VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

FINAL DECISION AND RESPONSE TO COMMENTS

Celanese Acetate
Route 460/3520 Virginia Avenue
Narrows, Virginia

EPA ID NO. VAD005007679

January 2026

Celanese FDRTC
January 2026

Final Decision

The Virginia Department of Environmental Quality (DEQ) is issuing this Final Decision and Response to Comments (Final Decision) 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, regarding the remedy for the Celanese Acetate Facility (Facility) located at Route 460/3520 Virginia Avenue in Narrows, Virginia.

On December 17, 2025, DEQ issued a Statement of Basis (SB) in which it described its proposed remedy for the Facility. The SB is hereby incorporated in this Final Decision by reference and is included in the enclosed.

Public Comment Period

On December 17, 2025, a public notice for the SB was published in the Virginian Leader newspaper and announced a thirty (30)-day public comment period in which it requested comments from the public on the remedy proposed in the SB. A copy of the public notice and the SB was also placed on DEQ's webpage. The public comment period ended on January 16, 2026.

Response to Comments

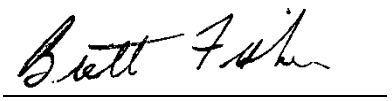
DEQ did not receive any comments on the proposed remedy. Consequently, DEQ's Final Remedy did not change from the remedy proposed in the SB.

Final Remedy

The Final Remedy, the components of which are explained in detail in the SB will be implemented through a UECA Environmental Covenant. The Remedy includes the following components: 1) implementation and maintenance of compliance with land use controls in the form of institutional and engineering controls; and 2) conduct long-term groundwater monitoring.

Declaration

Based on the Administrative Record compiled for Corrective Action at the Celanese Acetate Facility, DEQ has determined that the Final Remedy selected in this Final Decision and Response to Comments is protective of human health and the environment.



January 22, 2026

Brett Fisher, Manager
Office of Remediation Programs
Virginia Department of Environmental Quality

Date

Enclosure: Statement of Basis, December 17, 2025

Celanese FDRTC
January 2026

STATEMENT OF BASIS

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STATEMENT OF BASIS

Celanese Acetate
Route 460/3520 Virginia Avenue
Narrows, Virginia

EPA ID NO. VAD005007679

December 2025

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ATTACHMENTS

1 Introduction

The Virginia Department of Environmental Quality (DEQ) has prepared this Statement of Basis (SB) to solicit public comment on its proposed final remedy for soil and groundwater (the "remedy") for the Celanese Acetate LLC (also referred to as the Celco facility) located at Route 460/3520 Virginia Avenue in Narrows, Virginia (the "facility" or the "site") (Figure 1). DEQ's proposed remedy requires the facility to implement Institutional Controls (ICs), Engineering Controls (ECs), and conduct long-term groundwater monitoring. The proposed ICs and ECs are discussed in Section 5 below. This SB highlights key information relied upon by DEQ in selecting its proposed remedy for the site.

The Facility is subject to the United States Environmental Protection Agency's (EPA) Corrective Action Program under 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. § 6901 et seq. 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 Cleanup Program is designed to ensure that certain facilities subject to RCRA have investigated and remediated any releases of hazardous waste and hazardous constituents that have occurred at their property.

Information on the Hazardous Waste Cleanup Program can be found at https://www.epa.gov/hw/learn-about-hazardous-waste-cleanups.

The Administrative Record (AR) for the facility contains all documents, including data and quality assurance information, on which DEQ's proposed decision is based. A listing of the documents in the AR is in Attachment C. See Section 9, Public Participation, for information on how you may review the AR.

2 Facility Background

The Celco facility is located at Route 460/3520 Virginia Ave, Narrows, VA 24124. The site is less than three miles east of the town of Narrows in Giles County. This area lies within the Cumberland Mountains of the Valley and Ridge physiographic province. Most of the site is currently zoned as General Industrial District I-1 or Solid Waste Management Facilities District SWM-1.

The site is 1,332 acres and is divided into two major areas, the Plant Area and the Landfill Area, which are separated by Route 460 (Attachment A, Figure 1). The site is bounded by the New River to the south and east and a local mountain range known as Hemlock Ridge to the north. The topography in the Plant Area, adjacent to the New River, is located on the river terrace and is relatively flat. The Plant Area surface elevations range from approximately 1,580 to 1,600 feet above mean sea level (ft amsl). North of Route 460, the site is located on Hemlock Ridge overlooking the New River. This area is referred to as the Landfill Area because it is used for land filling of non-hazardous waste in permitted landfills. Topographic relief in the Landfill Area increases steeply on the northeast side of Route 460 from 1,600 ft amsl to approximately 2,600 ft amsl along Hemlock Ridge. Areas surrounding the site are generally zoned as light industrial (M-1), agricultural (A-1), and conservation (C-1).

2.1 History of Ownership and Operation

The facility has been in operation since 1939 and manufactures fiber-based products including cellulose-acetate flake and filter tow, which is used to make cigarette filters. Prior to the start of Celanese activities, the Plant Area was utilized as agricultural land including tilled crops and an apple orchard. During the 2006 Description of Current Conditions (DOCC) file review, additional information was gathered from Celanese records which indicated that a portion of the Permit 207 landfill was formerly used by the Virginia Power and Railroad Co. as a landfill. The landfill was reportedly used primarily to dispose of coal ash from its power plant. Celanese purchased the land from the Virginia Power and Railroad Co. in the late 1950s or early 1960s after that company went out of business. A file report indicated that around the same time period, the Virginia Garage disposed of old car parts and miscellaneous material in the same area.

2.2 Solid and Hazardous Waste Generation, Storage, and Disposal

2.2.1 Solid Waste

The facility manages its manufacturing waste via disposal or treatment in on-site landfills, wastewater treatment operations, surface impoundments, regeneration/recycling and off-site treatment and disposal facilities. Most of the solid waste is disposed in on-site non-hazardous landfills permitted under the Virginia Solid Waste Management Regulations. A small portion of its solid waste is shipped off-site for disposal.

The Permit 207 Landfill, which is north of Route 460, is an unlined non-hazardous industrial landfill with active and closed cells. Active cells receive non-hazardous waste and asbestos. Separate closed cells contain coal combustion byproducts (CCB) and process sludge. The Permit 550 Landfill, also north of Route 460, is a double lined non-hazardous industrial landfill with a leachate collection system, which became operational in 1993. This landfill receives non-hazardous waste from plant operations.

There are ten waste disposal areas (WDA) identified within the site. In June 1998, Celanese interviewed Mr. Euk Boggess regarding the past disposal practices at the site during his employment from 1959 to 1984. The summary presented below of the ten waste disposal areas is based on information obtained from Mr. Boggess and from information identified in plant files and maps which correspond with the information presented by Mr. Boggess. The areas are:

- WDA 1 - CCB –formerly Ash Pond #3. Closed in 1975.
- WDA 2 – CCB with Residual Brown Sludge (vaporizer waste) – Area was used to temporarily store brown sludge. Brown sludge was then pumped out and transferred to the landfill. The area was filled with CCB and covered with soil. Closed in late 1960s.
- WDA 3 – CCB and Refuse. Filled in and closed in 1967 – 1968.
- WDA 4 – White Sludge (insoluble cellulose) – buried and closed prior to 1960. Location is approximate. Current use is material/equipment storage.
- WDA 5 – CCB – shown on Plant Plot Plan N26A-3100B-46 as closed in 1954. Current use is material/equipment storage.
- WDA 6 – CCB – shown on Plant Plot Plan N26A-3100B-46 as closed in 1954. Current use is material/equipment storage.
- WDA 7 – White Sludge, Bands, Flake, Burnable Trash – Shown on Plot Plan N26A-3100B-46 as closed in 1955 containing burnable trash. Current use is material/equipment storage.

- WDA 8 – Brown Sludge – East end of Area 7. Some brown sludge disposed at this end. Closed approximately 1955.
- WDA 9 – White Sludge, some CCB – used for disposal of white sludge from Pond B and Pond C. Covered in 1965.
- WDA 10 – White Sludge, some CCB – used for disposal of white sludge from Pond B and Pond C. Covered in 1965.

Conversion of the plant from coal-fired to natural gas-fired boilers occurred in 2015. CCB from the boiler operations was a generated waste stream prior to 2015. Top fly ash from coal combustion was captured on electrostatic precipitators, sent to a dry ash handling system and was trucked to Roanoke Cement, landfilled on-site, or landfilled off-site. Sluiced bottom ash was pumped to settling basins A, B and C located on the western side of the facility. The CCB was periodically dredged from these basins and hauled to the ash landfills located north of the Plant Area. With the conversion from coal-fired to natural gas-fired boilers, Celanese discontinued use of Pond A in May 2015 and began the engineering evaluations needed for identification and evaluation of closure options in November 2015. The Virginia Department of Conservation and Recreation (VDCR), DEQ, and the United States Environmental Protection Agency (USEPA) assisted in creating a sampling program related to Pond A that complied with RCRA requirements. The sampling program was implemented in January 2017. Physical closure of Pond A began the week of October 2, 2017, and was completed in March 2018. A post-closure care permit (SWP623) for Pond A was issued by DEQ on August 15, 2018. Pond A is subject to regulation by DEQ under Article 2 of the Virginia Waste Management Act, Va. Code Section 10.1-1238, et seq., and is further discussed in Section 3.2.3 below.

The original treatment system at the wastewater treatment plant (WWTP) utilized an in-ground concrete-lined surface impoundment, designated as the Equalization Basin, and an unlined surface impoundment, designated as the Aeration Basin. The Equalization Basin had a one-million-gallon capacity and began operation in 1981. The Aeration Basin, which was used to biologically degrade organic wastewater, had a five-million-gallon capacity and began operation in 1970. When the Toxicity Characteristic rule was promulgated in March 1990, Celanese's wastewater was considered a hazardous waste due to the presence of benzene, which was used in the manufacturing process. Both units stopped receiving waste in 1994 as part of the installation and startup of an aboveground tank-based system. The units were clean closed in 1998 in accordance with RCRA requirements under USEPA and DEQ oversight.

Major waste streams, in addition to CCB and the WWTP, historically included white sludge and brown sludge. Brown sludge is an acetic acid-based material generated from the cleaning of process vessels. White sludge consists of insoluble cellulose wood fibers and cellulose acetate fines that were historically managed within basins adjacent to the New River. An improved method for handling this waste stream was developed so that the white sludge waste material could go directly to a landfill without being managed in ponds. The improvement eliminated the need for white sludge Pond B. White sludge Pond B was clean-closed in 2006 in accordance with a DEQ-approved closure plan.

