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Department of Energy

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July 20, 2021

Mr. Brian Begley
Federal Facility Agreement Manager
Division of Waste Management
Kentucky Department for Environmental Protection
300 Sower Boulevard, 2nd Floor
Frankfort, Kentucky 40601

PPPO-02-10013000-21

Mr. Victor Weeks
Federal Facility Agreement Manager
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street
Atlanta, Georgia 30303

Dear Mr. Begley and Mr. Weeks:

TRANSMITTAL OF THE SITE EVALUATION REPORT FOR THE C-725 PAINT SHOP AT THE PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, DOE/LX/07-2465&D1

In accordance with Appendix 4 of the approved Site Management Plan (SMP) of the Paducah Federal Facility Agreement (FFA), the U.S. Department of Energy (DOE) is submitting the D1 *Site Evaluation Report for the C-725 Paint Shop at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky,* DOE/LX/07-2465&D1 (SE), to the U.S. Environmental Protection Agency (EPA) and the Kentucky Department for Environmental Protection (KDEP) for review and comment. A joint policy issued under the DOE and EPA memorandum, dated May 22, 1995, *Policy on Decommissioning Department of Energy Facilities Under CERCLA*, establishes a framework for conducting the decommissioning of DOE facilities and provides guidance on the use of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response authority to decommission DOE facilities. This policy states that DOE is required to conduct a removal site evaluation, in accordance with the National Contingency Plan and interagency agreements (i.e., FFA) to assess site conditions and determine whether a release, or substantial threat of release, exists at the facility. DOE, EPA, and KDEP have agreed to conduct decontamination and decommissioning activities for those facilities that pose an environmental release threat at the Paducah Site under the existing FFA. Section IX, Site Evaluation(s), of the FFA requires DOE to conduct integrated site evaluations that consist of the removal site evaluation, remedial site evaluation, and solid waste management unit assessment reports. These integrated site evaluations are to be documented in an SE report.

The enclosed SE recommends that a Resource Conservation and Recovery Act Facility Investigation be conducted for the C-725 slab and underlying soils. The enclosed SE also recommends that a CERCLA non-time-critical removal action for the facility is not necessary for demolition of the C-725 facility aboveground structure and that the facility will be removed outside of CERCLA. Upon approval, Appendix 4 of the SMP will be updated to indicate the date of the SE report and that the facility requires no further action.

In accordance with Section XX of the FFA, EPA and KDEP have a 30-day review period to provide comments and/or approval of the document.

If you have any questions or require additional information, please contact me at (270) 441-6862.

Sincerely,

Tracey L. Duncan

Digitally signed by Tracey L. Duncan
Date: 2021.07.20 08:36:09 -05'00'

Tracey Duncan
Federal Facility Agreement Manager
Portsmouth/Paducah Project Office

Enclosures:
1. Certification Page
2. *Site Evaluation Report for the C-725 Paint Shop at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, DOE/LX/07-2465&D1

Administrative Record File—ARF-ARR

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CERTIFICATION

Document Identification: ***Site Evaluation Report for the C-725 Paint Shop at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky,*** **DOE/LX/07-2465&D1**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Four Rivers Nuclear Partnership, LLC

Myrna E. Redfield, Program Manager
Four Rivers Nuclear Partnership, LLC

7/19/21
Date Signed

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

U.S. Department of Energy

Jennifer Woodard, Paducah Site Lead
Portsmouth/Paducah Project Office
U.S. Department of Energy

7/19/2021
Date Signed

DOE/LX/07-2465&D1
Primary Document

Site Evaluation Report for the C-725 Paint Shop at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

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DOE/LX/07-2465&D1
Primary Document

Site Evaluation Report for the C-725 Paint Shop at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

Date Issued—July 2021

U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
FOUR RIVERS NUCLEAR PARTNERSHIP, LLC,
managing the
Deactivation and Remediation Project at the
Paducah Gaseous Diffusion Plant
under Contract DE-EM0004895

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CONTENTS

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FIGURES

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ACRONYMS

ACM	asbestos-containing materials
AOC	area of concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
NTCRA	non-time-critical removal action
OU	operable unit
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RMA	radioactive material area
SE	site evaluation
SMP	Site Management Plan
SWMU	solid waste management unit

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1. FACILITY/UNIT NUMBER

C-725

2. FACILITY/UNIT NAME

Paint Shop

3. DATE

July 13, 2021

4. REGULATORY STATUS

A joint policy issued under a U.S. Department of Energy (DOE) and U.S. Environmental Protection Agency (EPA) Memorandum, dated May 22, 1995, *Policy on Decommissioning Department of Energy Facilities Under CERCLA* (DOE 1995), establishes a framework for conducting decommissioning of DOE facilities and provides guidance on the use of Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) response authority to decommission DOE facilities. The Policy states that DOE is required to conduct a removal site evaluation (SE) in accordance with the National Contingency Plan and interagency agreements [i.e., Federal Facility Agreement (FFA)] to assess site conditions and determine whether a release or substantial threat of release exists at the facility. At any facility for which DOE conducts a removal site evaluation, DOE will consult with EPA and will provide, as requested, EPA with such information necessary for EPA to review such evaluation. DOE, EPA, and the Commonwealth of Kentucky have agreed to conduct decontamination and decommissioning (D&D) activities at the Paducah Gaseous Diffusion Plant under the existing FFA. Section IX [Site Evaluation(s)] of the FFA requires DOE to conduct integrated SEs that consist of the removal SE, remedial SE, and solid waste management unit (SWMU) assessment report. The integrated SEs are to be documented in an SE report consistent with the format in Appendix D of the FFA (EPA 1998).

Industrial facilities that DOE has determined to pose a potential threat of release of hazardous substances to the environment are listed as part of the facility D&D Operable Unit (OU) in Appendix 4 of the Site Management Plan (SMP) (DOE 2020). The SE report shall state whether demolition of the facility should be conducted using a CERCLA Non-Time-Critical Removal Action (NTCRA) and will serve to designate any facility, or portions thereof, that are related to any identified release as a SWMU and/or area of concern (AOC).

There is no historical information identifying an existing release warranting the designation of C-725, or portions thereof, as a SWMU or AOC at this time. A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) is recommended for the C-725 slab and underlying soils based on the uncertainty of potential releases that may have occurred during historical operations which is consistent with similar operations and the recommendation for the C-724 paint spray booth. The historical information and facility walkdown inspection did not identify any unusual conditions that would pose a potential threat of environmental release during future demolition of the aboveground structures; therefore, the demolition and disposal of C-725 is recommended to be conducted outside of the FFA and/or CERCLA process and a CERCLA NTCRA is not warranted.

