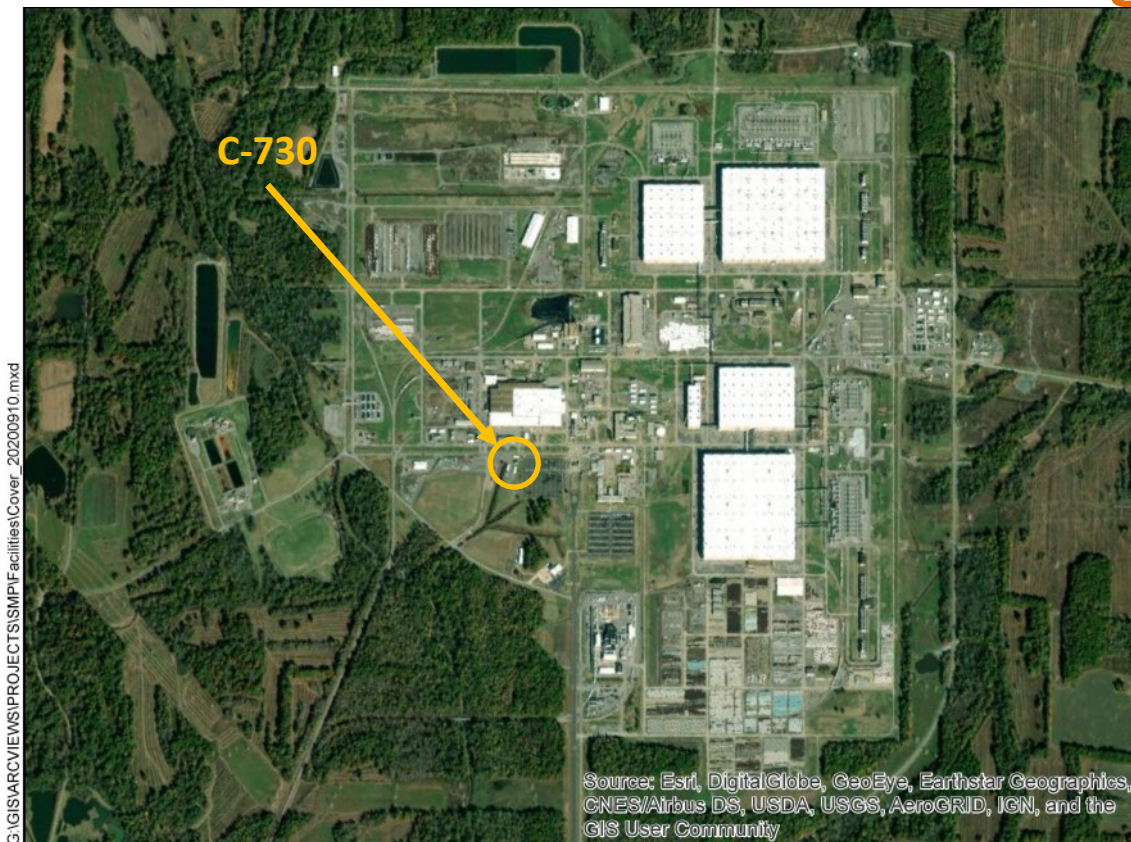


# C-730 Maintenance Service Building



## 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

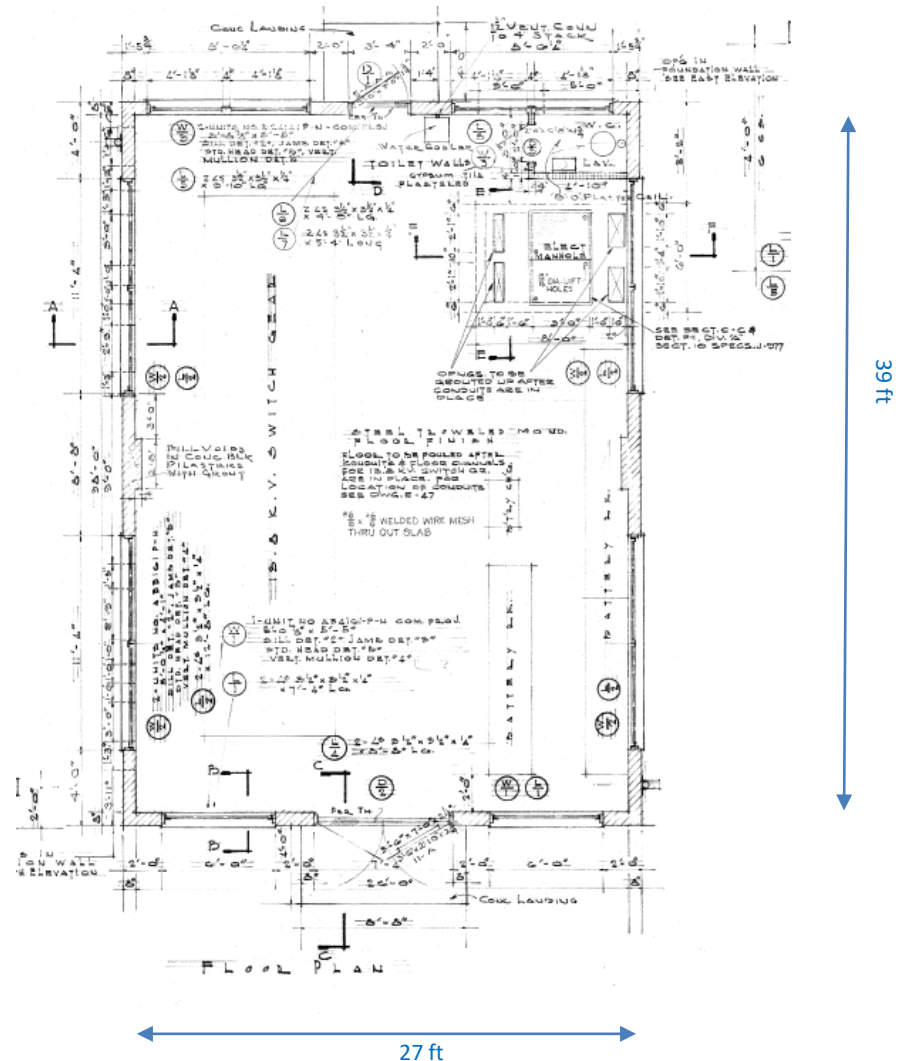
- The C-730 Maintenance Service Building is a candidate for future demolition and disposal, contingent upon funding priorities.
- Listed in Appendix 6 of the Site Management Plan (SMP); requires consultation with EPA and Kentucky for CERCLA screening prior to demolition.
- This presentation is intended 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 as part of a future site evaluation conducted under Appendix 4 of the SMP.



C-730 Facility Photo: 4/2021

# Construction History

- C-730 is located outside the Paducah Site security fence, south of the C-720 Maintenance and Stores Building.
- The facility was constructed in the early 1950s and has undergone various modifications since its original construction.
- The facility is constructed of unit masonry on a 6-inch concrete slab.
  - ❑ Electrical manhole measuring ~8 ft x ~5 ft x ~3 ft includes a sump that drains to the sanitary sewer system.
  - ❑ Restroom and laboratory sink drain to sanitary sewer system.
- The facility is approximately 1,053 ft<sup>2</sup>.
  - ❑ Measuring ~27 ft x ~39 ft.