Other solid waste streams that go to the on-site permitted non-hazardous landfills include WWTP filter cake, filter tow, filter pads and filter dressings, scrap wood, paper, plastic items, and other non-hazardous process waste. Asbestos waste generated from the removal of asbestos containing

materials within the plant is disposed of on-site in an asbestos permitted landfill and at times is disposed at off-site asbestos permitted landfills.

2.2.2 Hazardous Waste

The site was an existing facility when RCRA Subtitle C programs became effective in November 1980, which addresses the treatment, storage, and disposal of hazardous waste. In March 1990, when USEPA promulgated the Toxicity Characteristic rule, Celanese's process wastewater became hazardous waste due to the presence of benzene. Benzene was phased out of the manufacturing process in 1994. In August 1997, clean closure status was granted by DEQ for the interim status hazardous waste accumulation areas (Arcadis, 2013).

The site is a large quantity generator (LQG) (VA005007679) of hazardous waste. Because Celanese complies with the less than 90-day generator requirements, it does not have or need a permit to treat, store, or dispose of hazardous waste. Since the late 1980s, Celanese has managed hazardous waste in drums in a curbed contained building located north of the Acetone Recovery Area and south of Ash Pond 4. Since 2009, Celanese stages drums of hazardous waste in the Dope Preparation Department which are destined for disposal. Celanese also manages mesityl oxide, a byproduct waste, in a 3000-gallon aboveground storage tank (AST V-1035) on the southwestern side of Building 2.

Previously, the less than 90-day hazardous waste area was located in the central Plant Area (Attachment A, Figure 2). The area stopped receiving waste in the late 1980s.

2.2.3 Chemical Storage

Chemicals are stored primarily in a raised terrace area known as the Tank Farm, located in the southeastern portion of the Plant Area (Attachment A, Figure 2). This area contains aboveground storage tanks (ASTs) with secondary containment, which hold chemicals used in the manufacturing process as well as certain petroleum products. The chemicals include acetic acid, acetic anhydride, methyl ethyl ketone, isopropyl acetate, and cyclohexane. N-hexane and benzene are no longer used by the site or stored in the Tank Farm.

2.2.4 Former Underground Storage Tanks

Historically, some chemicals were stored in underground storage tanks (USTs) within the raised terraced Tank Farm (Attachment A, Figure 2). Celanese closed all known USTs in the early 1990s. Tank Farm chemicals historically were conveyed to process areas via underground piping. In approximately 2000, all Tank Farm underground piping was closed, and aboveground piping was installed to convey all chemicals.

3 Summary of Environmental History

3.1 Environmental Investigations

Since 1980, there have been numerous environmental investigations and environmental projects performed at the site to address soil and groundwater impacts at known Areas of Concern (AOCs) and Solid Waste Management Units (SWMUs) (Attachment A, Figure 3). These projects have been performed to investigate specific areas (e.g., benzene area release) or for routine monitoring purposes (e.g., production well water quality) and/or for site-wide characterization. Some activities were conducted for remediation purposes, such as the investigation and subsequent automated collection of petroleum product from the subsurface at the Tank Farm. The primary contaminants

of concern at the site include ammonia, metals, polychlorinated biphenyls (PCBs), organic solvents, and polycyclic aromatic hydrocarbon (PAH) compounds.

As part of its overall facility environmental management strategy, Celanese has proactively pursued the characterization and remediation of groundwater at the facility. This management strategy has the objective of evaluating impacts to the two major receptors at the facility: the on-site production wells and the adjacent New River. The on-site production wells typically produce about four million gallons per day. This risk management approach considers the entire facility or subsections of the facility as potential source areas. Risks to human health or the environment will occur only if receptors are exposed to contaminants above established action levels or risk-based concentrations. By taking a global approach (outside-in), Celanese was able to determine the risk to human health and the environment posed by these conditions.

The environmental source area mitigation projects performed at the site have included, but are not limited to, the following: chemical sewer upgrades; stormwater management improvements; multiple basin closures; use of new technologies (e.g., aboveground tank-based WWTP [Biohoch technology], ketene process, replacement of coal-fired boilers with natural gas-fired boilers); installation of groundwater monitoring wells; the collection of environmental samples from groundwater, surface water, soil, and waste; the measurement of groundwater and surface-water elevations across the site; fate and transport modeling; risk analysis; free-product collection; and bioremediation.

3.1.1 RCRA Facility Investigation

In 1996, the site was assessed and ranked by DEQ and USEPA Region III for the RCRA National Corrective Action Prioritization System (NCAPS). The NCAPS ranking was completed in 1996, which listed a total of 39 SWMUs. Overall, the Draft NCAPS rating for the facility was listed as "low". The NCAPS report concluded that there was the potential for a release to groundwater associated with the Equalization/Aeration Basins at the WWTP and from the landfill cells associated with Celco Landfill Permit No. 207. Considering the NCAPS ranking and since Celanese had performed numerous environmental evaluations and corrective actions at the facility, Celanese proactively implemented a program to perform a comprehensive environmental evaluation covering the Plant Area and the Landfill Area.

3.1.2 Site-Wide Groundwater Assessment

In 1997, Celanese initiated a Site-Wide Groundwater Assessment to evaluate existing historical groundwater quality data, to collect additional data necessary to address data deficiencies, and to prioritize environmental impacts at the site based on potential human health and environmental risk. An Internal Draft Report was issued in May 1999 that focused on several major areas of the facility; the Internal Draft Report was not finalized. In 2003, Celanese performed a subsequent site-wide groundwater sampling event and utilized the results to update the 1999 Internal Draft Report. In February 2005, an updated Site-Wide Groundwater Assessment Report was completed. Celanese utilized the results of this report to focus its continuing efforts to determine site conditions and to perform additional investigations and/or remedial activities where warranted.

In 2005 a site-wide characterization was completed from a global perspective which evaluated:

1) The nature and extent of contamination;

2) The risk posed by COCs to human health and the environment if the current production wells were no longer operated (i.e., loss of hydraulic containment strategy); and
3) Quantitatively evaluated the risk posed by constituents of concern to human health and environment if the production wells were no longer operated (i.e., loss of hydraulic containment strategy).

The 2005 site-wide characterization data indicated that constituent concentrations in the groundwater were dispersed and were found at relatively low levels, particularly in the Landfill Area. Chlorinated organic constituents were detected in the Plant Area production wells. Withdrawal of groundwater by the production wells creates a relatively large cone of depression that serves to provide hydraulic containment for COCs in the subsurface for much of the Plant Area. However, even if the plant were to cease operating the production wells, modeling in conjunction with the risk analysis indicated that constituent concentrations, upon reaching the New River, would not pose an unacceptable risk to human health or the environment. Results indicated that the constituents detected in the subsurface in both the Landfill Area and the Plant Area do not present an unacceptable risk to human health or the environment as long as the site remains an industrial site. A Conceptual Hydrogeologic Cross-Section in the 2005 site-wide assessment report depicts the likely flow of groundwater if the production wells cease operating (Attachment B).

3.1.3 RCRA Phase I/IB

In January 2006, an environmental investigation was initiated under a RCRA Facility Lead Agreement that was signed with USEPA Region III. This site-wide comprehensive RCRA Facility Investigation (RFI) was conducted from June 2011 through February 2012 and from May 2012 through May 2013 (hereafter referred to as Phase I and Phase IB, respectively).

The Phase I/IB field program included the installation and development of 12 new monitoring wells and 4 new piezometers; a site-wide round of water-level measurements; collection of over 78 groundwater samples from monitoring wells, on-site production wells, and off-site municipal wells; collection of 8 surface water and 14 sediment samples from on-site tributaries; and detailed reconnaissance of the New River and collection of 37 off-site surface water samples and 17 sediment samples. In addition, over 136 environmental borings were taken throughout the Plant Area for lithologic and analytical characterization.

The results of the Phase I/IB confirmed the previously established Conceptual Site Model (CSM) and indicated that the groundwater, soil, surface water, and sediment were adequately characterized to the extent that a baseline risk assessment could be completed for the site.

3.1.4 Solid Waste Management Unit (SWMU)/Area of Concern (AOC) Inventory

In September 1991, Celanese submitted a RCRA Part B application to address closure of the equalization and aeration basins at the facility's WWTP. In that document a summary of 61 SWMUs identified at the site was presented.

In 1996, USEPA performed a National Corrective Action Prioritization System (NCAPS) ranking for the facility looking at specific waste management practices and disposal areas and potential threats to groundwater and surface water. The 1996 site visit was performed to identify SWMUs as part of the NCAPS ranking. USEPA issued a draft NCAPS report which identified 39 SWMUs, all of which were ranked as "low" priority.

In 2006, the U.S. Army Corps of Engineers on behalf of USEPA conducted a site visit and prepared a RCRA Corrective Action Site Report in which 20 SWMUs and 2 AOCs were identified.

The 2006 DOCC report referenced SWMUs/AOCs based on the assumption that certain vetting of the previous sets of SWMUs/AOCs was performed and accepted. USEPA questioned the acceptance of the assumed vetting and thus from that point forward Celanese used the codified listing of all SWMUs/AOCs from all historical references as determined in the 2011 RFI Work Plan

Many of the SWMUs and the AOCs were directly assessed during the 2011 RFI program through the collection of surface water, sediment, surface soil, subsurface soil, waste, and/or groundwater samples. Groundwater samples were collected at locations in the immediate vicinity of many of the SWMUs and AOCs.