5. LOCATION

C-725 is located in the south-central portion of the Paducah Site industrialized area, north of the C-720 Maintenance and Storage Building. Figure 1, Aerial Photograph Showing the C-725 Paint Shop Location, and Figure 2, Map Showing the C-725 Location, present the location of the C-725 facility.

6. APPROXIMATE DIMENSION OR CAPACITY

The C-725 facility is a one-story structural steel and sheet metal building built in 1961. The storage building has a 6-inch concrete floor slab; the pit area underneath the sandblast room and equipment shed has an 8-inch concrete floor slab. The total square footage of the C-725 facility is approximately 2,400 ft^2.

The existing configuration of the facility does not match what is shown on the engineering drawings. Based on Figure 3, Engineering Drawing A-A-10711-B, the facility was originally comprised of three main components (40 ft × 50 ft storage building, sandblast building, and dust collector system); a paint spray booth is located on the west side of the structure in the drawing. Figure 3 is the only engineering drawing that shows a paint spray booth at this location. Figure 4, Engineering Drawing E-E-10711E, shows a paint spray booth inside the storage building in the southeast corner. A paint spray booth at this location is reflected in other engineering drawings. Figure 5, Engineering Drawing E-M-10711-X, shows the sandblast room, equipment shed, and dust collector. Section C-C on drawing E-M-10711-X is a south elevation view looking north. Sometime prior to 1984, the dust collector was removed and paneling was installed to create a covered structure on the southeastern portion of the facility.

Additional engineering drawings are provided in an appendix to this report. Figure A.1, Engineering Drawing E-S-10711-B, shows the foundation plan for the sandblast room, equipment shed, electrical room, and the dust collector piers. Figure A.2, Engineering Drawing E-S-10711-C, shows the foundation plan for the storage building.

7. FUNCTION

C-725 was constructed in 1961 for use as a paint shop. Once painting operations ceased, C-725 was used as a storage facility for various maintenance equipment.

8. BRIEF HISTORY

C-725 was constructed in 1961 for use as a paint shop. Once painting operations ceased, C-725 was used as a storage facility for various maintenance equipment. Documentation and/or employee interviews could not confirm the specific dates for when the C-725 facility was no longer used for painting operations. C-725 was leased to the United States Enrichment Corporation in the early 1990s and was used as a storage facility until the gaseous diffusion plant was deleased and returned to DOE in 2014. Since 2014, the C-725 facility has been utilized as a storage facility for various maintenance equipment (e.g., tractors, mowers, weed eaters) and janitorial supplies for the infrastructure contractor maintenance organization.

The C-725 paint spray booth is listed as an emission point in the Kentucky Division of Air Quality Permit Number O-85-110 (KDAQ 1985). The C-725 paint spray booth also is included as an emission point in the 1988 *Operating Permit Application with Air Toxic Review* (DOE 1988) and the 1992 *Existing Source Operating Permit Application* (DOE 1992). The 1988 application describes C-725 operations as miscellaneous maintenance-type items being sprayed in batch operations with air-type sprayers; latex is identified as coating material, and tripentaery thritol and xylene are identified as solvents (DOE 1988). The

1992 application identifies xylene as a pollutant in C-725. The permit and the two applications do not identify the sandblast room as an emission point.

9. OPERATIONAL STATUS

Operating

10. DATES OPERATED

1961 to present

11. SITE/PROCESS DESCRIPTION

C-725 was constructed in 1961 for use as a paint shop. Figure 6 shows exterior views of C-725.

C-725 was originally comprised of three main components—40 ft × 50 ft storage building, sandblast building, and dust collector system. A paint spray booth was located in the southeast corner. Two conveyor belts were located in the sandblast building. A sump was located in the equipment shed located next to the sandblast building. Hoppers were located beneath the sandblast building. Sometime prior to 1984, the dust collector was removed and paneling was installed to create a covered structure on the southeastern portion of the facility.

C-725 currently is utilized as a storage facility for various maintenance equipment (e.g., tractors, mowers, weed eaters) and janitorial supplies. Figure 7 shows various maintenance equipment and Figure 8 shows janitorial supplies and various maintenance equipment used by the infrastructure maintenance organization. A mobile storage container is located outside of C-725. The storage container is used during the mowing season to store materials (e.g., gasoline, oil, wasp/hornet spray).

An electrical room is located between the storage building and the equipment shed as shown in Figure 9.

The below grade hoppers, conveyors, and sump have been filled with concrete. No visible floor drains were identified on engineering drawings or located within the building during walkdowns conducted in March 2021.

C-725 is posted as a radioactive material area (RMA).

12. WASTE DESCRIPTION

The primary waste streams that would be generated during D&D of C-725 are non-hazardous solid and low-level construction/demolition debris. This demolition debris will be comprised primarily of metal structural components and piping. Wastes such as polychlorinated biphenyl (PCB)-containing liquids and electrical components, non-radioactive RCRA and/or mixed waste sludges or liquids, are not anticipated to be generated with exceptions noted below.

Limited infrastructure items remain in the facility (e.g., light fixtures, exit lights, instrumentation panels, alarms) that could potentially contain *de minimis* quantities of regulated items (e.g., mercury, lead, PCBs), which will be removed to the extent practicable during deactivation. Generation of any residual amounts of regulated items will be properly containerized, characterized, and dispositioned in accordance with applicable regulatory requirements. Building materials used for construction could contain lead-based paints and asbestos-containing materials (ACM).

C-725 is posted as an RMA. Radiological characterization through confirmation radiological surveys will be conducted as necessary to support demolition and waste disposition.

There are no satellite accumulation areas or generator staging areas in the facility.

13. WASTE QUANTITY

Based on the waste forecast information available in the *Remedial Investigation/Feasibility Study Report for CERCLA Waste Disposal Alternatives Evaluation at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky* (DOE 2018), the waste volume associated with the demolition of C-725 is approximately 2 yd^3 of low-level waste and 87 yd^3 of nonhazardous solid waste for a total of 89 yd^3.

14. SUMMARY OF ENVIRONMENTAL SAMPLING DATA

Figure 10, SWMUs and Sampling Locations near C-725, shows no sample locations within a 50-ft boundary of C-725.

15. DESCRIPTION OF RELEASE AND MEDIA AFFECTED

Groundwater:	None Known
Surface Water:	None Known
Soil:	None Known
Ecology Affected (i.e., threatened/endangered species):	None Known
Air:	None Known

Figure 11 shows two separate floor stains located in front of the interior west wall. There are no cracks in the floor and the concrete joints located within the stained areas are sealed. The stains appear to be contained within the building; there is no visible evidence that spills or releases associated with the floor stain were released to the environment. No other areas were visually observed to have had a spill or release during walkdowns conducted in March 2021.

