



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Director

August 21, 2025

Ms. Sheree Andrews
Environmental Compliance Manager, Virginia Tech
575 Beamer Way
Blacksburg, VA 24061

VIA ELECTRONIC MAIL

RE: **Long Term Stewardship Report**
Virginia Tech, Blacksburg, Virginia
EPA ID No. VAD074747908

Dear Ms. Andrews:

The Virginia Department of Environmental Quality, Office of Remediation Programs (DEQ) has prepared the attached report following the Long-Term Stewardship inspection performed on August 11, 2025 at the Virginia site located in Blacksburg, Virginia. The inspection found no outstanding items with compliance of engineering and institutional controls as defined within a 2012 Board of Visitors Resolution.

You may contact me to discuss any questions. I can be reached at 804-584-3143 or by e-mail at stephanie.houston@deq.virginia.gov.

Respectfully,

A handwritten signature in black ink, appearing to read "STEFANIE HUSTON".

Stephanie Houston, Corrective Action Project Manager
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Long-Term Stewardship Assessment Report
Virginia Tech, Blacksburg, Virginia
EPA ID No. VAD074747908

Prepared by: Stephanie Houston

Date: August 21, 2025

Remedy Review Summary

The Long-Term Stewardship Assessment showed that engineering and institutional controls selected and defined within a 2012 Board of Visitors Resolution are implemented and remain intact and undamaged.

Introduction:

Long-term stewardship (LTS) refers to the activities necessary to ensure that engineering controls (ECs) are maintained and that institutional controls (ICs) continue to be observed. The purpose of the EPA Region 3 LTS program is to periodically assess the efficacy of the implemented remedies (i.e., ECs and ICs) and to update the community on the status of the Hazardous Waste Cleanup facilities. In October 2024, EPA changed the name of its “Resource Conservation and Recovery Act Corrective Action Program” to the “Hazardous Waste Cleanup Program.” This rebranding is intended to increase broad understanding of the purpose of the program. The LTS assessment is conducted in two-fold, which consists of a record review and a field inspection, to ensure that the remedies are implemented and maintained in accordance to the final decision.

The Hazardous Waste Cleanup Program has identified key elements of effective Long-Term Stewardship for hazardous waste cleanups. The LTS Report took into consideration the following elements while preparing this report:

- Element 1 – Legal Authorities
- Element 2 – Information Regarding Engineering and Institutional Controls
- Element 3 – Long-Term Facility Oversight, Monitoring, and Maintenance
- Element 4 – Recordkeeping and Tracking
- Element 5 – Meaningful Engagement and Consultation
- Element 6 – Funding
- Element 7 – Enforcement
- Element 8 – Enforceable Mechanisms
- Element 9 – Dedicated Resources

Site Background:

Virginia Tech (“Facility”) is located at 459 Tech Center Drive in Blacksburg, Montgomery County, Virginia. The Site is bordered to the north and east by residential properties, to the west by residential and agricultural properties, and to the south by wooded areas, residential, and a

research park. The Site covers approximately 4,420 acres. Virginia Tech was founded in 1872 as a land-grant college named Virginia Agricultural and Mechanical College. Virginia Tech is now a comprehensive, innovative research university that includes the Virginia Tech Corporate Research Center, a 1,700-acre agriculture research farm, and a 120-acre area covered by the Virginia Tech Montgomery Executive Airport (formerly the Virginia Tech Airport).

Virginia Tech's activities related to the storage and management of hazardous waste since 1980 resulted in releases to the soil and groundwater. EPA identified a total of 21 SWMUs and 9 AOCs at the Site. To address such releases, Virginia Tech entered into an Administrative Order on Consent (Consent Order; Docket No. RCRA-03-2010-0396CA) with the United States Environmental Protection Agency, Region 3 (EPA) on September 29, 2010. The Consent Order required the Facility to perform interim measures, a RCRA Facility Investigation, and a Corrective Measures Study.