Based on the data which was discussed at meetings with DEQ on July 25 and November 15, 2018, Celanese recommended to DEQ that no further evaluation was necessary for a subset of the SWMU/AOCs. By letter dated January 28, 2019, DEQ concurred with the recommendation and determined that no further evaluation was necessary for the following SMWU/AOCs:

- SWMU-1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 18, and 20
- SWMU-13 Former Ash Pond #1
- SWMU-14 Former Ash Pond #2
- SWMU-16 Former Ash Pond #4
- SWMU-17 new Ash Ponds A, B & C
- SWMU-19a Landfill 550
- SWMU-19b Landfill 207
- SWMU-19c Closed Process Sludge Landfill
- SWMU-19d Area D waste disposal pit
- AOC-01
- AOC-02
- AOC-08 Landfill Ammonia flow

During the meeting held on November 15, 2018, Celanese agreed to provide DEQ with a memorandum summarizing the discussion and describing the status of, and proposed path forward for, each SWMU and AOC. A SWMU/AOC Discussion and Status Update Memo (hereafter the Memo) was provided to DEQ in March 2019. No further evaluation was recommended at the following SWMUs/AOCs:

- SWMU 10 – Wastewater Treatment Plant
- SWMU 11 – Former white sludge Pond B
- SWMU 20 – <90 Mesityl Oxide accumulation tank
- SWMU 24 – Former Incinerator
- SWMU 26 – White Sludge Pond C
- SWMU 27 – Former diversion basin
- SWMU 28 – B-3 Vat (filter press)
- SWMU 29 – Utility dirt

- SWMU 30 – Underground waste oil tank
- SWMU 31 – Spent carbon storage area
- SWMU 32 – ST-90 Waste dumpster
- SWMU 33 (2) – Steaming ovens
- SWMU 34 – Carbon washing area
- SWMU 35 – Temporary asbestos waste areas
- SWMU 36 A-D – Temporary waste oil drum storage areas
- SWMU 37 – Drum cleaning area
- SWMU 38 – Magnesium oxide unloading area
- SWMU 39 – Boiler feed waste treatment area
- SWMU 40 – D-Shed TPH soils
- SWMU 41 – Building-12 – satellite waste accumulation area
- AOC-04 – Building 10/11 area sewers
- AOC-07 – Tank Farm
- AOC-09 – Coal storage area
- AOC-10 – Stormwater management

The following seven SWMU/AOCs were recommended to be retained for further evaluation:

- AOC 3 – Production Wells 7 and 9
- AOC 5 – Fuel Oil Area
- AOC 6 – Former Benzene UST Area
- SWMU 21 – Former 1950s area disposal Area
- SWMU 22 – Former white sludge Pond A
- SWMU 23 – White sludge disposal Area B/C
- SWMU 25 – Former fire training Area

The Memo noted that AOC 5 and AOC 6 had exhibited historical groundwater exceedances for benzene and PCBs and indicated that additional groundwater sampling was being performed to evaluate current conditions at both AOCs. The additional sampling was performed in February and March 2019. Benzene concentrations from the additional sampling at both AOCs had decreased to non-detect levels and total PCB concentrations had decreased by 97% to 99% from 2011 to 2019, respectively.

The Memo proposed to manage any remaining risks at the site by implementing Institutional Controls. DEQ reviewed the Memo and provided comments to Celanese in December 2019. DEQ's comments discussed specific ICs anticipated as part of the remedy for the site.

3.2 Remediation/Remedial Activities

Below is a summary of the facility's closure activities and remedial action activities.

3.2.1 Underground Storage Tank Closures

The USTs previously located in the tank farm were closed in the early 1990s. Piping associated with the underground tanks were also closed and any residual chemicals were removed.

3.2.2 Phase I/IB

The last site-wide environmental sampling event was conducted in 2011 and 2012 as part of the Phase I/IB assessment. Site groundwater was analyzed for VOCs, SVOCs, PCBs, Perfluorinated compounds (PFC), TPH, and metals. Four of the on-site production wells were sampled for VOCs, SVOCs, PCBs, and metals. Results of this sampling are discussed in Section 3.3.5.

3.2.3 Pond A Closure

With the conversion from coal-fired to gas-fired processes, Celanese was able to decommission Pond A, a former CCB pond. Celanese submitted a sampling plan to obtain closure in August 2016, which was approved by USEPA on October 17, 2016. The sampling plan was implemented, and Celanese conducted groundwater sampling surrounding Pond A in January 2017. Closure plans for Pond A were prepared following the sampling event and submitted to DEQ for approval in July 2017. A landfill closure permit application was submitted in August 2017. DEQ approved plans for closure of Pond A in September 2017 by consolidating the CCB inside the existing impoundment footprint and then placing a 40-mil linear low-density polyethylene (LDPE) membrane over the entire impoundment. A 2-foot vegetative soil layer was thereafter placed over the LDPE membrane and synthetic drainage material layer, and the disturbed area was revegetated to complete the closure. The facility provided DEQ with formal certification of closure of Pond A in June 2020. Pond A is no longer regulated under Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0000299; it is now regulated for purposes of post-closure care under Solid Waste Facility Permit No. 623 issued August 15, 2018.

Exceedances of groundwater protection standards have been detected within the groundwater monitoring network associated with Pond A. These exceedances have been reported by the facility to DEQ, and the facility is in the process of addressing the exceedances under the Corrective Action module of its Solid Waste Facility Permit No. 623.

3.2.4 Waste Disposal Area 4, 5, and 6 Groundwater Monitoring

An accelerated investigation of three historical waste disposal areas was completed in 2012 to support a boiler reconfiguration project and to determine whether an accelerated remedy was necessary. The results indicated levels of contamination in the waste disposal areas were acceptable for continued industrial use but would not be acceptable for residential use. Giles County and Celanese anticipate future use of the area will continue solely as industrial. The groundwater investigation conducted in 2011 and 2012 found groundwater contamination exceeding USEPA RSLs in the historical waste disposal areas local to the boiler project. Based on the results of the study, USEPA, DEQ and Celanese concluded that (1) it is safe for the waste to remain in place; (2) additional groundwater monitoring is not warranted; (3) deed restrictions are necessary to preclude hypothetical future residential use of the site; (4) the planned construction of the boiler reconfiguration project on top of the waste will prevent precipitation infiltration through much of the area and is consistent with any future remedy necessary to protect groundwater; and (5) a remedy to address any remaining unacceptable groundwater contamination at the area can be addressed as necessary in a future site-wide remedy decision without disrupting operations of the reconfigured boilers. Groundwater monitoring of selected wells in the vicinity of the new boiler house occurred on an annual basis in accordance with an agreement with USEPA. The fifth annual sampling event was completed in 2017. Wells MP075, MP114, MP120, and MP127 were sampled. No constituents exceeded the 2019 USEPA MCLs. Several metals exceeded the USEPA RSL; however, statistical trend tests (Mann-Kendall) were run for these metals, and

all demonstrated a stable trend. The 2017 samples were comparable to the pre-construction 2013 samples as well as the 2013-2016 post-construction samples. There is no evidence that the new boiler configuration has adversely impacted groundwater quality. The WDA 4, 5, and 6 groundwater monitoring program ended following submittal of the 2017 results, as the objective of the program had been fulfilled.

3.2.5 Permit 207 Landfill (LF207) Groundwater Monitoring

Celanese operates an industrial landfill north of Route 460 that is permitted under a DEQ Solid Waste Permit 207. The Celanese Industrial Landfill (LF207) groundwater monitoring program has two components. First, Phase II monitoring is conducted under an approved Groundwater Monitoring Plan in four background wells and six downgradient wells. Second, corrective action monitoring is conducted under an approved Corrective Action Monitoring Plan in three performance wells and two sentinel wells at the Closed Process Sludge Landfill (CPSL), a waste area within the permitted industrial landfill. Corrective action monitoring is conducted for monitored natural attenuation (MNA) and long-term performance (LTP) parameters. Water levels are also monitored in two piezometers.

As noted in the 2024 Corrective Action Site Evaluation (CASE) report for the CPSL for 2021 to 2023, there is no evidence of lateral or vertical plume expansion of COCs in groundwater at the CPSL. COC concentrations are generally decreasing, and Groundwater Protection Standards (GPS) continue to be met at the sentinel wells. Phase II monitoring results continue to indicate no GPS exceedances at downgradient wells except at newly-incorporated P-9. Decreasing COC concentration trends were noted at P-9 in the 2024 CASE Report, with only benzene and arsenic displaying GPS exceedances during the 2021-2023 period covered by the report. There are no environmental health receptors for the on-site groundwater.

3.3 Current Environmental Conditions

3.3.1 Phase Separated Product

Phase separated product (PSP) in the form of light non-aqueous phased liquid (LNAPL) has been identified only at AOC-5 (Fuel Oil Remediation Area), which is located in the Plant Area. This area is the location of a former UST which is suspected of having leaked fuel oil. Celanese closed all known USTs in the early 1990s. Within the raised Tank Farm area, separate phase No. 6 fuel oil was detected at MP-35 in 1995. Remediation started in 1995 following discovery of the separate phase oil. This area was remediated using absorbent socks and manual removal of fuel oil as necessary. Minimal amounts of LNAPL have been observed and recovered since 2001. To date, no dense non-aqueous phased liquid (DNAPL) associated with chlorinated chemicals has been found on site.

3.3.2 Soil and Waste Media

On-site soil and waste were analyzed for VOCs, SVOCs, PCBs, and metals, with the exception of arsenic, and, as noted in the table below, were compared to USEPA Region III Industrial Regional Screening Levels (IRSL). As documented in the 2019 SWMU/AOC Memo, arsenic is naturally-occurring in the region, so a background threshold value (BTV) of 18.1 milligram per kilogram (mg/kg) was used for the screening criteria for arsenic.

Table 1. Soil Constituents of Concern

Constituent	IRSL[1]/BTV (mg/kg)	Maximum Conc. (mg/kg)	Exceed IRSL in Boring ID (Boring with Max Conc. in bold)
3-Methylchloranthrene	0.1	0.24 J	**SB007C**, SB007D
7,12-Dimethylbenz(a)anthracene	0.0084	0.3 J	**CSB008**
Aroclor 1232	0.72	3.7	**SB007C**
Aroclor 1254	0.97	30	SB003B, SB003C, **SB003D,** SB003E, SB003F, SB007A, SB007B, SB007C, SB007D, SB008A, SB010D, SB015, SB038,
Aroclor 1260	0.99	150	MP-042R, SB010F, SB020, SB031A**,** **SB031B**, SB031C, SB031I, SB031M, SB031N, SB031O, SB031P, SB031R, SB031S, SB031U, SB031BR, SB031CR
Arsenic	18.1*	89.2	SB001B, SB001C, SB001D, SB001E, SB001E, SB002A, SB002B, SB003B, SB005A, SB005A, SB005B, SB005C, SB005C, SB005D, **SB005E**, SB006A, SB006A, SB006B, SB006D, SB006D, SB006D, SB006E, SB006E, SB006F, SB007A, SB007C, SB007D, SB009A, SB009C, SB009D, SB009D, SB009D
Benzene	5.1	480	SB009A, SB009D, SB009E, **SB009F**, SB009G, SB009H**,** SB010E
Benzo(a)anthracene	21	140	**SB003D**, SB003E, SB007C, SB039
Benzo(a)pyrene	2.1	110	SB003B, SB003C, **SB003D**, SB003E, SB003F, SB004F, SB007B, SB007C, SB007D, SB020, SB039
Benzo(b)fluoranthene	21	110	**SB003D, SB003E,** SB007C, SB039
Cobalt	35	87.2	**SB002B,** SB009C, **OC005C**, SB001E, SB018, OC001B, OC004
Dibenzo(a,h)anthracene	2.1	20	**SB003D**, SB003E, SB007C**,** SB039
Indeno(1,2,3-cd)pyrene	21	59	**SB003D,** SB007C
Iron	82,000	129,000	**OC005C**
Lead	800	5,880	**SB003C**
Manganese	2,600	3,840	OC002, OC004, OC005C, RS007, **SB031B**
Mercury	4.6	5.4	**SB007C**
Naphthalene	8.6	53	**SB003D,** SB003E, SB007C
Thallium	1.2	2.8	SB001B, SB001C, **SB001E**, SB002B**,** SB005A, SB005B, SB005C, SB005E, SB006A, SB006F, SB009A, SB009D, MP-122, RS007

Notes:
1 - EPA Region 3 Screening values for Industrial Soil (TR=1E-06, THQ=0.1)), May 2023
* - BTV used for naturally occurring constituent
IRSL – industrial regional screening level

mg/kg – milligram per kilogram
Conc. – concentration
ID – identification
BTV – background threshold value

Apart from MP-042R (SWMU-11, white sludge pond B), CSB008 (SWMU-33), and SB039 (SWMU-36BC), these exceedances of the IRSL are located in SWMUs-21, 22, 23, and 25. These results were evaluated as part of the VURAM risk analysis described below.