No documented releases from the paint spray booth or sandblast room were identified.

16. DOCUMENTATION OF NO RELEASE

There have been no known documented spills or releases of materials reported from this facility to the environment. The C-725 facility has not been identified as a SWMU or AOC, nor did it contain any areas designated as a SWMU or AOC. No information was identified warranting the designation of the C-725 facility, or portions thereof, as a SWMU or AOC; however, based on the uncertainty of potential releases that may have occurred during historical operations and consistent with similar operations and the recommendation for the C-724 paint spray booth, Section 19 provides a recommendation to conduct an RFI of the C-725 slab and underlying soils. Based on the results of the RFI sampling data, a future decision will be made as to whether to designate any or portions of the C-725 slab or underlying soils as a new AOC.

17. IMPACT ON OR BY OTHER SWMU/AOC

No SWMUs or AOCs are located in or near C-725. There is no evidence that this facility impacts or is being impacted by other SWMUs/AOCs.

18. PRELIMINARY REMEDIATION GOAL COMPARISON

Not applicable. No sample locations were identified within a 50-ft boundary of C-725.

19. RCRA FACILITY INVESTIGATION NECESSARY

While there is no evidence of a known release, or threat of any release, to the environment from the facility, an RFI is recommended for the C-725 slab and underlying soils based on the uncertainty of potential releases that may have occurred during historical operations and consistent with similar operations and the recommendation for the C-724 paint spray booth. Further investigation of the C-725 slab and underlying soils is recommended to verify whether any environmental releases may exist. Based on the results of the RFI sampling data, a future decision will be made as to whether to designate any or portions of the C-725 slab or underlying soils as a new AOC.

20. CERCLA NTCRA NECESSARY

A CERCLA NTCRA is not recommended as necessary for demolition of the C-725 aboveground structure. Limited infrastructure items potentially containing *de minimis* quantities of regulated items remaining in the building will be removed, to the extent practicable, during deactivation. Building materials used for construction could contain lead-based paints and ACM, both of which can be effectively verified during a pre-demolition inspection and contained and properly managed using standard demolition and waste management practices. Deactivation will include removal of any accessible loose items being stored, including those areas designated as RMAs, to the extent practicable prior to demolition.

A March/April 2021 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; therefore, the demolition and disposal of the aboveground facility is recommended to be conducted outside of the FFA and/or CERCLA process.

All applicable laws, regulations, and DOE procedures and/or 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.

21. OU ASSIGNMENT

C-725 currently is assigned to the Facility D&D OU, Other Buildings (non-SWMUs) (SMP Appendix 4) (DOE 2020).

22. REFERENCES

DOE (U.S. Department of Energy) 1988. *Operating Permit Application with Air Toxics Review for the Paducah Gaseous Diffusion Plant*, U.S. Department of Energy, Oak Ridge, TN, April.

DOE 1992. *Existing Sources Operating Permit Application to Construct or Operate an Air Contaminant Source*, U.S. Department of Energy, Oak Ridge, TN, May.

DOE 1995. *Policy on Decommissioning of Department of Energy Facilities Under CERCLA*, Joint policy from the U.S. Department of Energy and U.S. Environmental Protection Agency, May 22, 1995.

DOE 2018. *Remedial Investigation/Feasibility Study Report for CERCLA Waste Disposal Alternatives Evaluation at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*, DOE/LX/07-0244&D2/R2, U.S. Department of Energy, Paducah, KY, July.

DOE 2020. *Site Management Plan, Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Annual Revision—FY 2021*, DOE/LX/07-2450&D1, U.S. Department of Energy, Paducah, KY, November.

EPA (U.S. Environmental Protection Agency) 1998. *Federal Facility Agreement for the Paducah Gaseous Diffusion Plant*, DOE/OR/07-1707, U.S. Environmental Protection Agency, Atlanta, GA, February.

KDAQ (Kentucky Division of Air Quality) 1985. Air Quality Permit Number O-85-110, Kentucky Division of Air Quality, Frankfort, KY, dated September 30, 1985.

