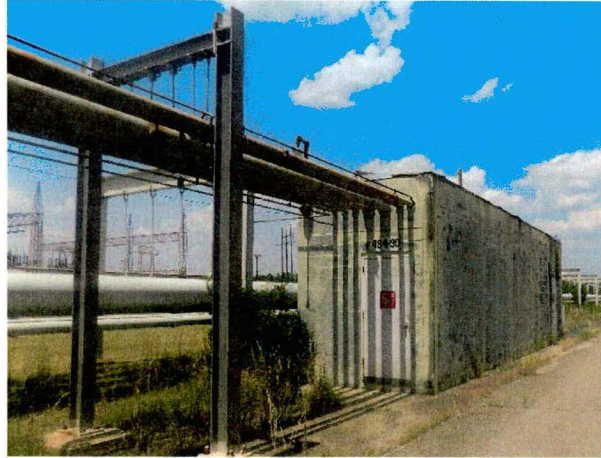


Engineering Survey & Interference Report for Building 484-9D, D-Area Valve House



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1.0 Introduction

The purpose of this survey / report is to provide guidance for the safe demolition of Building 484-9D, a masonry block building located on the Savannah River Site (SRS) in the southeast portion of 400-D Area near the northeast corner of the D-Area coal yard, as well as meeting the requirements of OSHA Standard 1926.850(a).

2.0 Background

2.1 Facility Description

This document addresses Building 484-9D, D-Area Valve House and the following ancillary structures:

- The pipe and associated pipe supports/bridge from the west wall of 484-9D, near the north corner, westward then southward to the Coal Handling Crusher House
- Fire hydrant, fire hose box supports, and bollards east of Building 484-9D

Building 484-9D is a masonry block building sitting on a concrete slab. The roof of the building is a poured concrete slab topped with Carlisle fiberboard insulation and an adhered Carlisle single ply membrane.

- The building is approximately 392 ft² (42' by 9' 4" and 12' high). The building interior is split into two sections. The larger section, the valve room, is 32' by 8' (interior dimensions). The smaller section, the fire alarm panel and control room, is 8' by 8' (interior dimensions).
- Building 484-9D was constructed circa 1988 as a fire water valve house and has always been used for this purpose.
- There was no PA system, no floor drains, no sump(s) and no domestic water to the structure.
- All services (i.e., fire water, steam, instrument air, and electrical) have been isolated but not "air-gapped" to render the facility "cold and dark."
- Electricity was provided to the structure, but all wires were cut and/or removed during deactivation in 2013 (Reference 5.4). The telecommunication hub for the structure was maintained in the second storage room from the north on the west side of the structure, but all wires have been cut or removed.

2.2 Facility Condition

Based on visual inspection on June 3, 2020, the structure as defined in References 5.1 and 5.2 is in good condition, and there is no potential for an unplanned collapse of the structure either due to forces of nature and/or vibrations created by movement of heavy equipment in proximity to the building.

The proposed decommissioning end-state for this facility which has no defined or anticipated future missions, is demolition of the above grade structure(s) to the top of the concrete slab, or grade as appropriate.

On January 9, 2020, an asbestos inspection was conducted on Building 484-9D (Q-APG-D-00027, Reference 5.3), with the results being that inaccessible gaskets are considered Presumed Asbestos Containing Materials (PACM). If the demolition method utilized avoids the separation of flanges, the PACM will not be disturbed and therefore is not considered subject to regulatory requirements.

- There are no potential hazards from other structures in the area.
- There are no overhead or underground powerlines proximate the building.
- Any underground lines in the general vicinity of the building are deep enough that there is no potential for damage due to heavy equipment.
- There are no fall hazards associated with Building 484-9D.

3.0 Discussion

3.1 General

All demolition work shall meet the requirements of 29CFR1926 Subpart T and SRS Manual 8Q, Procedure 104. All personnel performing demolition work shall be knowledgeable of these documents.

Other hazards not specifically identified in the engineering survey are mitigated or prevented by site programs as described in SRS Manual 1-01, MP 1.22 Integrated Safety Management system.