3.3.3 VURAM Analysis of Plant Area Soil

Celanese conducted a Soil Human Health Risk Assessment for soil in the Plant Area in May 2025 (the Risk Assessment) using DEQ's Virginia Unified Risk Assessment Model (VURAM, version 3.3.0) and related DEQ risk assessment guidance. The Risk Assessment was completed using soil data collected in the Plant Area from 2011 and 2012. The Risk Assessment was based on future industrial use of the site and assumed that future potential receptors would be on-site industrial/commercial workers and on-site construction workers. For purposes of conducting the Risk Assessment, soil data from adjacent AOCs and SWMUs was grouped and collectively evaluated for five different areas within the Plant Area (the Sub-Areas). The Sub-Areas are shown in Attachment A, Figure 4. This evaluation of risk was performed using the RCRA screening and risk analysis modules in the VURAM Guidance. According to the guidance, the noncarcinogens default target hazard quotient (THQ) is 0.1. For carcinogens, the default THQ is 1E-06. Although most of the site is covered with buildings, concrete, pavement or gravel, the risk assessment evaluated potential exposures and health risks based on the conservative assumption that exposure pathways to soil associated with commercial/industrial uses of the property are complete.

The Sub-Areas evaluated were as follows:

SUB-AREA 1
Located southeast of the main manufacturing buildings, this area includes former white sludge pond A (SWMUs 22) and white sludge disposal area B/C (SWMU 23).

SUB-AREA 2
Located south of the main manufacturing buildings, this area includes numerous SWMUs, including former sludge ponds, the wastewater treatment plant, the equalization and aeration basin, a former diversion basin, and a temporary oil drum storage area

SUB-AREA 3
Located west and south of the main manufacturing buildings, this area includes SWMU 15 (former Fly Ash Pond #3) and SWMU 21 (former 1950s era disposal area).

SUB-AREA 4
This area contains the main manufacturing buildings and includes several SWMUs and AOCs but excludes SWMU 25.

SUB-AREA 5
Located near the main manufacturing buildings, this area consists of SWMU 25 (the former fire training area)**.**

The results of the Risk Assessment show that current and future commercial/industrial use of the Plant Area is associated with cancer risks and hazard index values above target risk levels established by DEQ for the following exposure areas and pathways:

- Commercial/industrial worker exposure to surface soil and subsurface soil at Sub-Area 5; and
- Construction worker exposure to surface soil and subsurface soil at Sub-Area 5.

The risks for soil in Sub-Area 5 are primarily associated with PFOS and Aroclor-1260 and are based on the conservative assumption that exposure pathways are complete because the existing pavement and gravel cover there is not in place. However, under current and actual conditions, Sub-Area 5 is covered by a pavement and gravel cover which renders exposure pathways incomplete. DEQ has concluded that the risks presented by soil in Sub-Area 5 are acceptable as long as the pavement and gravel cover remain in place. Accordingly, the remedy requires that an operation and maintenance plan be developed for the pavement and gravel cover, including a requirement to repair the cover and employ worker health and safety protocols in the event utility work or other excavation must occur in Sub-Area 5. The former fire training area (SWMU 25) location is shown on Attachment A, Figure 5.

In addition, a portion of Sub-Area 1 includes historical capped waste material specifically in white sludge pond A (SWMU 22) and white sludge disposal area B/C (SWMU 23). These waste disposal areas are currently covered by soil and vegetation which generally render exposure pathways incomplete. DEQ has concluded that any potential risks presented by waste material and soil in these areas are acceptable as long as the soil cover remains in place. Accordingly, the remedy requires that an operation and maintenance plan be developed for the soil cover, including a requirement to repair the cover and employ worker health and safety protocols in the event utility work or other excavation must occur in these waste disposal areas. Former white sludge pond A (SWMU 22) and white sludge disposal area B/C (SWMU 23) locations are shown on Attachment A, Figure 5.

3.3.4 Surface Water/Sediments

Surface water from the Plant Area eventually discharges to the New River via overland flow through the Outfall 005 channel, the Stillhouse Branch or through permitted outfalls regulated under the VPDES permit.

3.3.5 Stormwater

Storm water discharges to several drop inlets throughout the property. The drop inlets discharge to the storm sewer system, which ultimately outfalls to the New River. The New River borders the facility to the south/southwest.

The facility also maintains a chemical sewer system that discharges to the WWTP. Treated effluent from the WWTP is also discharged to the New River. Storm water and chemical sewer drop inlets are marked with green and yellow paint, respectively, to identify their discharge sources (i.e., New River or WWTP). Furthermore, spill containment and stormwater inlet protection is

provided in the updated Spill Prevention, Control and Countermeasures Plan (SPCC) maintained at the plant that was prepared by AECOM in April 2020.

3.3.6 Groundwater

All exceedances of the USEPA Maximum Contaminant Levels (MCLs) from the last site-wide sampling event (2011/2012) are provided in the table below. Apart from PW-008 (AOC-1), MP-020 (SWMU-11), and MP-021 (SWMU-26), exceedances of the MCLs are located in AOC 5, AOC 6, SWMU 22, SWMU 23, and SWMU 25. Arsenic concentrations that exceed the MCL are more prevalent across the site, as discussed in Section 3.3.2. Arsenic is naturally occurring in soils at the site and likely accounts for much of the arsenic detected in groundwater.

Table 2. Current Groundwater Maximum Contaminant Level (MCL) Exceedances

Constituent	MCL[1] (mg/L)	Maximum Conc. Detected (mg/L)	Exceed MCL in Well ID (Well with Max Conc. in bold)
Arsenic	0.01	0.0381	MP-066, MP-035R, MP-100, MP-070, **MP-106**, PW008, MP-041R, MP-122, MP-021
Barium	2	7.05	MP-035R, MP-078, **MP-122**
Benzene	0.005	6.4	MP-082
Cadmium	0.005	0.0083	MP-119
Dichlorobiphenyl	0.0005	0.043	MP-035R, **MP-100**
Lead	0.015	0.0414 J	**MP-020, PW012**
Monochlorobiphenyl	0.0005	0.05	**MP-100**
Nitrite-as-Nitrogen	1	11.6	**MP-035R**
Tetrachloroethene	0.005	0.05	MP-079, **MP-124,** PW008, PW011
Trichlorobiphenyl	0.0005	0.00093 J	**MP-100**

Notes:
1 - EPA National Primary Drinking Water Regulations, 2021
MCL - Maximum Contaminant Level
mg/L – milligram per liter
Conc. – concentration
ID - identification

Where a specific analyte does not have an MCL, the groundwater analytical data were compared to the corresponding EPA Regional Screening Level (RSL) for tap water (target hazard quotient 1.0), with exceedances provided in the table below. RSLs are more conservative screening values, and consequently exceedances are more widespread across the Plant Area, particularly for metals. Limited organic exceedances of the RSLs were detected at AOC 5 as well as at AOC 9, SWMU 25, SWMU 27, SWMU 30, SWMU 35, and SWMU 36C.

Table 3. Plant Area Regional Screening Level (RSL) Exceedances

Constituent	Tap Water RSL (mg/L)	Maximum Conc. Detected (mg/L)	Exceed MCL in Well ID (Well with Max Conc. in bold)
Chromium VI	0.000035	0.037	MP-035R, MP-043R, MP-067, MP-069R, MP-078, MP-094, MP-120, **MP-122**
Cobalt	0.006	0.0116	MP-021, MP-042R, **MP-078**, MP-100, MP-106, MP-116, MP-122
Iron	14	55.6	MP-035R, MP-41R, **MP-042R**, MP-043R, MP-066, MP-067, MP-069R, MP-083, MP-100, MP-106, MP-122
Manganese	0.43*	3.95	MP-019, MP-020, MP-021, MP-028, MP-035R, MP-041R, MP-042R, MP-043R, MP-044, MP-065, MP-066, MP-067, MP-069R, MP-075, MP-078, MP-080, MP-081, MP-083, **MP-084**, MP-093, MP-100, MP-106, MP-116, MP-119, MP-120, MP-122
1,4-Dioxane	0.00046	0.013	MP-024, MP-075, MP-117 **MP-124**, PW008
2-Methylnaphthalene	0.036	0.23	MP-035R, **MP-100**
2-Naphthylamine	0.000039	0.0031	MP-079, **MP-115**
Naphthalene	0.00012	0.005	**MP-035R**

Notes:
1 - EPA Regional Screening Level (RSL) for tap water (target hazard quotient 1.0)
*Non-diet value
mg/L – milligram per liter
Conc. – concentration
ID - identification

There are five (5) production wells (PW) in use in the Plant Area that are installed in the deep bedrock aquifer. The five PWs are identified as PW007, PW008, PW009, PW011, and PW012. Groundwater from these production wells is used for industrial and non-drinking supply (i.e., production, toilets, sinks, and eye wash stations) in the Plant Area. While chlorinated volatile organic constituents (CVOCs) have been detected at low levels in the deep groundwater, historical investigations indicate that concentrations appear to have reached their peak and have been diminishing. PW007 and PW009 are subject to a permit (VA1071090) issued by the Virginia Department of Health (VDH) and are used by the facility for potable purposes, except as a source of drinking water. The facility supplies bottled water for use as drinking water. CVOCs have not been detected in production wells PW007 and PW009 since 2008. Continued monitoring of PW007 and PW009 is being performed in accordance with the potable well permit issued by VDH. Production wells PW008, PW011 and PW012 are used solely for production purposes.