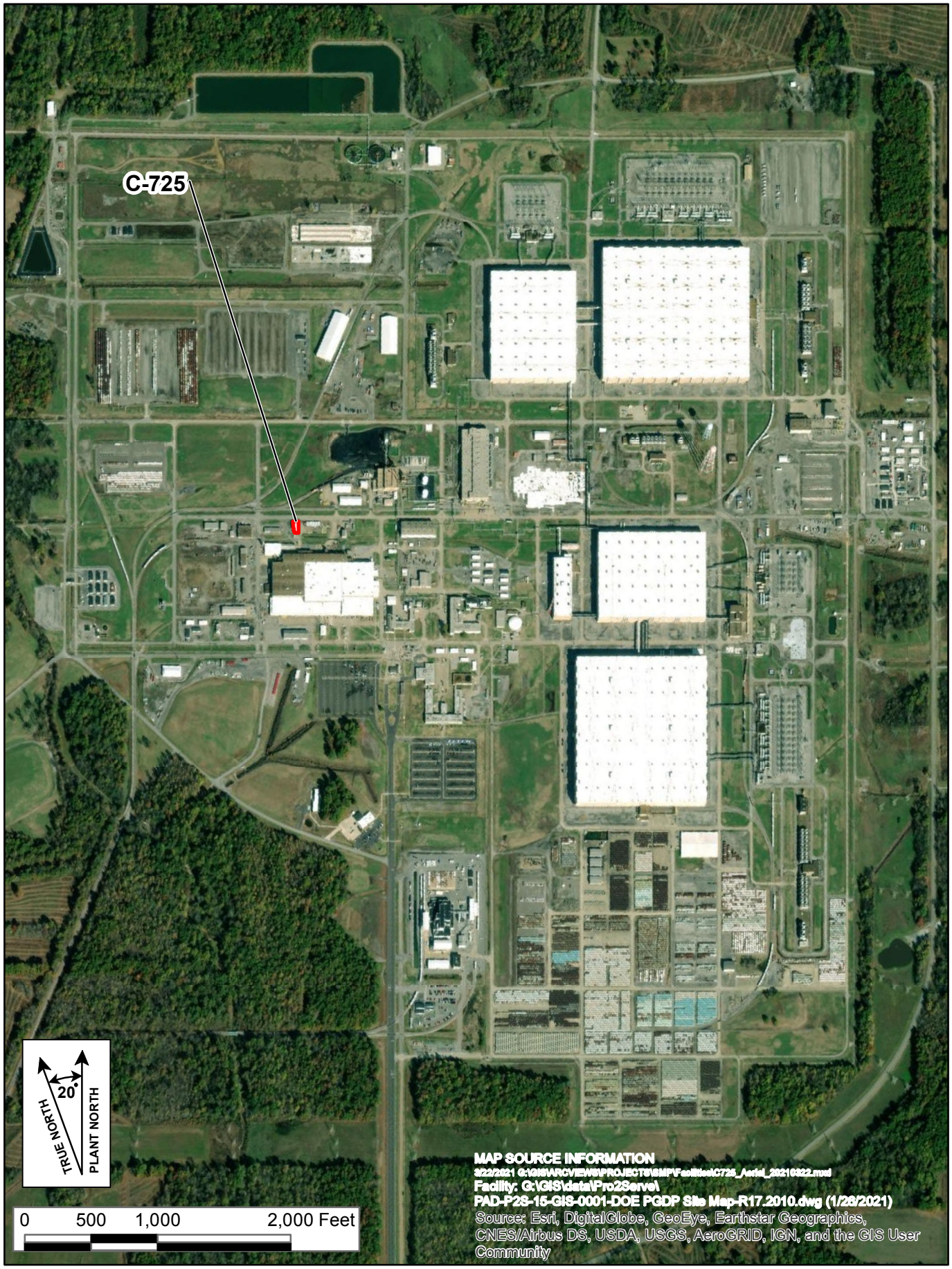


Figure 1. Aerial Photograph Showing the C-725 Paint Shop Location

