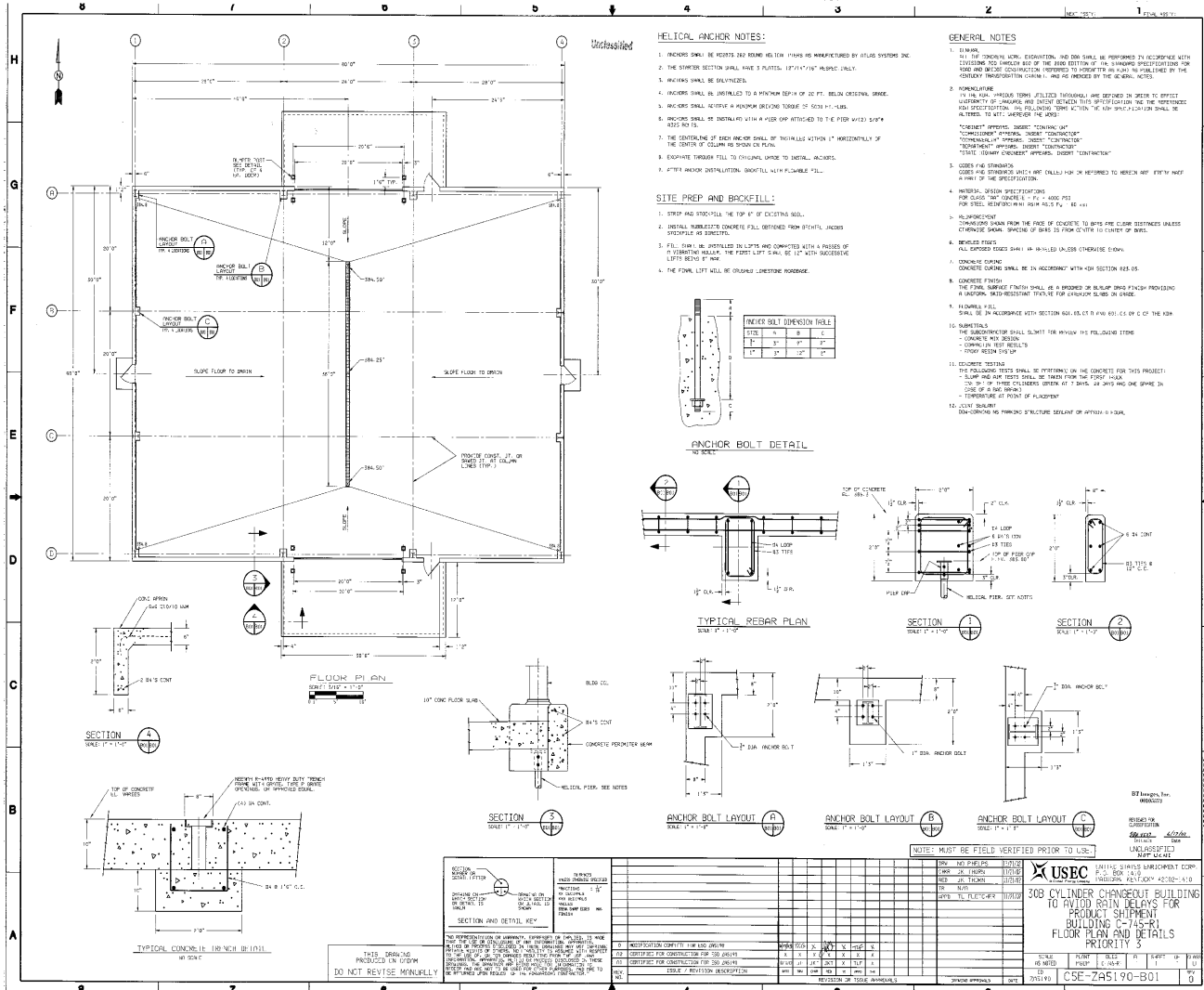


# Conclusion and Recommendations

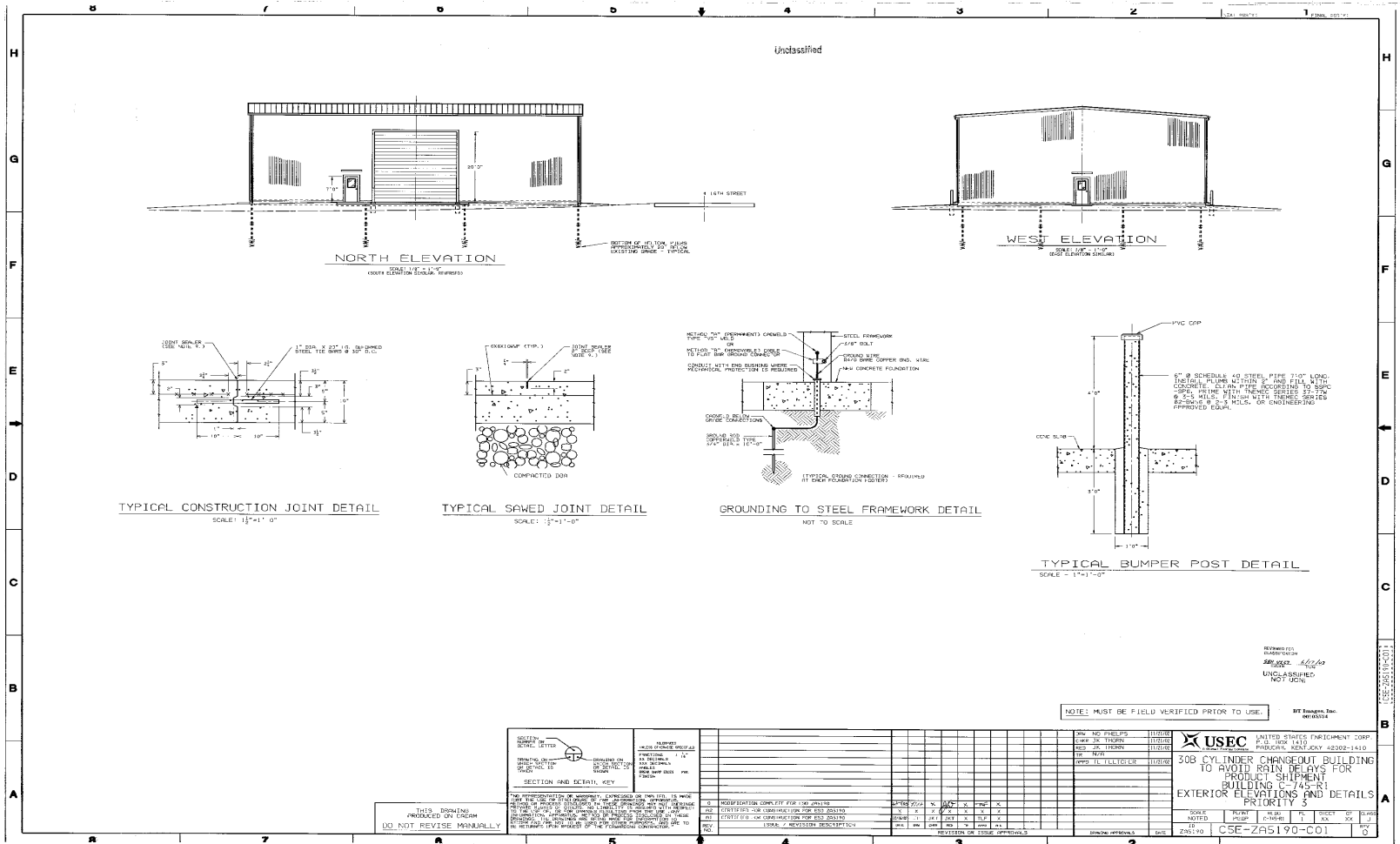
- As part of the demolition of the aboveground structure, the appropriate best management practices (BMPs) will be evaluated and implemented (as needed) to prevent/minimize the pooling and/or migration of storm water that may come into contact with any contamination that may exist on the pad/subsurface structure(s). For example, the following BMPs will be 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-745-R1 facility will be documented in the appropriate annual SMP revision.
- The future evaluation conducted for GA 4 will further evaluate the potential threat of release associated with the slab/soils from the C-745-R1 facility.

## BACKUP INFORMATION

# C-745-R1 Engineering Drawings



# C-745-R1 Engineering Drawings



# C-745-R1 Sources

- Engineering Drawings:
  - Provided in presentation
- Databases:
  - USEC's BPS
  - Issues Management System
  - PCB Database (1989 – 2021)
  - Asbestos Walkdown (October 2020)
- Employee Interviews:
  - DUF6 Production Support Operations Manager (10 years plant expertise)
  - Laboratory Operation Manager/Project Manager/Facility Manager (30 years plant expertise)
  - Compliance Subject Matter Expert (45 years plant expertise; trained on system)
- Documents:
  - Paducah Gaseous Diffusion Plant Sitewide Strategy Facility Background Information, FPDP-RPT-0021, May 2016