COMMONWEALTH of VIRGINIA

Department of Health

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January 21, 2026

MEMORANDUM

TO: The Honorable L. Louise Lucas
Chair, Senate Finance and Appropriations Committee

The Honorable Luke E. Torian
Chair, House Appropriations Committee

The Honorable Betsy B. Carr
Vice Chair, House Appropriations Committee

FROM: B. Cameron Webb, JD, MD
State Health Commissioner, Virginia Department of Health

SUBJECT: Drinking Water Compliance Report

This report is submitted pursuant to Chapter 725 of the 2025 Virginia Acts of the Assembly – Item 280 (H), which states:

> *H. Out of this appropriation, $1,803,598 the second year from the general fund shall be provided to ensure compliance with the Safe Drinking Water Act, National Primary Drinking Water Regulations, Virginia Public Water Supplies Law, Virginia Waterworks Regulations, and to support Office of Drinking Water programs. The Office of Drinking Water shall provide a report to the Chairs of the House Appropriations and Senate Finance and Appropriations Committees by October 1, 2025, describing actions taken to maintain compliance with federal and state regulations.*

Should you have any questions or need additional information, please feel free to contact me at (804) 864-7002.

CW/KB

Enclosure

Pc: The Honorable Marvin B. Figueroa, Secretary of Health and Human Resources

VDH VIRGINIA DEPARTMENT OF HEALTH

DRINKING WATER COMPLIANCE REPORT

REPORT TO THE GENERAL ASSEMBLY

2025

PREFACE

The Virginia Department of Health (VDH) Office of Drinking Water (ODW) was tasked with providing a report describing actions taken to ensure compliance with federal and state regulations. This report is designed to identify areas of need to ensure regulatory compliance and how the allocation of $1,803,598 will be used to address those needs. The report will be submitted to the Chairs of the House Appropriations and Senate Finance and Appropriations Committees with a due date of October 1, 2025.

STUDY CONTRIBUTORS

Virginia Department of Health

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EXECUTIVE SUMMARY

The Virginia Department of Health (VDH) Office of Drinking Water (ODW) provides this report to describe actions taken to ensure compliance with federal and state drinking water regulations. This report identifies the use plan for $1,803,598 of additional funding to ensure compliance with drinking water requirements. ODW regulates more than 2,800 public water systems ("waterworks") in Virginia. Virginia's drinking water program ensures that waterworks are in compliance with the Safe Drinking Water Act (SDWA) and Virginia Code § 32.1-167 et. seq., delivering safe drinking water to customers, and attempts to avert public health crises related to public drinking water.

The recommendations and actions outlined in this report were informed by:

- The U.S. Environmental Protection Agency's (EPA) proposed budget (2025) and the current status of federal budget development as of this report's writing;
- Conversation and meetings from 2023 through 2025 of the Waterworks Advisory Committee (12VAC5-590-45);
- The Virginia Department of Health 2025 Employee Engagement Survey;
- ODW's three-year strategic plan (2025);
- An independent 2023 Workload Analysis of Virginia's Drinking Water Program;
- RD805 (2022) - Review of the Budget and Structure of the Office of Drinking Water;
- Office of State Inspector General Performance Audit of the Office of Drinking Water, June 24, 2021;
- A Study on Virginia's Drinking Water Infrastructure & Oversight of the Drinking Water Program, House Document 13, HJR92, 2020;
- ODW's budget workbooks for FY25 and FY26; Key performance indicators; and
- ODW's programmatic metrics.

The findings, observations, and recommendations from these background documents guided the plan for how to use the additional funding to ensure compliance with federal and state requirements that protect public health and drinking water supplies.

Use of Funding Plan

To respond to programmatic needs, ODW will use the $1,803,598 to reorganize the management structure at six field offices such that professional engineering staff can focus efforts on engineering and allow other technical staff to focus on regulatory compliance, sampling reviews, inspections, emergency preparedness, and other technical assistance to waterworks. The change in managerial structure will allow certain functions to centralize (i.e., compliance and sampling verification). This change will also improve efficiencies in procurement, emergency response, regulatory compliance, inspection frequency, and timely permitting. The additional funding will address inflation and increased costs for software systems to improve customer service and key performance indicators of program effectiveness. As part of the organizational structure change, funding will support the addition of sixteen (16) new positions as outlined in this report.

Why focus funding on increased staffing to the extent possible?