3.3.7 Sub-Surface Vapor

Available groundwater data collected in the Plant Area and adjacent areas of the site were evaluated to determine if vapor intrusion (i.e., inhalation of VOCs migrating from groundwater into indoor air during current and/or hypothetical future commercial/industrial land use) could be a concern. This screening level evaluation, which is detailed in the 2025 Human Health Risk Assessment Report, was conducted by comparing detected groundwater concentrations of VOCs

at groundwater monitoring locations to the January 2025 DEQ RCRA CA Industrial Groundwater Vapor Intrusion Screening Levels (VISLs).

Of the 64 sample locations used in the evaluation, only seven had VOCs detected at concentrations that exceeded the industrial groundwater VISLs. Because one of the seven sample locations (P-1 in Sub-Area 4) was adjacent to a building with commercial worker occupancy, further risk evaluation was performed for this location. That evaluation determined that the modeled indoor air concentration would not pose a vapor intrusion risk above DEQ's acceptable cumulative risk thresholds.

Although there are no existing or anticipated buildings at the six other sample locations where screening level exceedances were observed, a supplemental vapor intrusion evaluation was conducted in August 2025 based on the conservative assumption that buildings could be constructed in these locations in the future. An August 2025 Soil Human Health Risk Assessment Addendum based on VURAM calculated risks was submitted to and reviewed by DEQ. The results of the Risk Assessment Addendum showed that the concentrations of VOCs in groundwater at these six locations will not pose a vapor intrusion risk above DEQ's acceptable risk thresholds for commercial/industrial workers in any future buildings.

4 Corrective Action Objectives

The following Corrective action objectives to mitigate human health and ecological risk for each impacted media are discussed below.

4.1 Soils

DEQ's Corrective Action Objective for soil at the site is to control exposure to hazardous constituents in Plant Area soils by requiring compliance with the ICs and ECs described in Section 5 below. The ICs will limit use of the site to non-residential uses and require compliance with a DEQ-approved Soil Management Plan and an Operation and Maintenance Plan for the pavement and gravel cover at Sub-Area 5. The ICs and ECs will also limit exposure to buried waste by requiring compliance with a VDEQ-approved Soil Management Plan and an Operation and Maintenance Plan for the soil covers at former white sludge pond A (SWMU 22) and white sludge disposal area B/C (SWMU 23). Subsequent owners will also be required to comply with these controls.

4.2 Groundwater

DEQ's Corrective Action Objective for groundwater at the site is to control exposure to hazardous constituents in the groundwater in the Plant Area by requiring compliance with the ICs described in Section 5 below. The ICs will allow continued use of production wells PW-7 and PW-9 for potable purposes, except as a source of drinking water, as long as they remain subject to a potable well permit issued by VDH, or a successor agency. The ICs will prohibit use of production wells PW-8, PW-11 and PW-12, and any other wells now or hereafter installed in the Plant Area, for potable purposes unless and until they are subject to a potable well permit issued by VDH, or a successor agency, or are otherwise approved for a specific use by DEQ and VDH. The ICs will also require a groundwater monitoring program to ensure protection of human health and the environment and to monitor progress in the reduction of COCs.

5 Summary of Proposed Remedy

Because contamination remains in the soil and groundwater at the facility, DEQ's proposed final remedy includes engineering controls and land use restrictions to minimize the potential for human exposure to soil and groundwater that contain contaminants above levels of concern. The land use restrictions will be implemented through ICs. ICs are non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use and inform subsequent purchasers of the environmental conditions at the facility and of DEQ's final remedy for the facility.

DEQ's proposed remedy for the facility consists of the following components:

1) Maintain engineering controls consisting of the following:
    a. The existing pavement and gravel cover in the former fire training area (SWMU 25) shall be maintained in accordance with a DEQ approved Operations and Maintenance Plan, as the same may be amended with DEQ's approval.
    b. The existing soil cover at former white sludge pond A (SWMU 22) and white sludge disposal area B/C (SWMU 23) shall be maintained in accordance with a DEQ approved Operations and Maintenance Plan, as the same may be amended with DEQ's approval.
    c. Notification signs shall be placed and maintained at the perimeter of the covered areas including the former fire training area (SWMU 25), former white sludge pond A (SWMU 22), and white sludge disposal area B/C (SWMU 23).
2) Until such time as DEQ agrees otherwise in writing, the then owner of the Plant Area shall monitor groundwater beneath the Plant Area in accordance with a DEQ approved Groundwater Monitoring Plan, as the same may be amended with DEQ's approval.
3) Maintain compliance with land use restrictions and institutional controls. Institutional controls will be imposed by a future UECA covenant and include the following:
    a. The Plant Area shall not be used for residential purposes or for children's (under the age of 16) daycare facilities, schools, or playground purposes unless it is demonstrated to DEQ that residential use will not pose a threat to human health or the environment and DEQ provides prior written approval for such use.
    b. Production wells PW-7 and PW-9 may be used for potable water purposes, except as a source of drinking water, as long as they remain subject to a potable well permit issued by the Virginia Department of Health (VDH), or a successor agency. Productions wells PW-8, PW-11 and PW-12 and any other wells now or hereafter installed in the Plant Area shall not be used for potable purposes unless and until they are subject to a potable well permit issued by VDH, or a successor agency, or are otherwise approved for a specific use by DEQ and VDH.
    c. The then owner of the Plant Area shall notify DEQ in writing in the event it elects to eliminate or significantly alter or reduce use of the pumping well system which maintains hydraulic control of groundwater located in the Plant Area.
    d. All soil disturbance activities in the Plant Area of the site, including excavation, drilling and construction activities, shall be conducted in accordance with a DEQ approved Soil Management Plan, as the same may be amended with DEQ's approval.

5.1 Implementation

DEQ is proposing that the facility record a UECA covenant that complies with 9VAC15-90-10, et. seq.

5.2 Reporting Requirements

Compliance with and effectiveness of the proposed remedies including the engineering and institutional controls at the Facility shall be evaluated and included in groundwater monitoring and corrective measures implementation reports. The Facility shall report to the Department whether the engineering and institutional controls are being observed.

6 Evaluation of Proposed Decision

6.1 Threshold Criteria

This section provides a description of the criteria DEQ used to evaluate the proposed remedy consistent with EPA guidance. DEQ evaluated three remedy threshold criteria as general goals.

6.1.1 Protect Human Health and the Environment

The proposed remedy protects human health and the environment from exposure to hazardous constituents in groundwater and in soil. DEQ's proposed decision meets this standard for current and future industrial land use by requiring compliance with an approved Soil Management Plan during earth moving activities, by requiring compliance with an Operations and Maintenance Plan for the existing pavement and gravel cap in the former fire training area (SWMU 25), by requiring compliance with an Operations and Maintenance Plan for the existing soil cover at former white sludge pond A (SWMU 22) and white sludge disposal area B/C (SWMU 23), by imposing restrictions on the use of groundwater, and by prohibiting residential use. These ICs and ECs will be imposed by the forthcoming UECA covenant. The facility is required to maintain the ICs and ECs in perpetuity to ensure protection of human health and the environment.

6.1.2 Achieve Media Cleanup Objectives

DEQ's proposed remedy will achieve the media cleanup objectives based on current and reasonably anticipated future land and groundwater use. The site is zoned for industrial use, and the reasonably anticipated future use of the site is industrial. The facility will impose the ICs and ECs described in Section 5 above as part of the remedy. No additional ICs, ECs, or corrective measures are necessary to protect human health and the environment.

6.1.3 Remediating the Source of Releases

In all proposed decisions, DEQ seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment. The facility has identified all potential and/or known sources of releases under DEQ oversight. Releases associated with Pond A are being addressed under Solid Waste Facility Permit No. 623. The other releases identified consist of widely dispersed residual contamination from historical operations.

6.2 Balancing/Evaluation Criteria

6.2.1 Long-Term Effectiveness

Long-term effectiveness of the proposed remedy is considered to be high. The forthcoming UECA covenant will impose ICs and ECs. The proposed remedy requires the facility to implement ICs and ECs identified in Section 5 above and to maintain them in perpetuity to ensure protection of

human health and the environment. Groundwater concentrations in the uppermost aquifer are expected to exceed applicable standards for some time, so the proposed remedy includes periodic monitoring in accordance with an approved Groundwater Monitoring Plan to track conditions.

6.2.2 Reduction of Toxicity, Mobility, or Volume of the Hazardous Constituents

Although the proposed remedy does not reduce the toxicity or mobility of hazardous constituents remaining at the site, the ICs and ECs will protect human health and the environment by limiting exposure to those constituents. Moreover, natural biodegradation and attenuation is expected to reduce the volume of the hazardous constituents in soil and groundwater over time. If impacted soil excavated during earth moving activities is required to be disposed off-site by the approved Soil Management Plan, that will result in the volume of impacted material at the site being reduced.

6.2.3 Short-Term Effectiveness

The proposed remedy does not require any excavation, construction or other implementation activities. Accordingly, there are no short-term adverse impacts to human health or the environment associated with its implementation.

6.2.4 Implementability

The proposed remedy is readily implementable since it involves imposing ICs by recording an environmental covenant and the monitoring of groundwater utilizing and maintaining an existing network of groundwater monitoring wells.

6.2.5 Cost

The proposed remedy is expected to be cost effective because the costs will consist of recording an environmental covenant, conducting periodic groundwater monitoring pursuant to the approved Groundwater Monitoring Plan, complying with the approved Soil Management Plan during earth moving activities, and maintaining the pavement and gravel in the former fire training area pursuant to the approved Operation and Maintenance Plan.

6.2.6 Community Acceptance

DEQ will evaluate community acceptance of the proposed remedy during the public comment period, which will last thirty (30) days. DEQ's final decision and its response to comments received during the public comment period will be addressed in a Final Decision and Response to Comments (FDRTC).

6.2.7 Federal Agency Acceptance

DEQ will evaluate EPA's acceptance of the proposed remedy during the public comment period. DEQ's final decision will be set forth in the FDRTC.