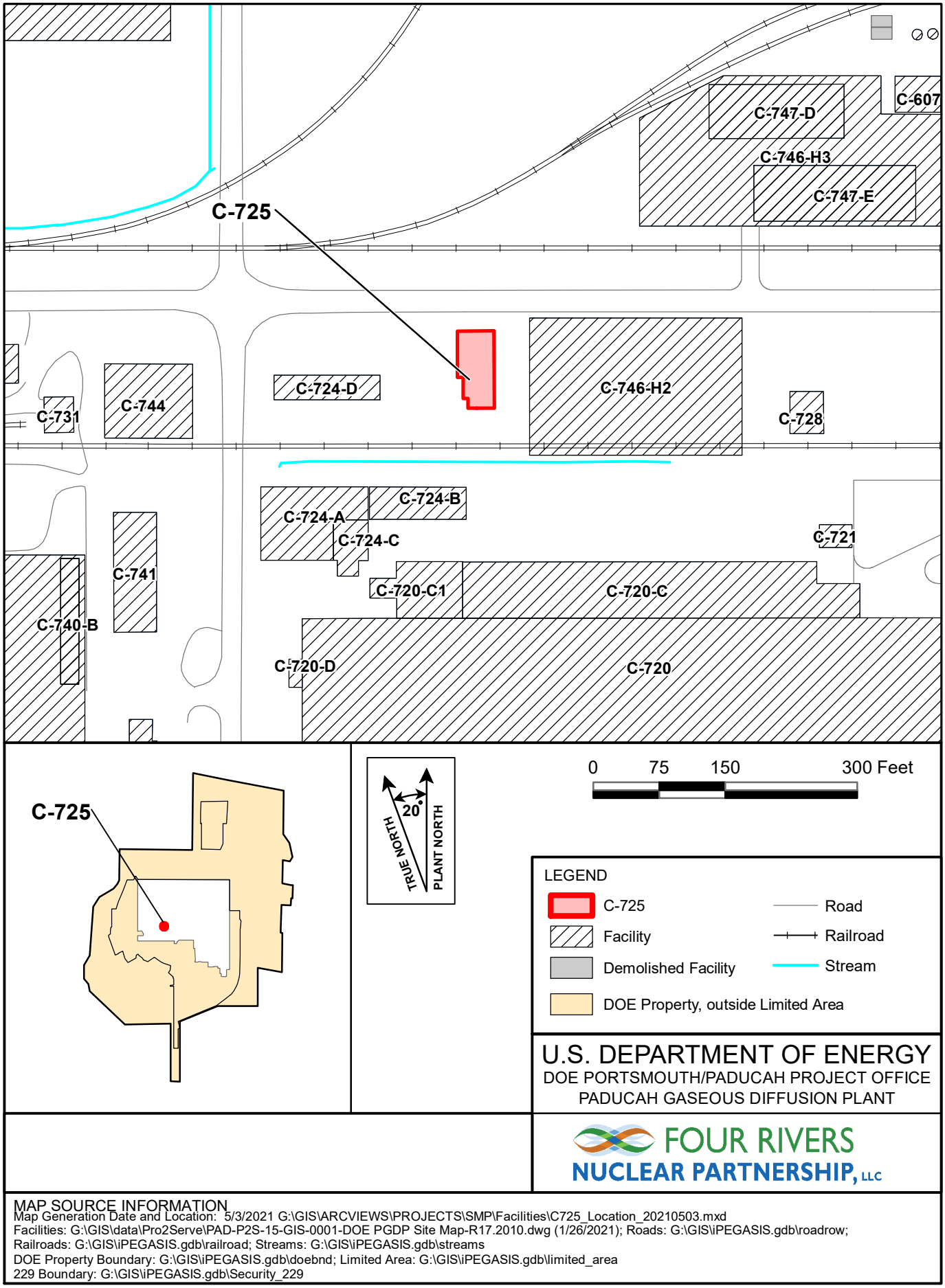
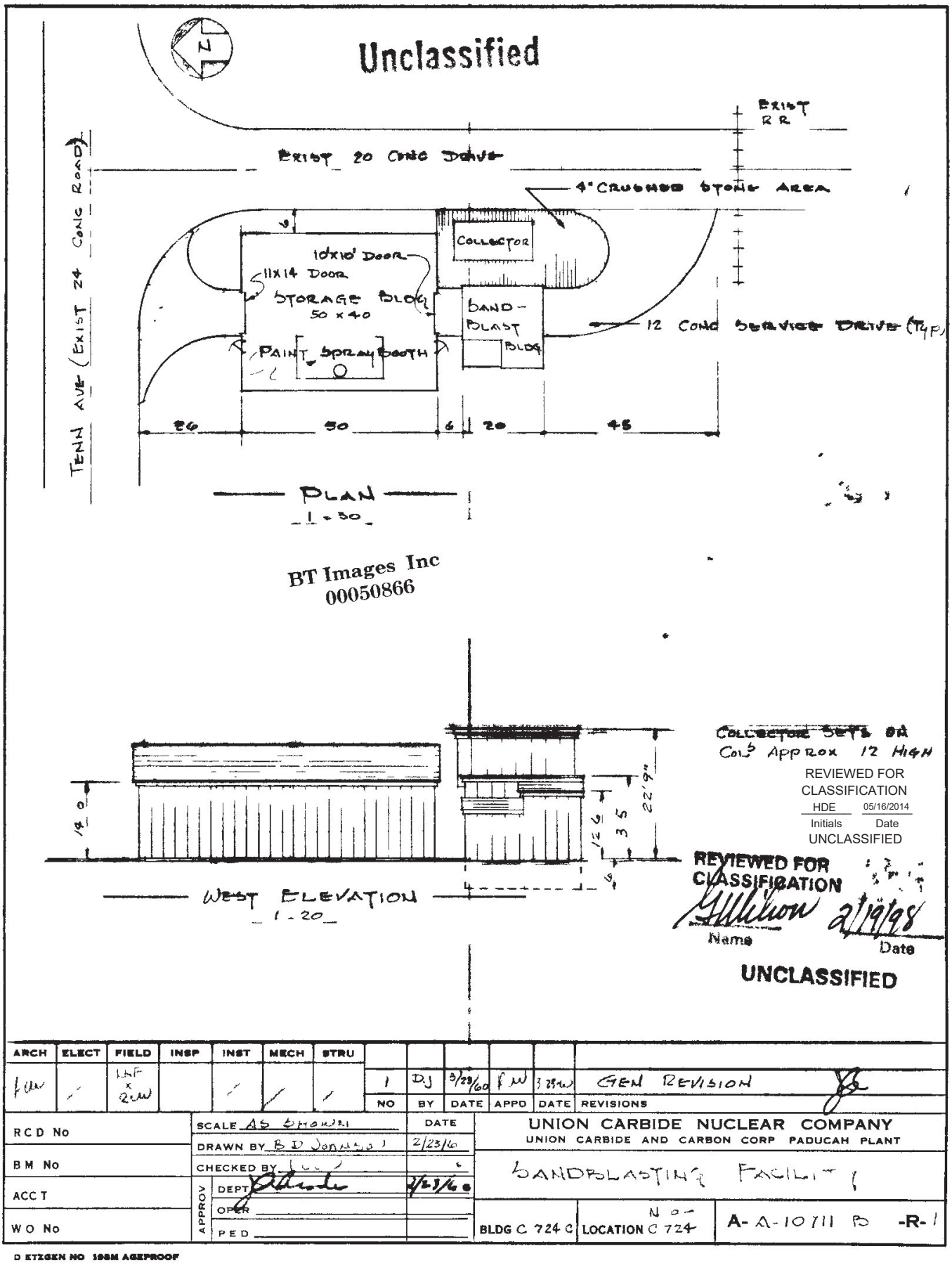