3.2 Interferences

As noted in Section 2.2, all electrical components were isolated, but not air gapped” to render the facility “cold and dark” (C&D) during deactivation in 2013 (Reference 5.4). Also, there are no PA system, sumps, domestic water, or sanitary sewers associated with this building. There are also no electric lines, poles & guy wires or communications lines close to or associated with this building. Prior to decommissioning 484-9D shall be confirmed isolated and disconnected from any associated utilities and rendered cold and dark (C&D) (References 5.5 and 5.6) in accordance with EC&ACP guidelines.

Appendix A provides a general lay-out of the area, interfacing facilities/utilities within close proximity and defines the demolition boundary. All underground utilities are buried deep enough that the equipment may safely operate over them.

3.3 Hazardous Energy

There is no hazardous energy associated with Building 484-9D.

3.4 Unplanned Collapse

There is no potential for an unplanned collapse associated with the decommissioning of Building 484-9D.

4.0 Summary / Conclusions

The decommissioning end state for Building 484-9D, which has no defined or anticipated future mission, is “Demolish” to, but not including, the building’s concrete slab. (References 5.1 and 5.2). The structures can be demolished using a track hoe mounted hydraulic shear; the shear will also size reduce the material and load into skip pans. A grapppler and front-end loaders may also be used to load material into skip pans. The area will be cleaned up. The equipment operators should utilize a flag person so as not to contact facilities/services within close proximity of the demolition area. This method of demolishing the structure with the hydraulic shear will ensure that most of the rubble lands inside the building footprint.

This engineering survey was performed to determine the condition of the structure prior to demolition. The results of the survey are that the structure is sound and conventional demolition may proceed.

5.0 References

- 5.1 G-FDE-D-00055, Rev. 0, dated 6/20/2020, "Facility Decommissioning Evaluation Building 484-9D, D-Area Valve House"
- 5.2 V-PMP-D-00036, Rev. 0, dated 11/22/20, "Decommissioning End Points Document Building 484-9, D-Area Valve House"
- 5.3 Q-APG-D-00027, Rev. 0, dated January 9, 2020, "Baseline Asbestos Inspection Report of Building 484-9D"
- 5.4 V-PCOR-D-00042, Rev. 0, dated 7/1/2014, "Deactivation Project Final Report Building 484-D Powerhouse and Ancillary Buildings"
- 5.5 E-SDD-D-00001, Rev. 1, dated August 19, 2020, "Verification of Hazardous Energy Isolations for Building 484-D Powerhouse and Ancillary Buildings"
- 5.6 E-SDD-D-00002, Rev. 0, dated August 17, 2020, "Closeout of Verification Document for Building 484-D Powerhouse and Ancillary Buildings"