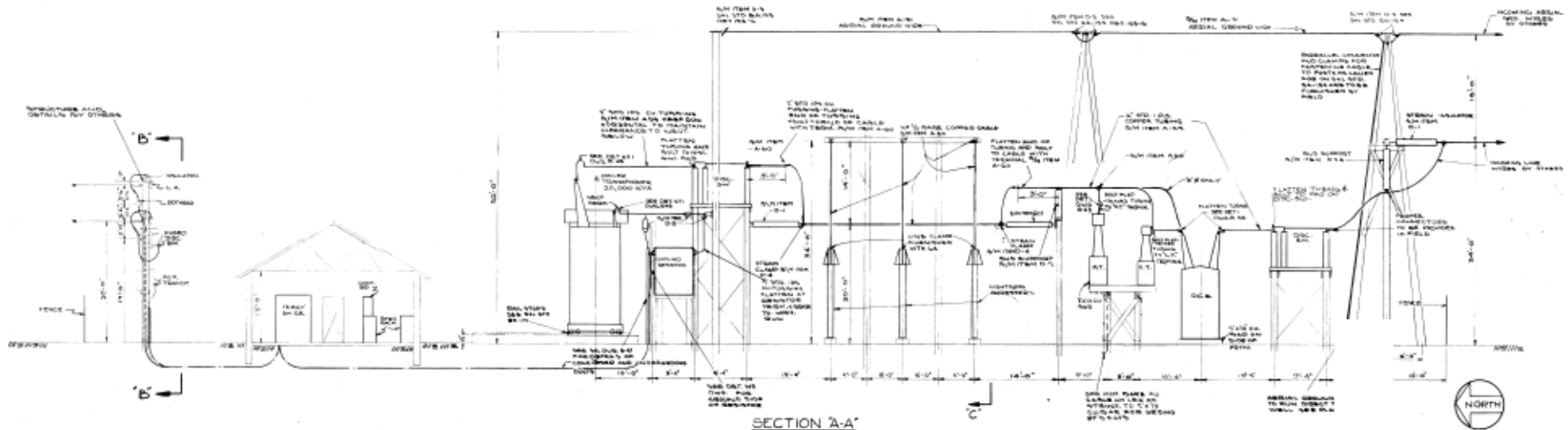


Floor Plan View: Excerpt from Engineering Drawing B-50\_0001\_000C\_U-020454, dated 1951



# Operational History

- C-730 was originally constructed as a switch house that supported a substation used for plant construction in the early 1950s.
  - ❑ The facility, measuring ~27 ft x ~39 ft, contained the following.
    - 13.8 K.V. switchgear
    - Battery racks (with batteries), battery charger
    - Water cooler
    - Electrical manhole
    - Restroom facility
  - ❑ The C-730 facility and substation was located within a fenced-in area measuring ~124 ft x ~227 ft.
  - ❑ At some point (year unknown – estimated to be late 1950s/early 1960s), the interior components of the switch house were dismantled and removed and the only interior components associated with the original construction of C-730 that remained were the electrical manhole and restroom facility (NOTE: The substation and fence were also removed).



227 ft

Excerpt from Engineering Drawing E-46\_0001\_000A\_U-022119, dated 1951

# Operational History

- In the mid 1970s/early 1980s, the interior of C-730 was converted to a guard sleep quarter and office area.
- From 1986 – 1988, C-730 was converted to a temporary satellite laboratory for use by uncleared laboratory personnel.
  - Fume hood was installed.
  - Laboratory sink was installed.
  - Bench top instruments were installed.
  - Analyzed transformer and lube oils (acidity, interfacial tension, water content and gas analysis) and water (total organic halides analysis).
- In early 1990, the interior of C-730 was converted to support the Phase II Groundwater Investigation and routine groundwater sampling activities.
  - ❑ Deionized water system was installed.
  - ❑ Ice machines were installed.
  - ❑ Refrigeration units were installed.
- USEC leased the facility in the mid-1990s and used C-730 as a staging area for USEC environmental sampling activities.
- C-730 transitioned from USEC to DOE in 2014 and continues to operate as a staging area for sampling activities associated with the Environmental Monitoring Program.



Sleeping Accommodations



Original Restroom



Laboratory Fume Hood



Deionized water system



Sampling Area with Laboratory Sink

# Current Status

- C-730 has undergone multiple modifications since its construction in the early 1950s; however, it currently operates as a staging area for sampling activities associated with the Environmental Monitoring Program.
- Walkdown inspection conducted in April 2021 and employee interviews confirmed no unusual conditions.
  - ❑ Contains various types of chemicals used to support sampling activities (e.g., pH buffer solution, sodium thiosulfate, sodium hydroxide, nitric acid, sulfuric acid, hydrochloric acid, etc.)
  - ❑ Electrical manhole that includes a sump is present.
  - ❑ Drains associated with restroom, electrical manhole sump, laboratory sink, and ice machine drain to the sanitary sewer system.
  - ❑ No generator staging area (GSA) or satellite accumulation area (SAA).
  - ❑ Not used for radiological storage; however, facility does contain a radioactive material area for used sampling PPE.
  - ❑ Flammable cabinet containing aerosol sprays (e.g., wasp spray, hornet spray, spray paint, WD-40, etc.)
  - ❑ No known chemical spills.