Based on a review of all available information, site visits, and discussions with Facility representatives, EPA determined that the only known soil and/or groundwater impacts were at SWMU 1 (Former Physical Plan/Quarry Area), SWMU 2 (Closed Sanitary Landfill, Solid Waste Permit No. 109), and AOC 5 (Power Plant Underground Storage Tanks [USTs]). SWMU 1 is located in the area between Cowgill Hall and the Perry Street Parking Lot near Whittemore Hall and contains the area where the Bishop-Favro Building currently stands. Contaminated soil and waste from prior activities at the former Physical Plant were removed from the area, and soil and groundwater investigations were conducted. SWMU 2 is a closed, solid waste landfill located to the west of Route 460 Bypass and to the north of Prices Fork Road. The landfill was approximately 4.5 acres in size, was unlined, and received general University solid waste until June 30, 1989. It was later issued Solid Waste Permit No. 109 (SWP109) by the Virginia Department of Health, subsequently renamed Virginia Department of Environmental Quality (DEQ) in 1973. AOC 5 is located at the Power Plant at the corner of Turner Street and Barger Street and was constructed in 1973 to store backup fuel in two cast-in place concrete USTs. Subsurface releases were discovered, resulting in excavation and removal of free product. The USTs were demolished and removed in 2017.

A Statement of Basis (SB) dated January 5, 2015 addressed remedies for multiple SWMUs including SWMUs 1 and 2. Land restrictions for SWMUs 1 and 2 include prohibitions for residential use and groundwater use except for operation, maintenance and monitoring activities. In addition, earth-moving activities where contaminants remain in soils above EPA Screening Levels are prohibited unless demonstrated that such activity will not pose a threat to human health or environment. The proposed remedy for SWMU 2 also included natural attenuation with continuation of the groundwater monitoring program. The SB noted that No Further Action (NFA) was proposed for the 19 SWMUs and 8 AOCs that have been investigated and remediated or determined to pose no unacceptable risk. A Statement of Basis dated November 7, 2017 noted that no further corrective action or land use controls were necessary for AOC 5. The EPA did not receive any comments for either SB during their respective public notice periods. The Final Decisions and Response to Comments (FDRTCs) were released on April 9, 2015 and December 19, 2017 for the 2015 SB and 2017 SB, respectively. The 2010 Consent Order was terminated on February 15, 2018 due to satisfactory completion of the requirements in the Order. Upon the

release of the 2017 FDRTC, EPA determined that the Facility status was Ready for Anticipated Use with certain land use restrictions because the Board of Visitors of the Virginia Polytechnic Institute adopted a resolution on September 10, 2012 that incorporated the use limitations of the FDRTC.

Current Site Status:

The Facility is still an active university. Since the release of the 2015 and 2017 FDRTCs, the New Classroom Building and the Hitt Building were constructed in 2015 and 2023, respectively, within the area of SWMU 1. During the site visit and subsequent e-mail conversations with the Facility, the Facility stated that there are generally project-specific material management plans for each construction project. The Facility also stated that contractual language for Contract Partners working on construction projects require contractors to promptly make notifications and appropriately handle materials if they observe the existence of materials that may be hazardous to human health. There are no plans for additional construction at SWMU 1 according to the Campus Master Plan, which extends to 2047. SWMU 2 is continuing to be monitored under its permit (SWP109) through DEQ's Solid Waste Program in the Blue Ridge Regional Office. AOC 5 currently has 2 16,000-gal Aboveground Storage Tanks (ASTs) onsite.

Element 1: Legal Authorities

The Final Remedy Decision was issued under the authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. Sections 6901 and 6992k. Institutional controls defined within the remedy for the facility were implemented through a 2012 Board of Visitors Resolution. The Resolution serves as the authority for enforcing the final remedy at the Facility. In addition to the Resolution, Permit SWP109 also serves as the authority for enforcing requirements for SWMU 2.

Element 2: Information Regarding Engineering and Institutional Controls

The following controls were described in the 2012 Board of Visitors Resolution and as part of the CA remedy for SWMUs 1 and 2:

- 1.) Restrict new construction to non-residential buildings, and
- 2.) Restrict groundwater withdrawal for use from the site.

Element 3 – Long-Term Facility Oversight, Monitoring and Maintenance

The 2012 Resolution requires that institutional controls are maintained at their associated areas. The 2012 Resolution does not have any reporting requirements. Solid Waste Permit SWP109 requires semi-annual and annual groundwater reports for detection monitoring and assessment monitoring as well as Corrective Action System Evaluations (CASE) reports once every 3 years.