Appendix A – General Layout and Interfacing Facilities

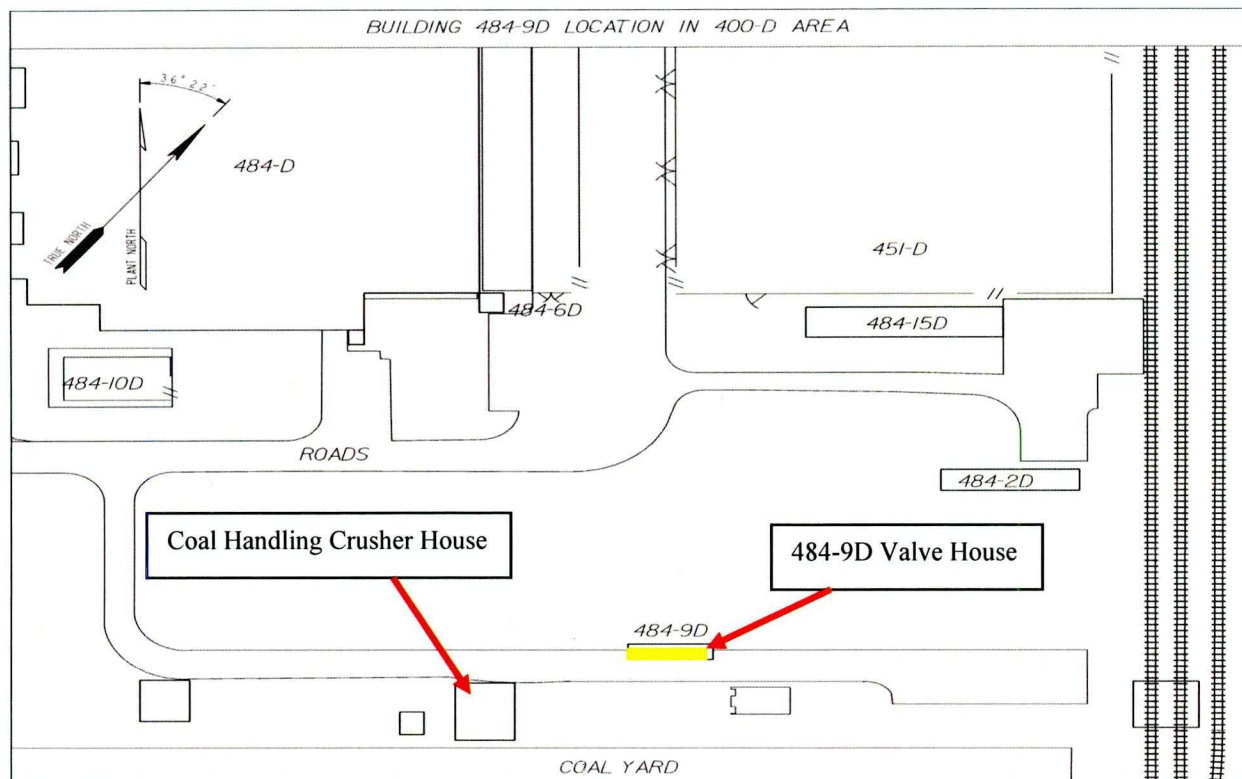


Figure 1: Building 484-9D, D-Area Valve House

Appendix A – General Layout and Interfacing Facilities