Sampling Staging Area



Electrical Manhole with Sump

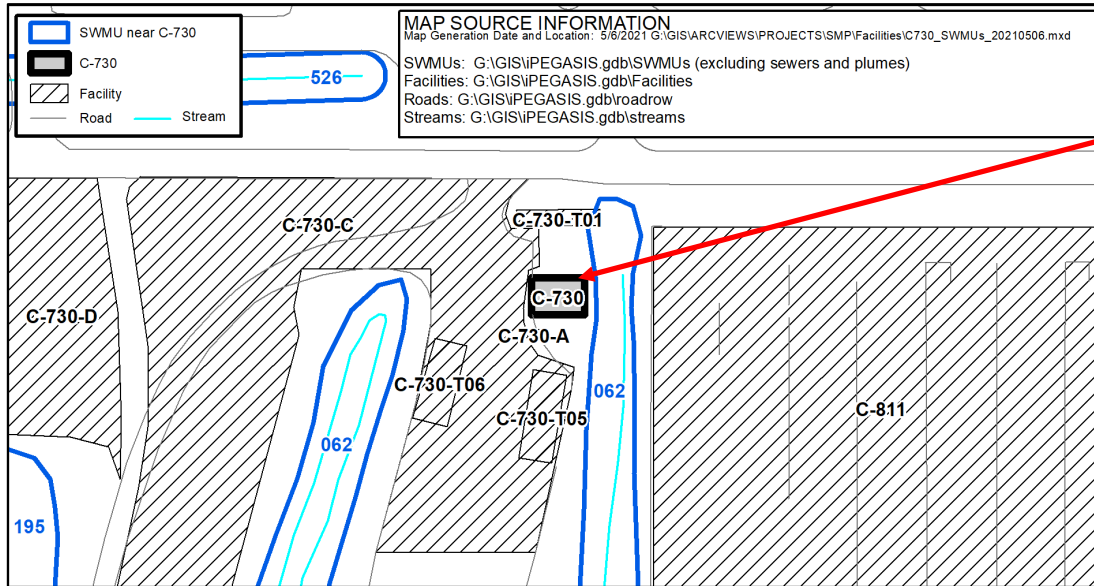


Flammable Cabinet -  
Contains wasp spray,  
hornet spray and other  
types of aerosol sprays



RMA – Used  
Sampling PPE

# Environmental Impacts (Solid Waste Management Units)



- The C-730 Maintenance Service Building is not designated as a SWMU/AOC.
- SWMU 62 [C-375-S6 SW Ditch (KPDES 009)] is in close proximity and adjacent to C-730 and will be evaluated as part of the Surface Water OU.

SWMU No.	Facility Name	Current Status
062	C-375-S6 SW Ditch (KPDES 009)	SWOU Removal Action
195	Curlee Road Contaminated Soil Mounds	Soils OU Remedial
526	Internal Plant Drainage Ditches (includes KPDES 016)	SWOU Remedial

# 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-730 was originally constructed as a switch house that supported a substation used for construction in the early 1950s; served as sleep quarters and office area in the late 1970s/early 1980s; used as a temporary satellite laboratory from 1986 – 1988; and has operated as a staging area for sampling activities from 1990 to present.
  - ❑ Building materials used for construction could contain lead-based paints and asbestos-containing materials, both of which can be effectively verified during a predemolition inspection and properly managed using standard demolition and waste management practices.
  