A portion of the Facility is located within a floodway or flood hazard area as indicated on [FEMA's National Flood Hazard Layer \(NFHL\) Viewer](#). Most of the area in SWMU 1 is within a 0.2% annual chance flood hazard zone. SWMU 2 and AOC 5 are not within any flood zones.

Element 4 – Recordkeeping and Tracking

The 2012 Resolution and Final Remedies provide visual representation of the activity and use limitations.

Mapping: The EPA Facility website figure has been updated with a Geospatial PDF showing the use restriction boundaries. The map was field-verified, and no issues were noted.

Element 5 – Meaningful Engagement and Consultation

The Facility has active operations, and it has no off-site impacts. The commencement of a seventy-one (71)-day public comment period for the 2015 SB was announced in the Roanoke Times on January 15, 2015. The commencement of a thirty-one (31)-day public comment period for the 2017 SB was announced in the Roanoke Times on November 17, 2017. EPA received no comments on its proposed remedy for the Facility for either SB; the Final Remedy therefore did not change from the remedy proposed in the SBs.

Element 6 – Funding

Because the remedies did not require any further engineering actions to remediate contamination and given that the post-closure activities and groundwater monitoring of SWMU 2 was approximately \$80,000 per year at the time the 2015 SB was released, EPA proposed that no financial assurance be required. Financial assurance requirements exist under the Solid Waste permit and regulation 9 VAC 20-70.

Element 7 & 8 – Enforcement and Enforceable Mechanisms

EPA, without limitation, reserves its right to take administrative enforcement action under RCRA or other federal law for violations. The SWP109 Permit provides additional enforceability for the DEQ.

Element 9 – Dedicated Resources

The Performance Partnership Grant Workplan provides for Long-Term Stewardship activities.

Long-term Stewardship Site Visit: On August 11, 2025

DEQ conducted a long-term stewardship site visit to discuss and assess the status of the implemented remedies at the site. The attendees were:

- Sheree Andrews, Virginia Tech, Environmental Compliance Manager
- Stephanie Houston, VDEQ

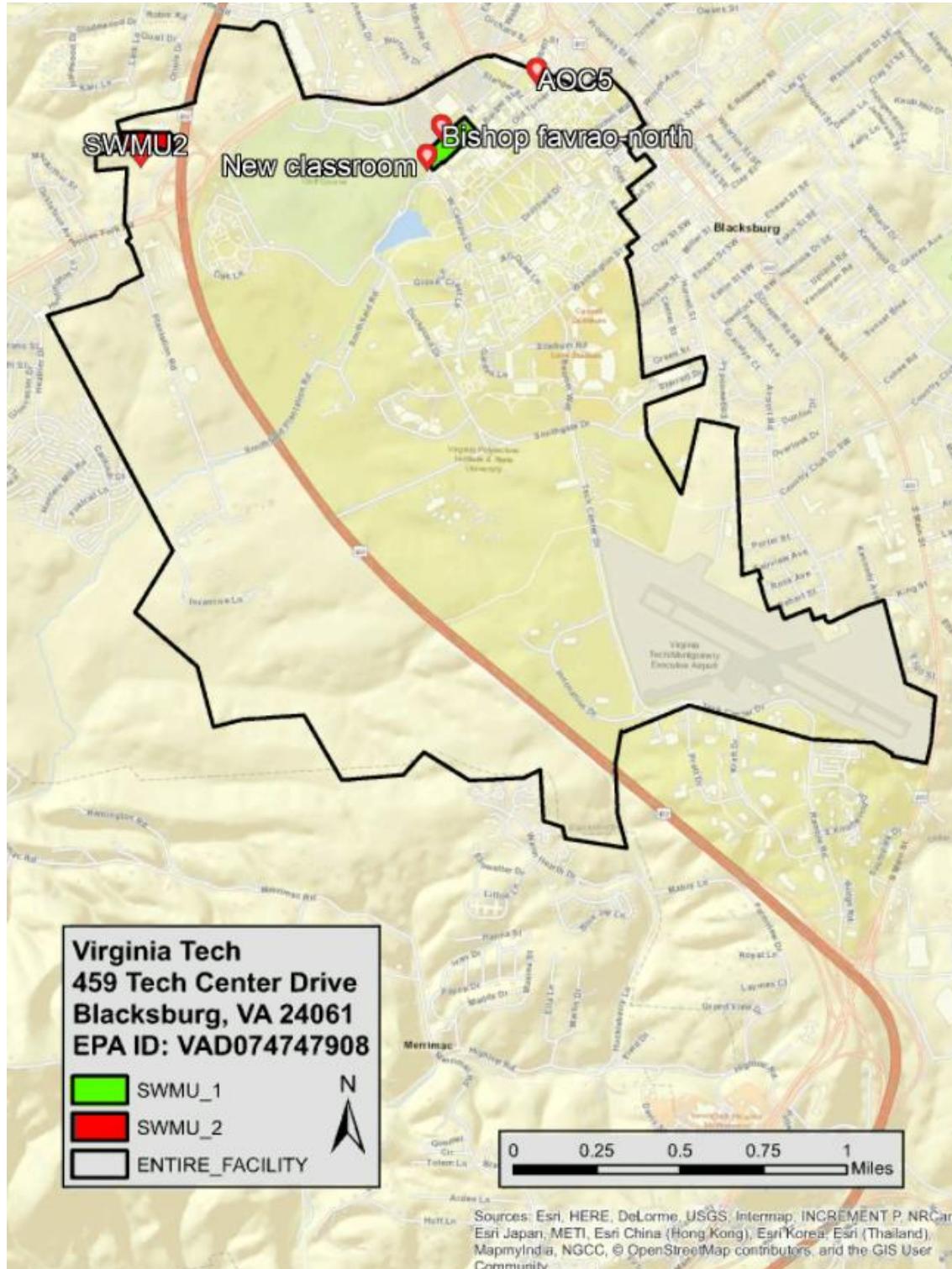
A field report is included below with this report. The following summary and additional notes are derived from the field report:

- All engineering and institutional controls are being followed.
- It was observed that new buildings were constructed at SWMU 1. The Facility stated that there are generally project-specific material management plans for each construction project. The Facility also stated that contractual language for Contract Partners working on construction projects require contractors to promptly make notifications and appropriately handle materials if they observe the existence of materials that may be hazardous to human health. There are no plans for additional construction at SWMU 1 according to the Campus Master Plan, which extends to 2047. No residential use was observed, and the Facility stated that public water is used across the Facility.
- At SWMU 2, the Facility is re-evaluating wells at the boundary due to recent detections of certain constituents. Otherwise, in general, there is evidence of monitored natural attenuation, and groundwater contaminants are stable or decreasing. The BRRO Solid Waste Program manages groundwater monitoring through SWP109.
- Observations and pictures were collected at AOC 5; however, the final remedy for AOC 5 is “No Further Action”, and therefore, AOC 5 does not have any land use restrictions.

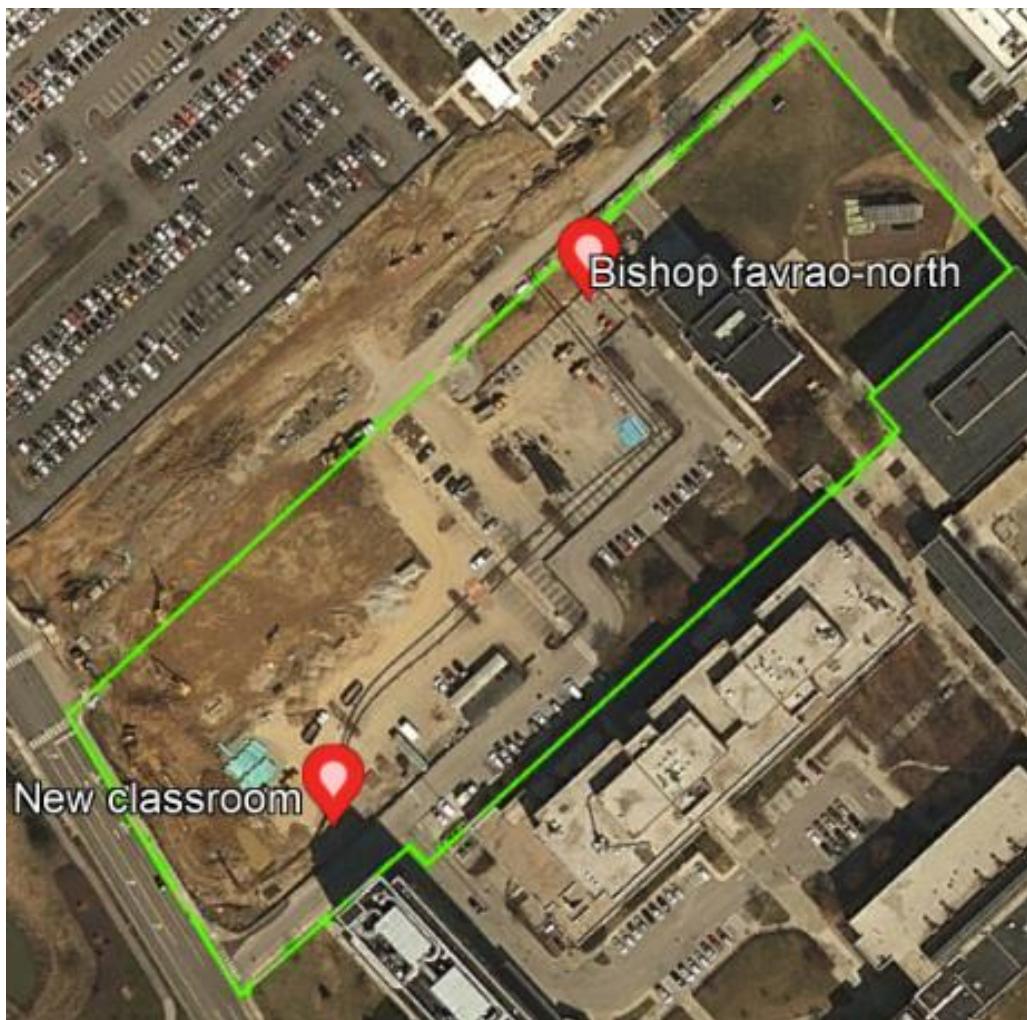
Follow-up Activities:

No follow-up activities are required for this LTS evaluation.

DEQ Long-Term Stewardship Facility Map
Virginia Tech – Blacksburg, Virginia



SWMU 1



SWMU 2



Select Site Photos
Photos by: Stephanie Houston
August 11, 2025

SWMU 1: Bishop Favrao-North



At North side of Bishop Favrao building facing Northeast. The former Physical Plant footprint included the grassy area and the Bishop Favrao building. No residential use was observed, and public water is used in this area.

SWMU 1: New Classroom



At Southeast corner of the New Classroom Building facing Northeast. In the picture, the New Classroom Building (constructed in 2015) is on the left, and Hitt Hall (constructed in 2023/2024) is on the right. No residential use was observed, and public water is used in this area.