Figure 2. Map Showing the C-725 Paint Shop Location



Note: While the drawing legend identifies this building as C-724-C, an engineer has verified that the drawing represents C-725.

Figure 3. Engineering Drawing A-A-10711-B

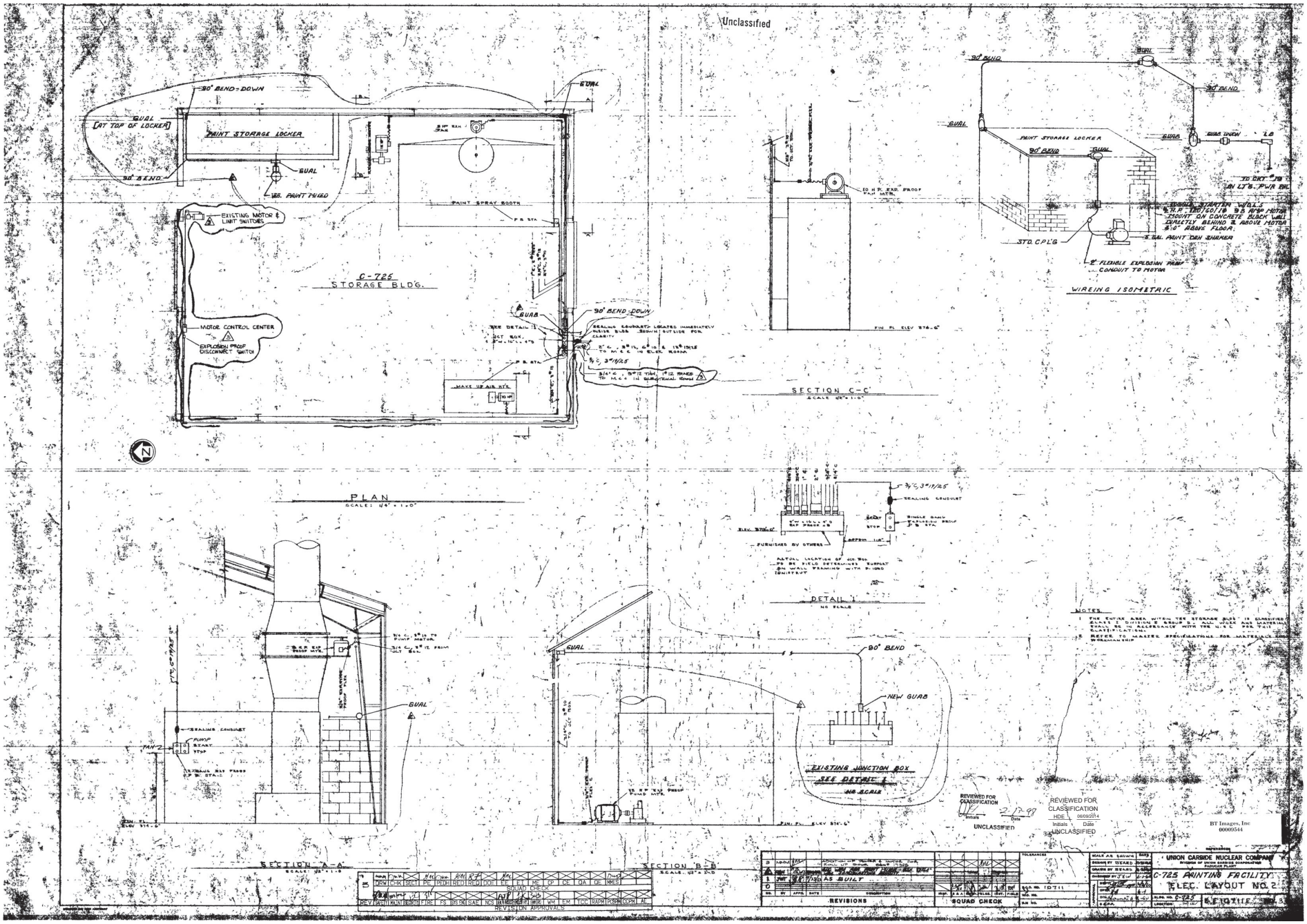


Figure 4. Engineering Drawing E-E-10711E

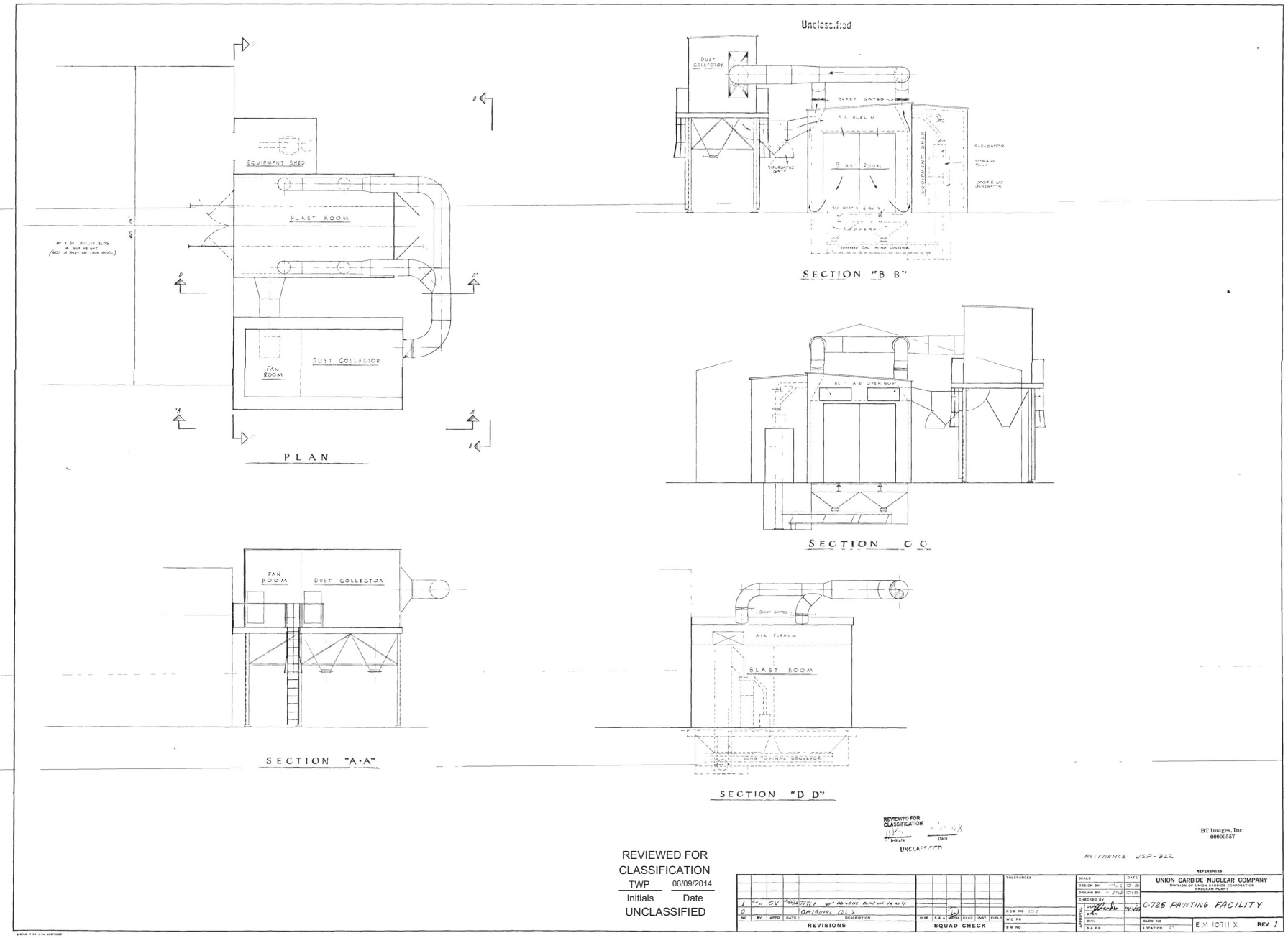


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Figure 5. Engineering Drawing E-M-10711-X