7 Environmental Indicators

Under the Government Performance and Results Act (GPRA), USEPA has set national goals to address RCRA corrective action facilities. Under GPRA, USEPA and DEQ evaluate two key environmental clean-up indicators for each facility: (1) Current Human Exposures Under Control and (2) Migration of Contaminated Groundwater Under Control. The facility met both the Human Health and Groundwater indicators on September 24, 2020.

8 Financial Assurance

Because the final remedy for the facility is limited to ECs, ICs and groundwater monitoring, financial assurance for corrective action is not warranted or required for the facility.

9 Public Participation

Before DEQ makes a final decision on its proposed remedy for the facility, the public may participate in the remedy selection process by reviewing this Statement of Basis and the documents contained in the Administrative Record for the facility. The Administrative Record contains all information considered by DEQ in reaching this proposed decision. The Administrative Record, including the Statement of Basis, is available for review during normal business hours at:

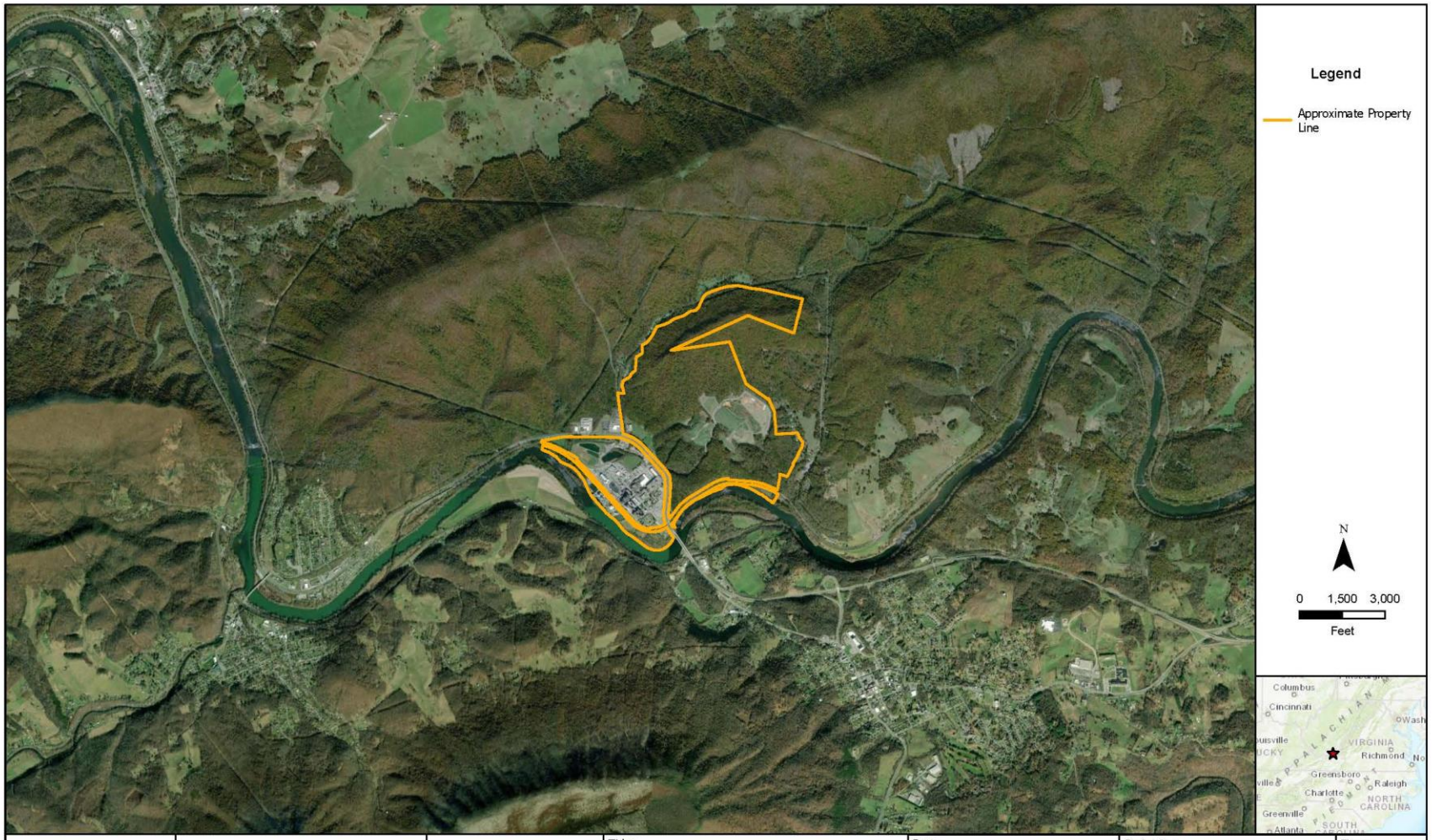
Virginia Department of Environmental Quality
1111 East Main Street, Suite 1400
Richmond, Virginia 23219
Contact: Ryan Kelly
Phone: 804-659-1337
Email: ryan.kelly@deq.virginia.gov

Interested parties are encouraged to review the Administrative Record and comment on DEQ's proposed remedy. The public comment period will last thirty (30) calendar days from the date that the notice is published in a local newspaper. You may submit comments by mail, fax, or email to the DEQ Corrective Action Project Manager listed above. DEQ will hold a public meeting to discuss the proposed remedy upon request. Any such request should also be made to the DEQ Corrective Action Project Manager listed above.

DEQ will respond to all relevant comments received during the comment period. If DEQ determines that new information warrants a modification to the proposed remedy, DEQ will modify the proposed remedy or select other alternatives based on such new information in a document entitled Final Record of Decision and Response to Comments (FDRTC). All persons who comment on this Statement of Basis will receive notice of the FDRTC.

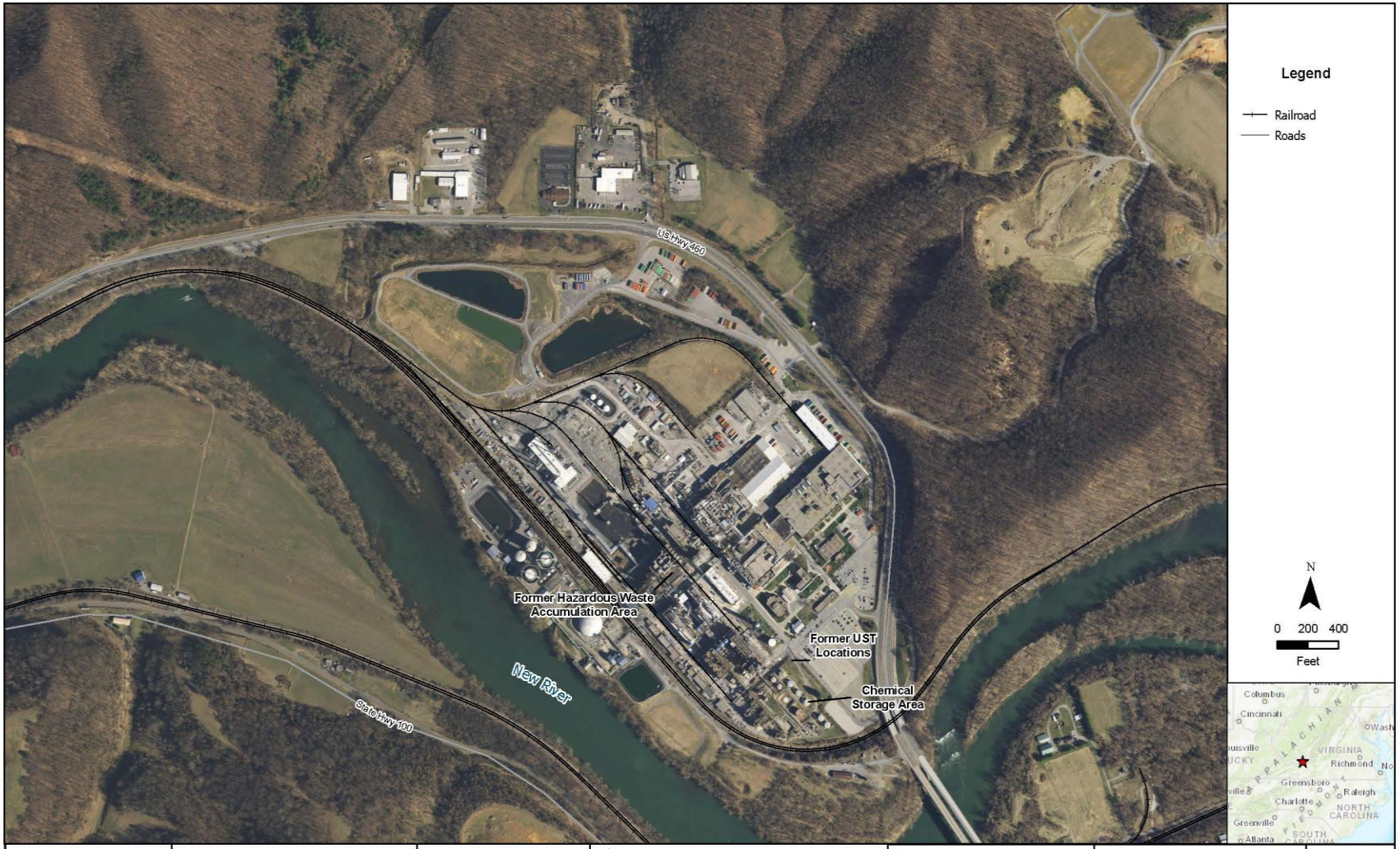
ATTACHMENT A

FIGURES



wsp	**WSP USA** **Environment & Infrastructure Inc.** 2801 Yorkmont Road, Suite 100 Charlotte, NC 28208 (704) 357-8600		Title: Site Location Map Celanese Narrows Plant Narrows, Virginia	Date: 7/12/2023 Project No: 6228-22-0061	Projection: VA South State Plane (NAD83, feet) File: F:\AMEC_Projects\2022\Celanese\Celco GIS\CelcoGIS_1.aprx	Figure: 1

Drawn by: KNS - Checked by: JMR - Date: 7/12/2023



wsp	**WSP USA** **Environment & Infrastructure Inc.** 2801 Yorkmont Road, Suite 100 Charlotte, NC 28208 (704) 357-8600	Note: This map is for reference only.	Title: Site Features Map Celanese Narrows Plant Narrows, Virginia	Date: 7/27/2023 Project No: 6228-22-0228	Projection: VA South State Plane (NAD83, feet) File: F:\AMEC_Projects\2022\Celanese\Celco GIS\CelcoGIS_1.aprx	Figure: 2