- Process knowledge and employee interviews indicate that the historical construction and use at C-730 involved equipment and chemicals that could have the potential to pose a release threat to the concrete pad and underlying soils (including the footprint of the substation).
  - ❑ C-730 and the surrounding area was originally constructed as a switch house and substation; making the slab, underlying soils, and surrounding area suspect for potential polychlorinated biphenyl (PCB) contamination.
  - ❑ C-730 served as a temporary satellite laboratory that analyzed transformer and lube oils that contained PCBs.



# Conclusion and Recommendations

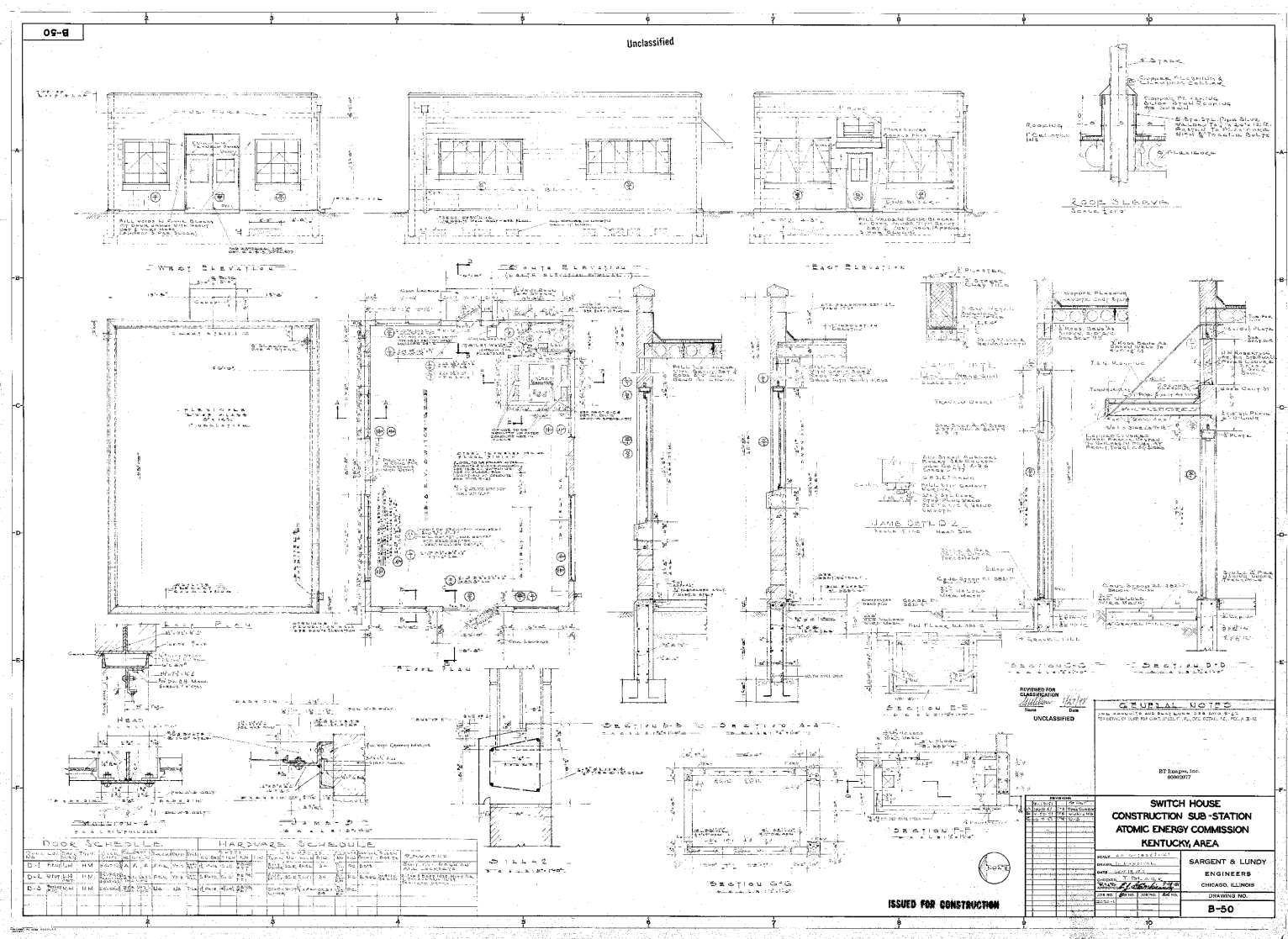
- Walkdown inspection of the facility, employee interviews, and other reviewed historical information did not identify any unusual conditions that would pose a potential threat of environmental release during future demolition of the aboveground structure.
  - ❑ Deactivation will include removal of any accessible loose items being stored (to the extent practicable) prior to demolition.
  - ❑ Any floor drains and the electrical manhole 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-730 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)).
  