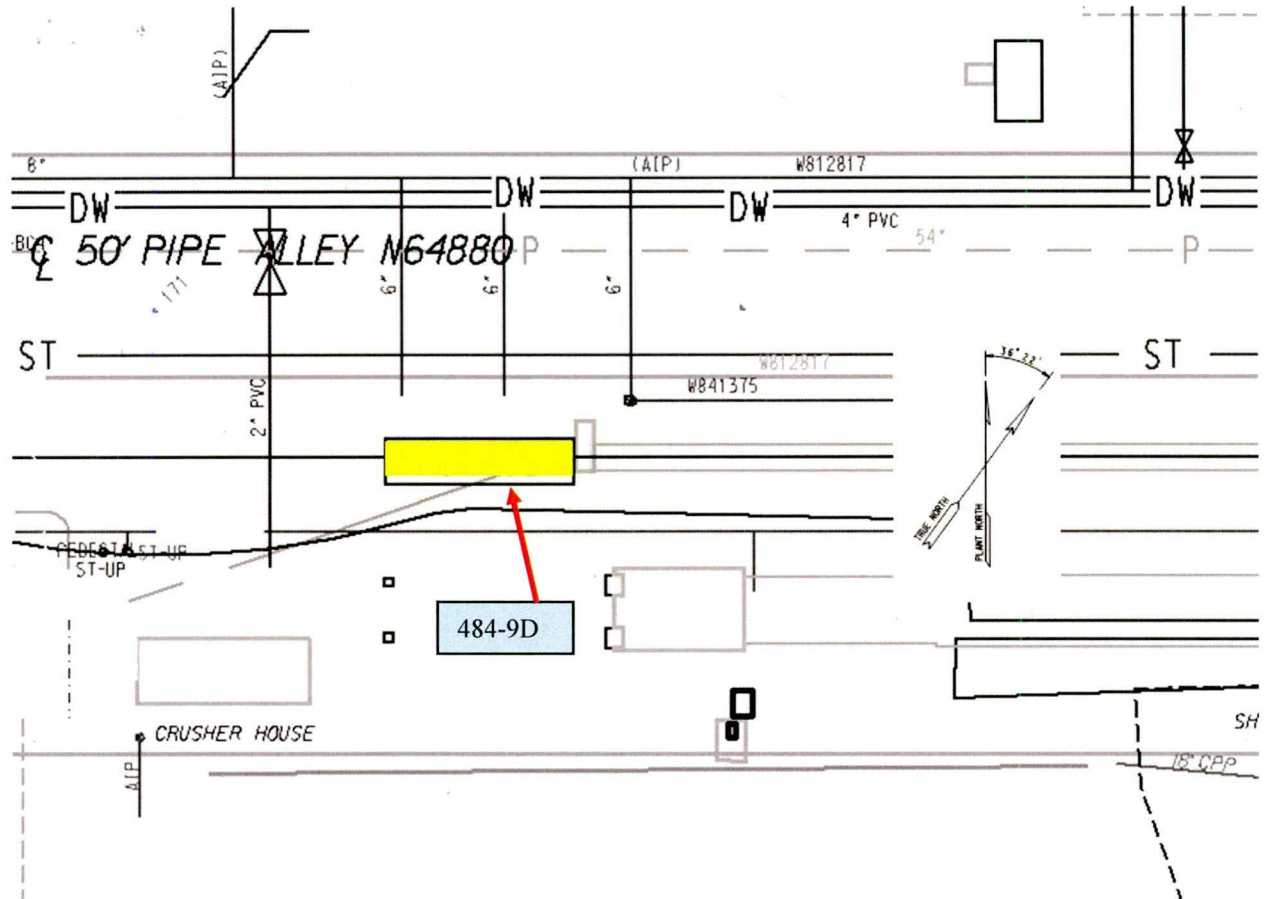


Figure 2: Building 484-9D and Surrounding Facilities/Utilities

Appendix A – General Layout and Interfacing Facilities

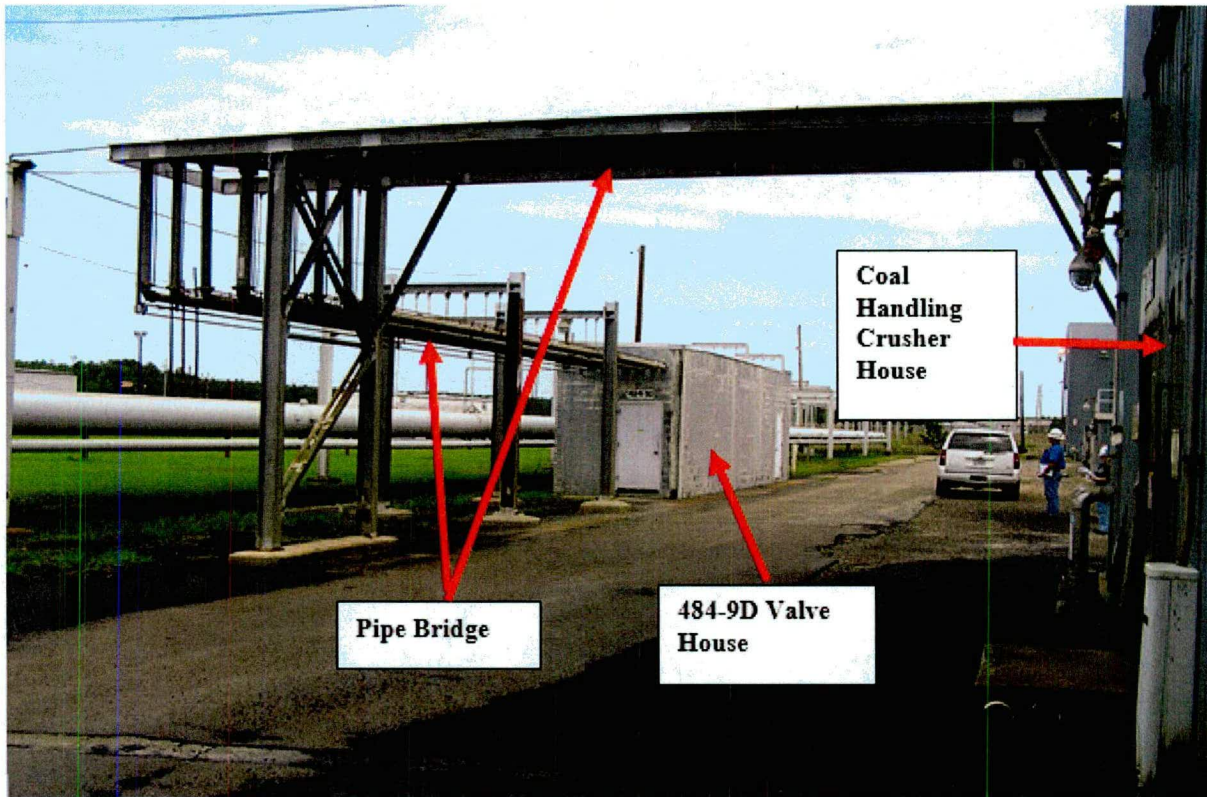