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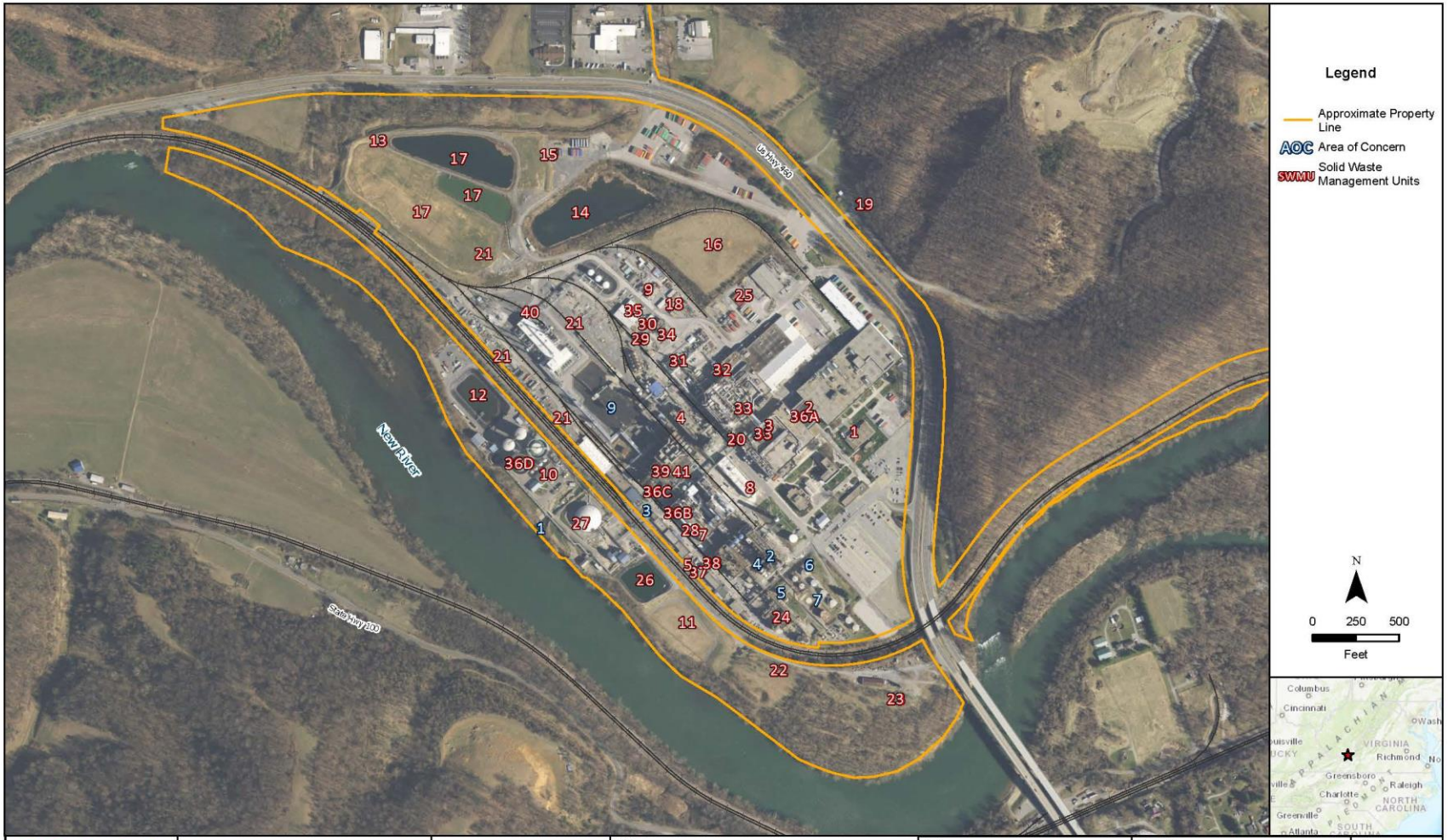

WSP	WSP USA Environment & Infrastructure Inc. 2801 Yorkmont Road, Suite 100 Charlotte, NC 28208 (704) 357-8600		Title: AOC and SWMU Locations Map Celanese Narrows Plant Narrows, Virginia	Date: 7/12/2023 Project No: 6228-22-0228	Projection: VA South State Plane (NAD83, feet) File: F:\AMEC_Projects\2022\Celanese\Celco GIS\Celanese Updated_051923.aprx	Figure: 3

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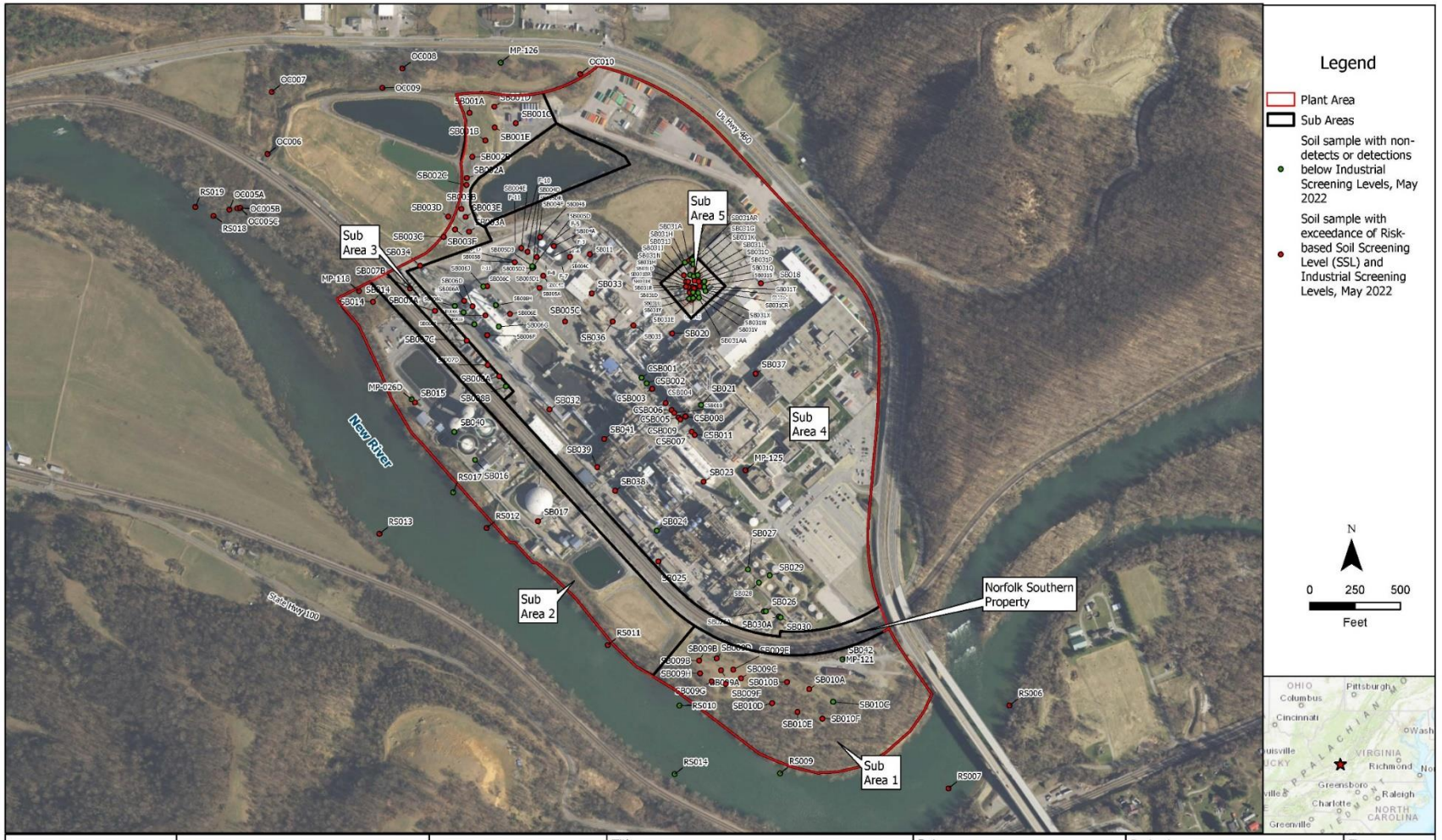

wsp	**WSP USA Environment & Infrastructure Inc.** 2801 Yorkmont Road, Suite 100 Charlotte, NC 28208 (704) 357-8600	Note: This map is for reference only.	Title: Soil Boring Exceedances and Soil Risk Analysis Celanese Plant Narrows, Virginia	Date: 5/31/2023 Project No: 6228-22-0147	Projection: VA South State Plane (NAD83, feet) File: Y:\AMEC_Projects\2022\Celanese\Celco GIS\Celanese Updated_051923.aprx	Figure: 4