SWMU 2: Photo East



At center of Southern boundary of SWMU 2 facing Northeast. No residential or groundwater use was observed.

SWMU 2: Photo West



At center of Southern boundary of SWMU 2 facing Northwest. No residential or groundwater use was observed.

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AOC 5



At cross section of Turner Street and Barger Street facing West. Two ASTs were observed in the area of the former concrete USTs. AOC 5 does not have any land use restrictions.

Field Checklist
Virginia Tech – Blacksburg, Virginia

Site visit date: 8/11/2025 Time of visit: 9:00 AM

People Present (name/phone/e-mail):

- Sheree Andrews, Virginia Tech, Environmental Compliance Manager
- Stephanie Houston, VDEQ

| IC Review and Assessment Questions: | <u>Yes</u> | <u>No</u> | <u>Notes</u> |
|--|------------|-----------|---|
| • Have the ICs specified in the remedy been fully implemented? Implementation mechanism in place? | X | | <ul style="list-style-type: none">• SWMU 1 – Board of Visitors resolution• SWMU 2 – SWP109• AOC 5 – No Further Action |
| • Do the ICs provide control for the entire extent of contamination (entire site or a specific portion)? | X | | |
| • Are the ICs eliminating or reducing exposure of all potential receptors to known contamination? | X | | |
| • Are the ICs effective and reliable for the activities (current and future) at the property to which the controls are applied? | X | | |
| • Have the risk of potential pathway exposures addressed under Corrective Action changed based on updated screening levels and new technologies? | | X | |
| • Are modifications to the IC implementation mechanism needed? (i.e. UECA Covenant, Permit or Order) | | X | |
| • Are there plans to develop or sell the property? | | X | SWMU 1 – Campus Master Plan – never going to build residences – no room |
| • Have all reporting requirements been met? | X | | No reporting requirements except under SWP109 |