Figure 6. Exterior Views of C-725

Figure 7. Various Maintenance Equipment

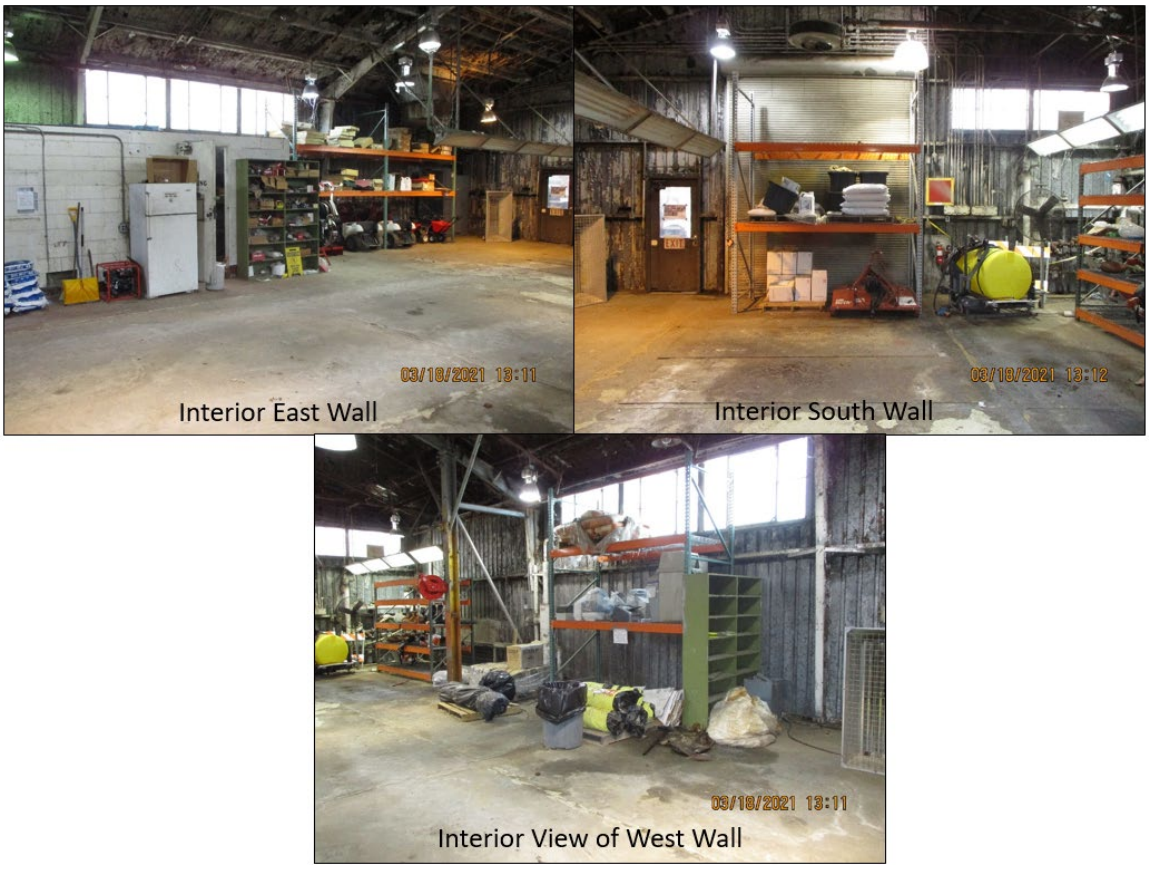

Figure 8. Janitorial Supplies and Various Maintenance Equipment

Figure 9. Electrical Room

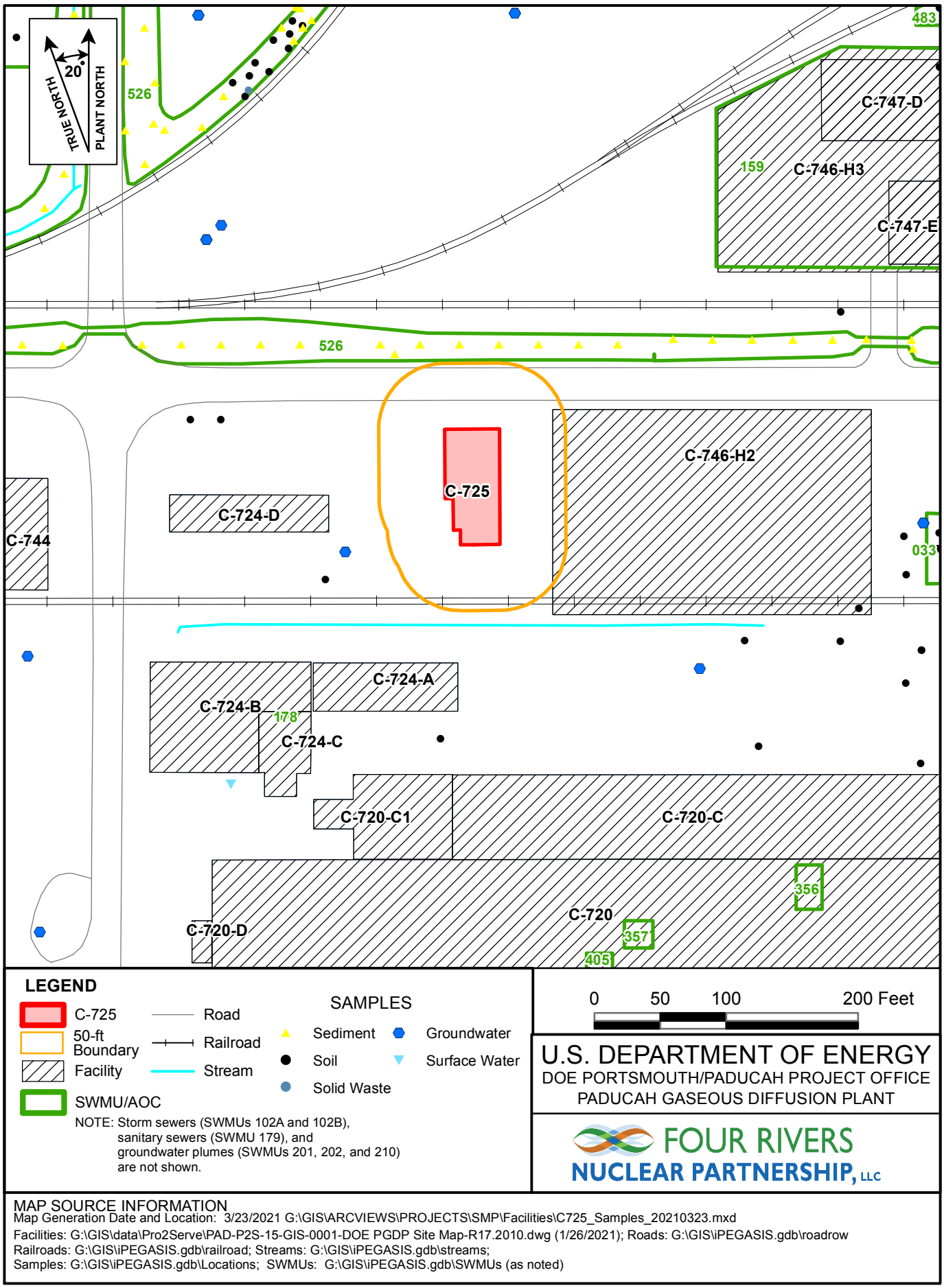

Figure 10. SWMUs and Sample Locations near C-725