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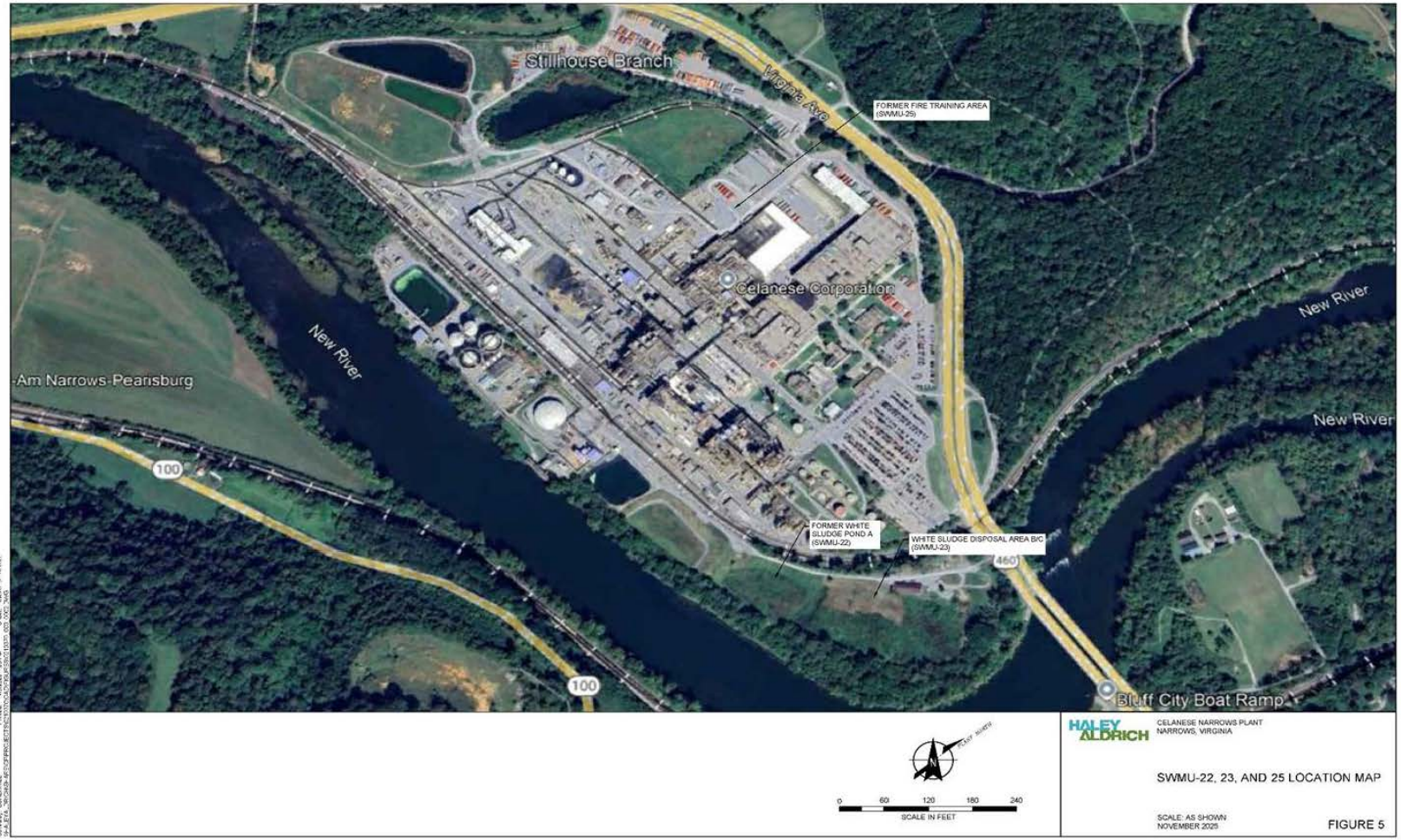
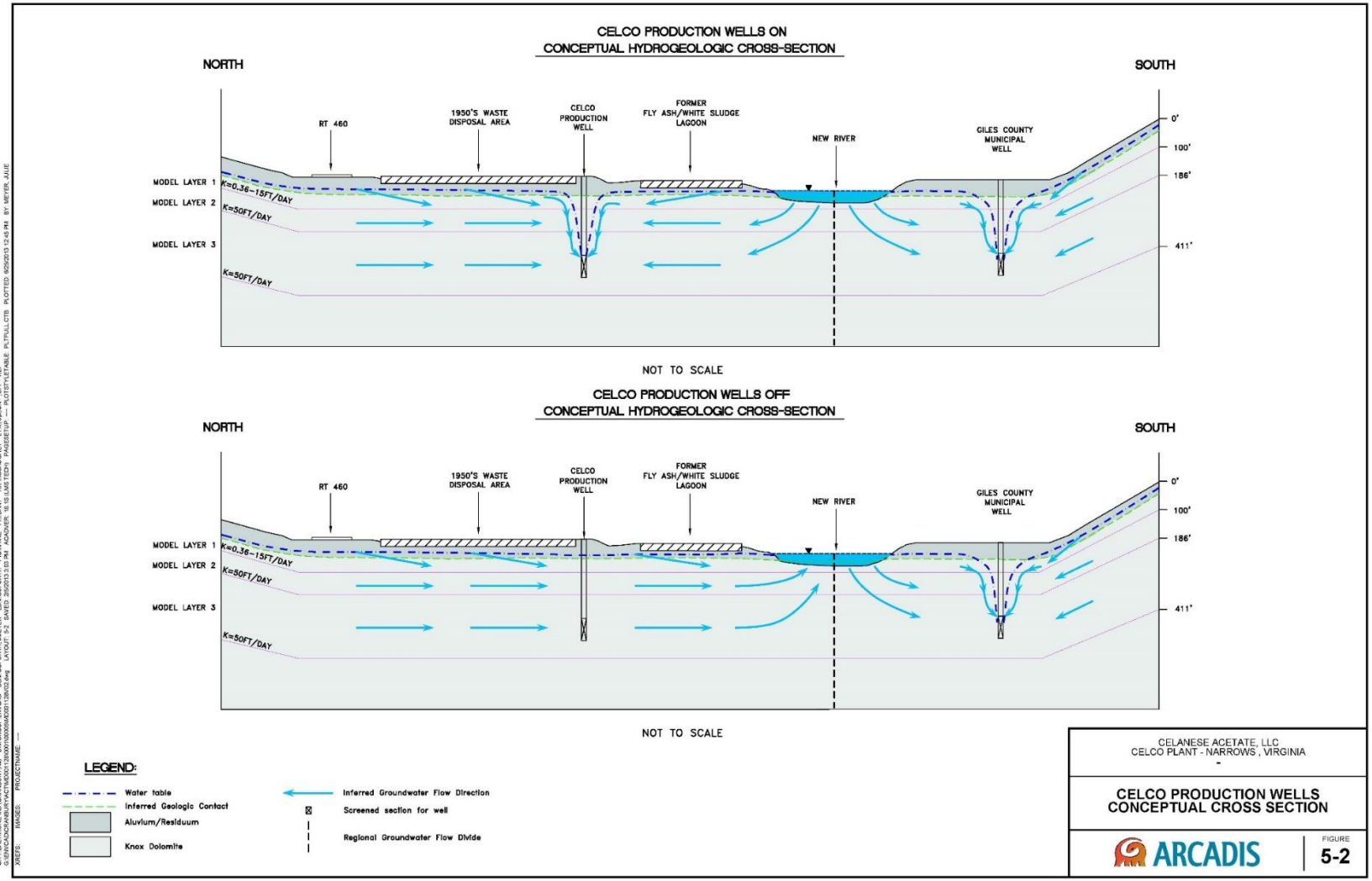

Stillhouse Branch
Virginia Ave
FORMER FIRE TRAINING AREA (SWMU-25)
Celanese Corporation
New River
New River
New River
Am Narrows-Pearisburg
100
100
460
FORMER WHITE SLUDGE POND A (SWMU-22)
WHITE SLUDGE DISPOSAL AREA B/C (SWMU-23)
Bluff City Boat Ramp
0 60 120 180 240
SCALE IN FEET
HALEY ALDRICH
CELANESE NARROWS PLANT
NARROWS, VIRGINIA
SWMU-22, 23, AND 25 LOCATION MAP
SCALE: AS SHOWN
NOVEMBER 2025
FIGURE 5

ATTACHMENT A
CONCEPTUAL HYDROGEOLOGIC CROSS-SECTION

ATTACHMENT B
CONCEPTUAL HYDROGEOLOGIC CROSS-SECTION


CELCO PRODUCTION WELLS ON
CONCEPTUAL HYDROGEOLOGIC CROSS-SECTION
NORTH
SOUTH
RT 460
1950'S WASTE DISPOSAL AREA
CELCO PRODUCTION WELL
FORMER FLY ASH/WHITE SLUDGE LAGOON
NEW RIVER
GILES COUNTY MUNICIPAL WELL
0'
100'
186'
411'
MODEL LAYER 1
MODEL LAYER 2
MODEL LAYER 3
K=0.36-15FT/DAY
K=50FT/DAY
K=50FT/DAY
NOT TO SCALE
CELCO PRODUCTION WELLS OFF
CONCEPTUAL HYDROGEOLOGIC CROSS-SECTION
NORTH
SOUTH
RT 460
1950'S WASTE DISPOSAL AREA
CELCO PRODUCTION WELL
FORMER FLY ASH/WHITE SLUDGE LAGOON
NEW RIVER
GILES COUNTY MUNICIPAL WELL
0'
100'
186'
411'
MODEL LAYER 1
MODEL LAYER 2
MODEL LAYER 3
K=0.36-15FT/DAY
K=50FT/DAY
K=50FT/DAY
NOT TO SCALE
LEGEND:
Water table
Inferred Geologic Contact
Alluvium/Residuum
Knox Dolomite
Inferred Groundwater Flow Direction
Screened section for well
Regional Groundwater Flow Divide
CELANESE ACETATE, LLC
CELCO PLANT - NARROWS, VIRGINIA
CELCO PRODUCTION WELLS
CONCEPTUAL CROSS SECTION
ARCADIS
FIGURE
5-2

ATTACHMENT C
ADMINISTRATIVE RECORD

Index of Documents for Statement of Basis – December, 2025

This index includes documents that the Virginia Department of Environmental Quality (DEQ) relied upon to develop and propose the final remedy selection determination described in the Statement of Basis. These documents were prepared for the Celanese Acetate LLC facility and are listed chronologically beginning with the earliest date.

1. Description of Current Conditions, RCRA Corrective Action program, prepared by Aracadis, October 2006.
2. RFI Workplan, prepared by Aracadis, August 2011.
3. RCRA Phase I/IB Investigation Data, prepared by Aracadis, July 2013.
4. Groundwater Flow Model. prepared by Arcadis, February 2013.
5. Waste Disposal Areas 4, 5, and 6 2013/2014 Groundwater Monitoring Update, prepared by Aracadis, June 2014.
6. Waste Disposal Area 4, 5, and 6 Fall 2014 Groundwater Monitoring Update, prepared by Aracadis, March 2015.
7. May 2016, Waste Disposal Area 4, 5, and 6 Annual Report, prepared by AECOM, May 2016.
8. Waste Disposal Areas 4, 5, and 6 Fall 2016 Groundwater Monitoring Update, prepared by AECOM, April 2017.
9. Groundwater Sampling Report, Pond A Area, prepared by AECOM, January 2017.
10. Discussion of Dibenzofurans and Dibenzodioxins in Soil and Disposal Area Samples, prepared by AECOM, November 2018.
11. SWMU & AOC No Further Action Recommendation – Concurrence and Comments, DEQ, January 28, 2019.
12. SWMU and AOC Discussion and Status Update, prepared by AECOM, March 26, 2019.
13. Documentation of Environmental Indicator Determination – Current Human Exposures Under Control, VDEQ, dated September 24, 2020.
14. Documentation of Environmental Indicator Determination – Migration of Contaminated Groundwater Under Control, CDEQ, dated September 24, 2020
15. Soil Human Health Risk Assessment, prepared by Haley & Aldrich, Inc., May 2025.
16. Soil Human Health Risk Assessment Addendum, prepared by Haley & Aldrich, Inc., August 2025.