- Based on the construction and historical use at C-730, it is recommended that the underlying slab and soils (including the footprint of the substation) undergo further CERCLA evaluation as part of a future site evaluation conducted under Appendix 4 of the SMP.
  - ❑ Consideration will be given to coordinate the timing of the future C-730 site evaluation to occur prior to removal of the C-730 aboveground structure. The development of a schedule for future site evaluations, including C-730, will be addressed as part of the fiscal year 2022 SMP scoping.
  
- Removal of the C-730 facility will be documented in the appropriate annual SMP revision.

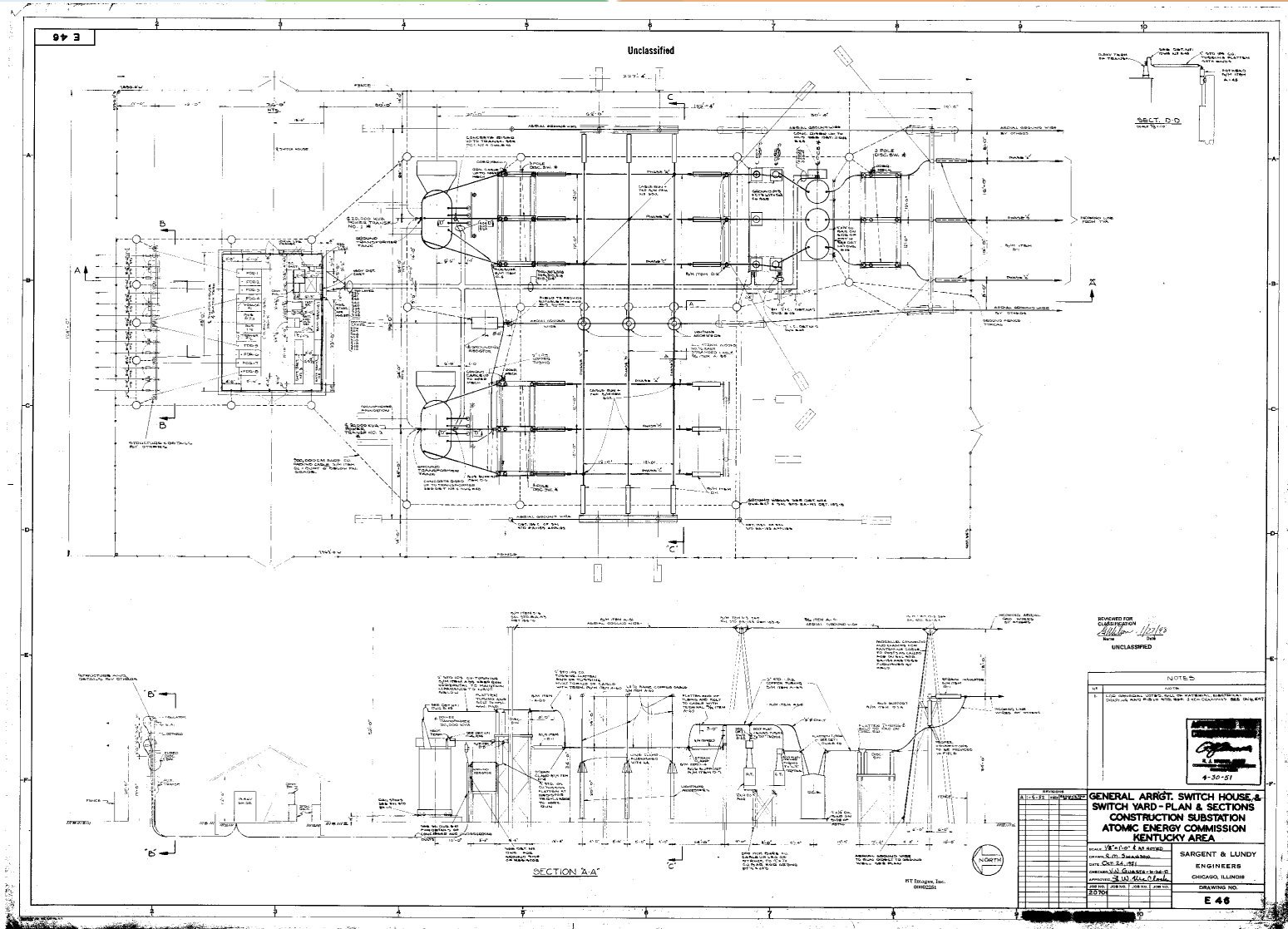
## BACKUP INFORMATION

# C-730 Engineering Drawings

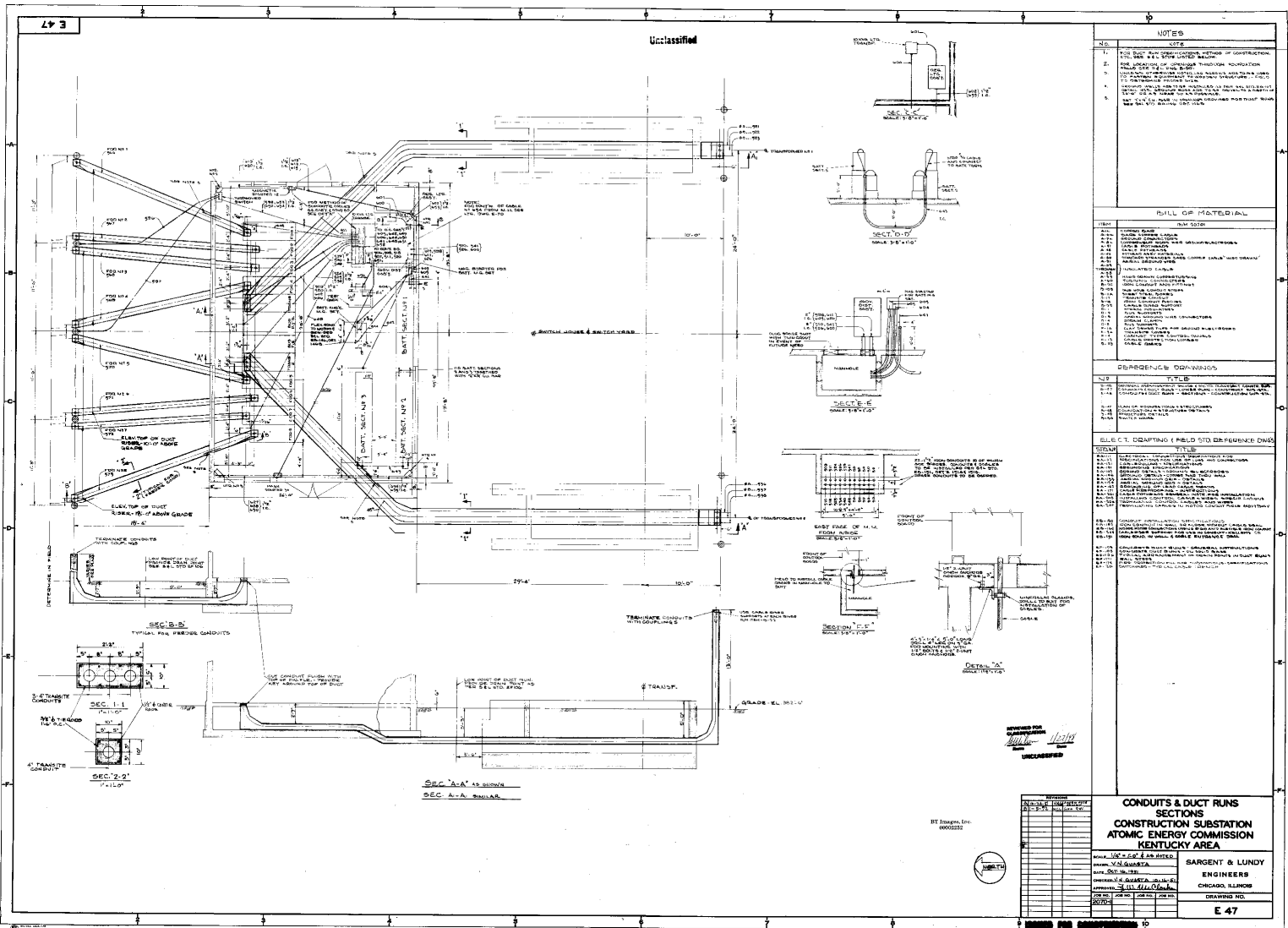




# C-730 Engineering Drawings



# C-730 Engineering Drawings

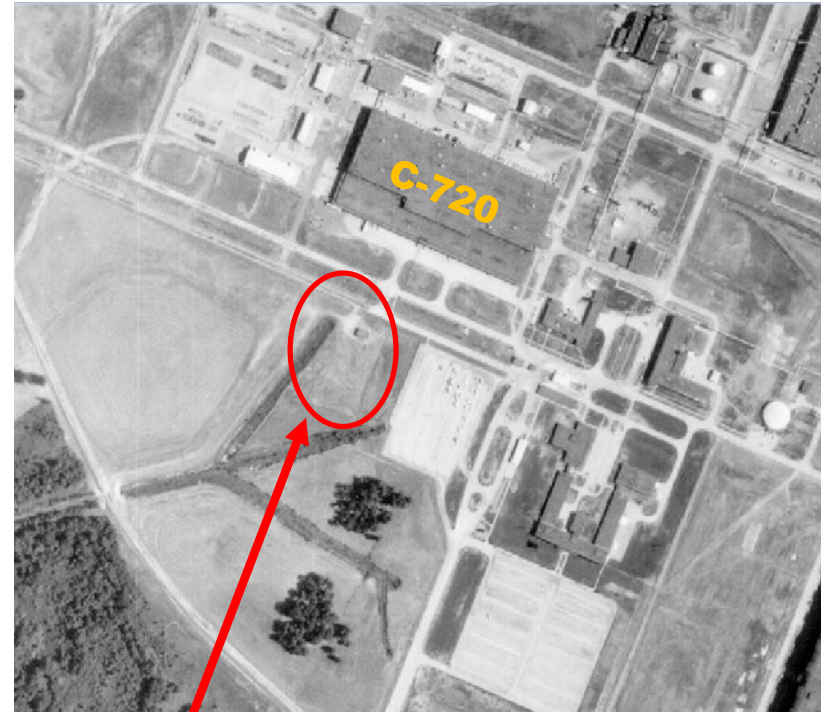


# C-730 Aerial Photograph



**C-730 Building and Switchyard Substation Area**

Modified from Aerial Photo: February 21, 1952 (52PGDP65)



**C-730 Building and Empty Switchyard Substation Area**

Modified from Aerial Photo: July 3, 1971 (71PGD053)

# C-730 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 Interviews:
  - Plant Subject Matter Expert (53 years plant expertise)
  - Plant Subject Matter Expert (48 years plant expertise)
  - Facility Manager (42 years plant expertise)
  - Utility Operations Subject Matter Expert (45 years plant expertise; operator/manager/supervisor)
  - Compliance Subject Matter Expert (45 years plant expertise)
  - Environmental Compliance Subject Matter Expert (29 years plant expertise)
  - Laboratory Subject Matter Experts (36 years plant laboratory expertise)
- Documents:
  - Paducah Gaseous Diffusion Plant Sitewide Strategy Facility Background Information, FPDP-RPT-0021, May 2016
  - 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