| Groundwater Review and Assessment Questions: | <u>Yes</u> | <u>No</u> | <u>Notes</u> |
|---|------------|-----------|---|
| • Is groundwater onsite used for potable purposes? | | X | |
| • Is the Facility connected to a public water supply? | X | | <ul style="list-style-type: none">• All public water• Hose at SWMU 2 connected to public water |

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| | | | |
|--|---|---|--|
| • Have any new wells been installed at the facility? | X | | SWMU 2 • 2014 GWAR – Performance wells MW-1, MW-2, MW-3, MW-4, MW-7, MW-11; Sentinel Wells MW-5, MW-10 • 2024 GWAR – Performance wells MW-1, MW-2, MW-3, MW-4, MW-7, MW-11; Sentinel Wells MW-5, MW-10, MW-12 (2018) |
| • Are the current groundwater flow rate and direction similar as mentioned in the previous studies? (SWMU 2) | X | | • 2014 GWAR – 5.0 ft/yr • 2024 GWAR – south side = 2.6-2.7 ft/yr, north side = 8.8-10 ft/yr |
| • Groundwater contaminants stable or decreasing in concentration? (SWMU 2) | X | X | Mostly stable or decreasing; a few constituents showing detections now |
| • Are groundwater monitoring wells still in place (# wells)? (SWMU 2) | X | | |
| • Any evidence or reason to re-evaluate the number and location of monitoring points and/or monitoring frequency? (SWMU 2) | X | | From Facility: • Re-evaluate – boundary wells actually not on boundary, will put more on boundary • More boundary wells hopefully installed by end of year |
| • For wells where groundwater monitoring is no longer required, have the wells been decommissioned? (SWMU 2) | | X | |
| • Is there evidence of monitored natural attenuation occurring in groundwater? (SWMU 2) | X | X | • 2016/2018 – lowered GPS for some constituents • Perimeter increased • Working in general |

| <u>Surface and Subsurface Soil Review and Assessment Questions:</u> | <u>Yes</u> | <u>No</u> | <u>Notes</u> |
|---|------------|-----------|---------------------------|
| • Is the facility being used for residential purposes? | | X | |
| • Have there been recent construction or earth-moving activities or plans for such? | | X | According to Facility, no |

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| <u>Miscellaneous Review and Assessment Questions:</u> | <u>Yes</u> | <u>No</u> | <u>Notes</u> |
|---|------------|-----------|---|
| <ul style="list-style-type: none"> • Current use of facility? Property use changed from Fact Sheet? Plans to change use of property? | | X | <p>SWMU 1 (dates from Google Earth)</p> <ul style="list-style-type: none"> • New Classroom Building constructed in 2015 • Hitt Hall constructed in 2023/2024 <p>SWMU 2 - Around 2023, Facility performed an evaluation on completely removing the landfill, which would make the land more desirable to develop. The Facility decided not to pursue this option.</p> <p>AOC 5</p> <ul style="list-style-type: none"> • 16,000-gal ASTs onsite now • Possibly replace 2 tanks with 1 but fallen off radar |
| <ul style="list-style-type: none"> • MMP for any SWMU/AOC or Facility-wide? | | | <p>E-mails from Facility:</p> <ul style="list-style-type: none"> • 8/13/2025: "Excavated material management is largely handled through subcontracted effort and contractual language. Major construction efforts at Virginia Tech are completed through the use of Contract Partners (General Contractors, Construction Managers, or Design-Builders). Contract language requires, if during the course of the work, the Contract Partner (CP) observes the existence of any material which it knows, should know, or has reason to believe is hazardous to human health, they shall promptly make notifications and the material will be appropriately handled." • 8/14/2025: "There are project-specific material management plans for each construction project." |