Figure 11. Floor Stains

APPENDIX

ENGINEERING DRAWINGS

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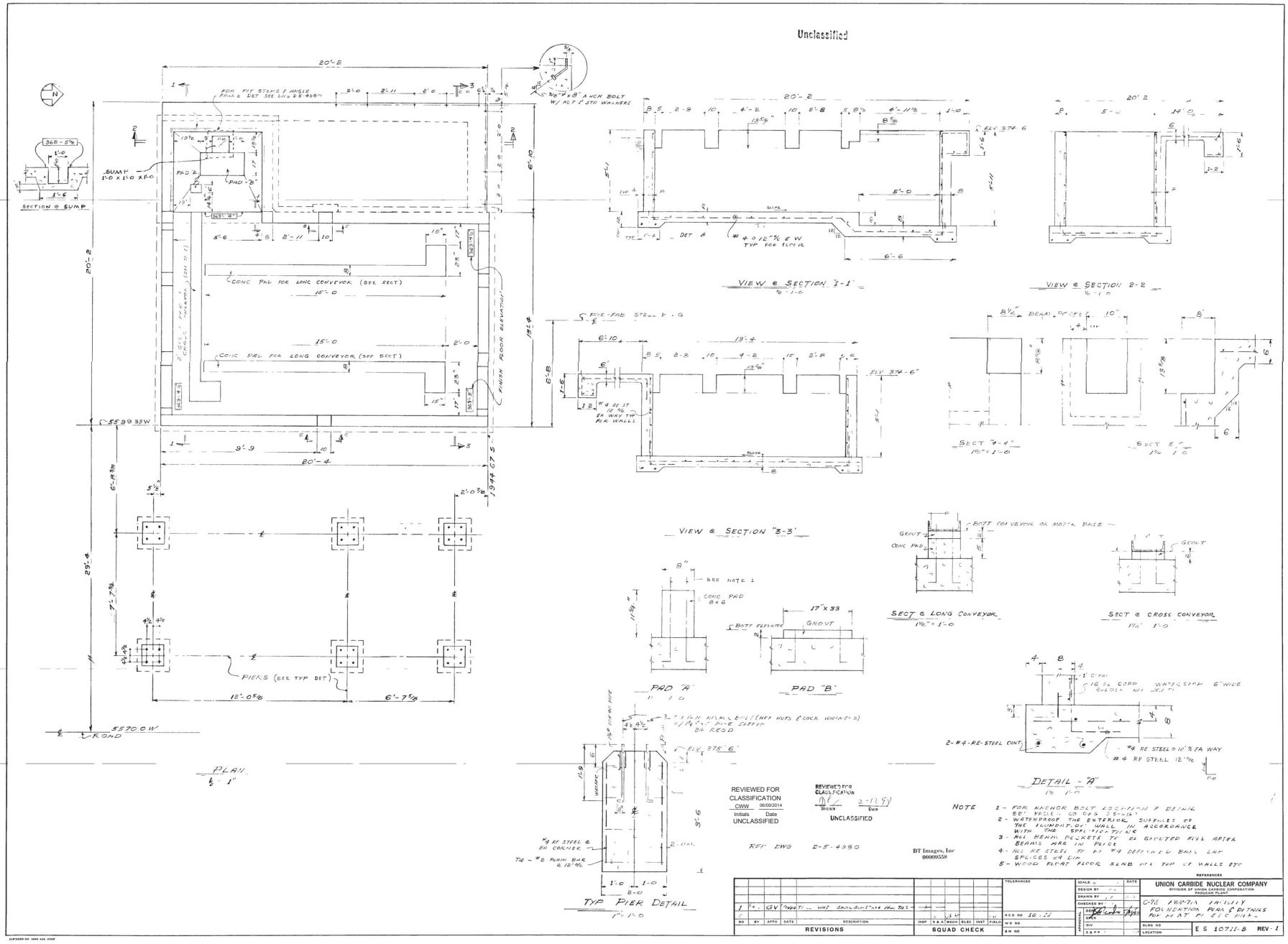

Figure A.1. Engineering Drawing E-S-10711-B

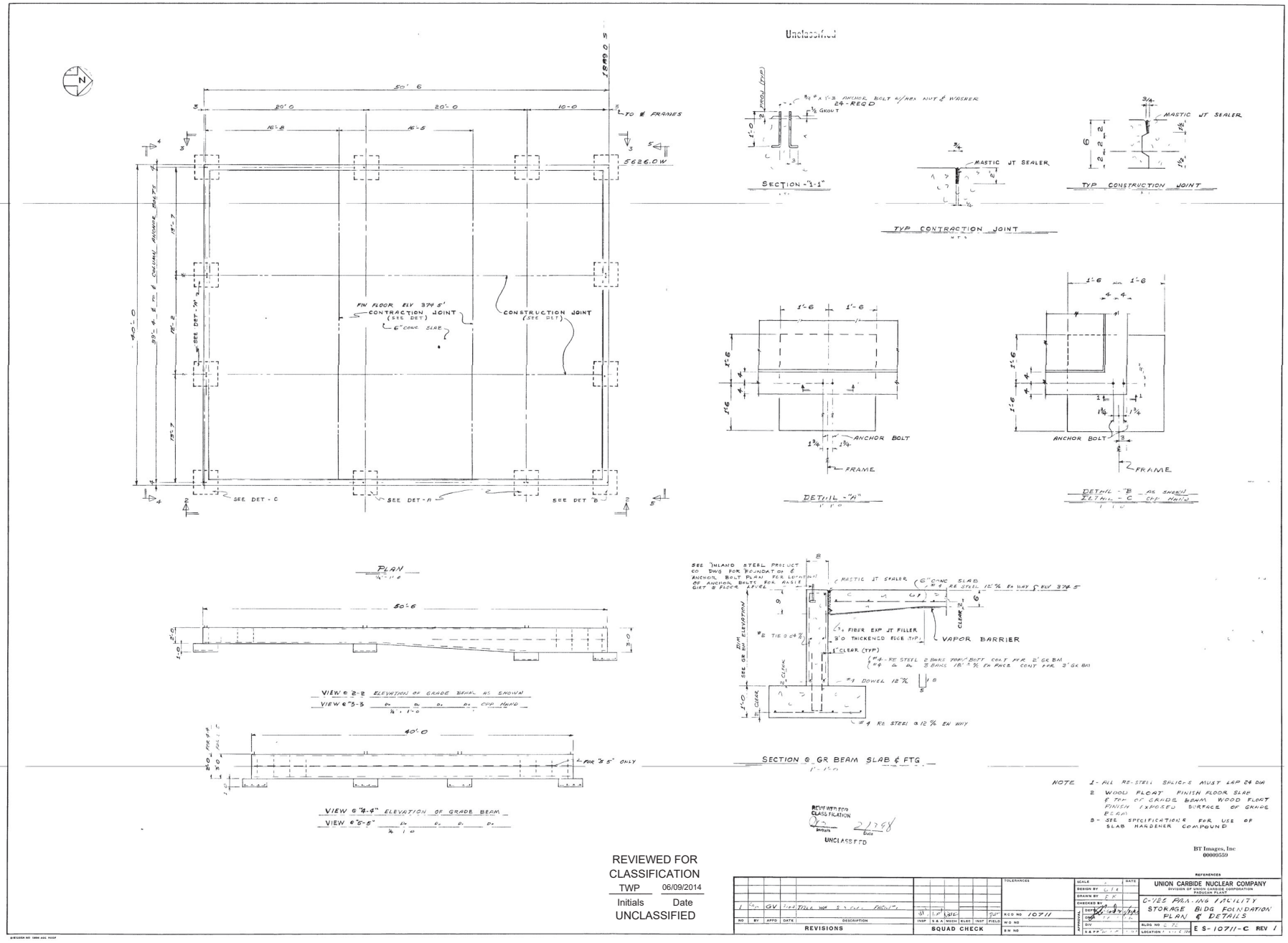

Figure A.2. Engineering Drawing E-S-10711-C