Figure 3: Building 484-9D Looking East

Appendix A – General Layout and Interfacing Facilities

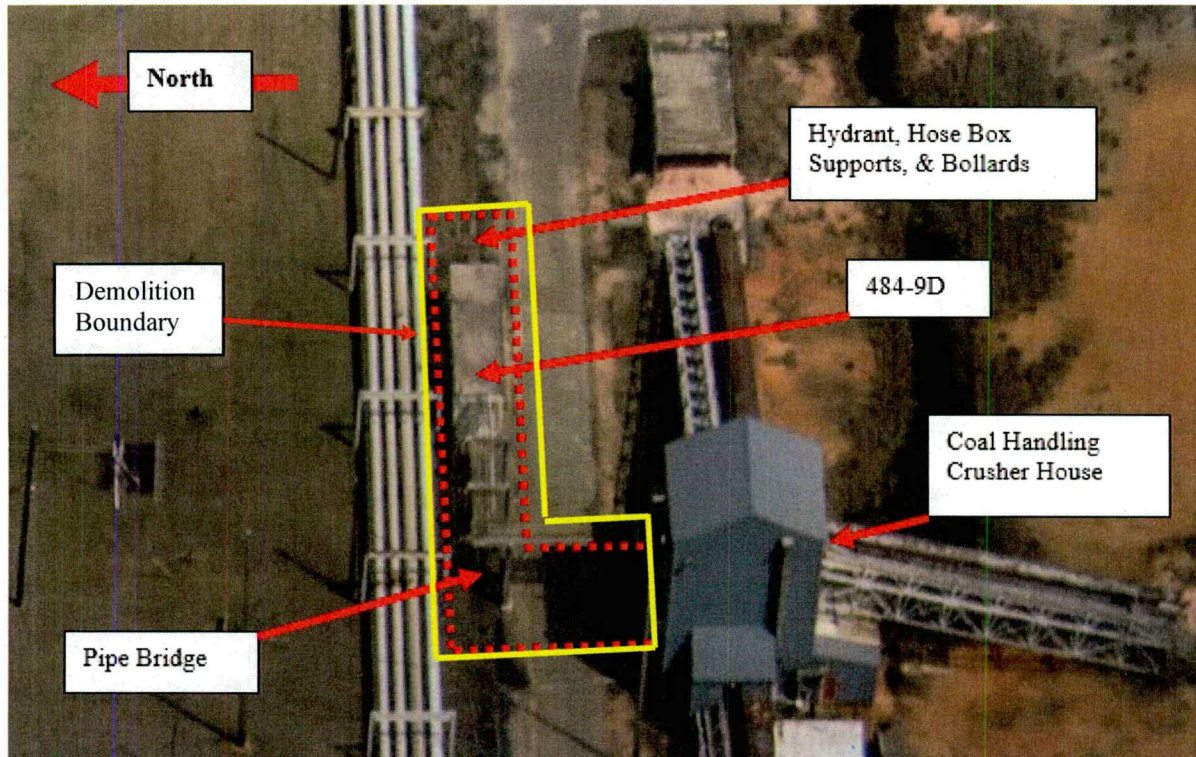


Figure 4: Aerial View of 484-9D and Ancillary Structures (Looking East)