Report 805 (2022), "Review of the Budget...of the Office of Drinking Water" to the Virginia General Assembly, authored by the Department of Planning and Budget and the Virginia Department of Health, stated on Page 1 of the Executive Summary that "additional funding is needed to sustain loans, monitoring, and oversight for the Commonwealth's aging drinking water infrastructure." The Executive Summary also stated, in part, "a shortage of staff has been identified by an EPA strategic consulting firm." The strategic consulting firm referenced in Report 805 (2022) is the Cadmus Group, a national consulting firm contracted by EPA to conduct an independent study of resource needs in Virginia. In its final report (March 2023), Cadmus wrote the following:

Virginia's drinking water program is understaffed and underfunded. The workload model estimates that in 2023 Virginia's drinking water program needs ***$9,412,098*** *more in funding and an additional* ***42 [full time employees or FTEs]....Virginia's drinking water program needs approximately 29 percent more full-time employees (FTEs) and a 56 percent increase in funding than currently available*** *to effectively implement the program and ensure safe drinking water for the public....*

Adding the 42 FTEs and the additional funding to the Commonwealth of Virginia's existing support level, Cadmus wrote that the Office of Drinking Water has total need of funding in 2023 as follows:

Virginia's drinking water program ***needs 185 FTEs and approximately $26.3 million*** *in additional funding to carry out current program responsibilities, implement drinking water regulations, and uphold public health protection in 2023. The greatest need is in 2031 when it is estimated that Virginia will* ***need 186 FTEs and $26.4 million*** *to implement the baseline drinking water program required by the [Safe Drinking Water Act].*

In May 2025, VDH's senior leadership team shared results from an employee engagement survey conducted by Gallagher, a national consulting firm. Gallagher observed two opportunities for ODW to improve staff engagement: (1) addressing inadequate staff to do the job well; and (2) responding to inadequate resources and tools to do the job well.

Personnel Allocations

To address excessive workload volume as outlined in the 2023 workload analysis report, ODW will use the additional funding to hire four central office staff and 12 additional field office staff. The central office staff additions will improve administrative support for federal grants and procurement, centralize certain compliance and enforcement activities, improve emergency preparedness and response, and centralize activities with the sampling verification program. The 12 field office staff additions are intended to reorganize management structure and allow for increased waterworks presence and oversight from technical staff. The estimated total cost for new full-time employees ranges from $1,585,000 to $1,805,000 per year. New positions are outlined in the table below. Revised organizational charts are also included at the end of the report.

New Position	Total Cost Range by Role	Impact of Hire
Central Office Positions – Allocations outlined in Appendix C		
Buyer Senior	$101k – $112k	Increases procurement efficiency and financial oversight. Improves accountability, transparency, and program sustainability.
Emergency Planner	$101k - $112k	Strengthens emergency preparedness and response for water-related public health threats through coordination, risk assessment, and community engagement.
Sample Verification Program (SVP) Manager	$107k – $116k	Improves program oversight and efficiency by assigning dedicated management to SVP staff, freeing field office compliance roles and enhancing data-driven operations.
Compliance, Enforcement, and Policy Analyst	$86k – 104k	Analyzes the efficiency and efficacy of compliance and enforcement procedures and policy directives to identify areas for improvement, including development of relevant metrics. Centralizes certain compliance and enforcement functions to gain efficiencies to improve ODW's compliance monitoring and enforcement efforts.
Field Office Positions – Allocations outlined in Appendix C		
(4) Environmental Health Specialist (EHS) Supervisors	$429k - $465k	Strengthens program consistency and staff development by centralizing non-engineering oversight and improving support for groundwater and consecutive systems. This EHS model has been piloted in the Richmond and Lexington Field Offices by rerolling existing technical staff positions in those field offices.
(6) Environmental Health Specialists	$517k – $622k	Strengthens regulatory compliance and public health protection by providing field-based technical oversight, inspections, and enforcement support for water systems.
(2) District Engineers	$244k – $274k	Enhances water system oversight, operational support, and workforce resilience by reducing individual workloads and expanding field capacity.
Total Personnel Costs		**$1,585,000 - $1,805,000**

INTRODUCTION

REPORT MANDATE

As directed in Chapter 725 of the 2025 Acts of Assembly, Item 280 (H), this report describes actions taken to ensure compliance with federal and state regulations for drinking water; identifies areas of need to ensure regulatory compliance; and, describes how the allocation of $1,803,598 will address human resource feeds. The Chairs of the House Appropriations and Senate Finance and Appropriations Committees must receive the report by October 1, 2025.

REPORT ACTIVITIES

This report gathered information from multiple sources and considered ODW's key performance metrics, which includes the percent of inspections on time, the percent of water samples received on time, the percent of waterworks with a health violation, the average time to process permit applications for construction, and the percent of waterworks with an up-to-date permit.

An independent workload analysis prepared by Cadmus at the request of U.S. EPA Region 3, which estimated the minimum staffing and funding required for Virginia's program to meet federal requirements outlined in the Safe Drinking Water Act (SDWA).

An Employee Engagement Survey for ODW identified a need for additional staffing and resources to do the job well.

A 2022 report to the General Assembly on ODW's budget shortfall offered several ideas to address limited resources. The Waterworks Advisory Committee held multiple discussions on ODW's financial needs to provide required services and technical assistance to waterworks.

U.S. EPA's published budget draft for FY26 indicated a significant reduction in federal support; however, Congress has not acted on the draft budget outline.

ODW's internal Strategic Planning team, which consisted of leaders within ODW, performed a Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis framework and other employee feedback to inform areas of need on the use plan outlined herein.

CURRENT STAFFING LEVELS

ODW plays a vital role in protecting public health by overseeing more than 2,860 waterworks across the Commonwealth. These responsibilities are managed through a structure that includes one central office and six regional field offices. Staff in these offices are tasked with a wide range of regulatory and operational duties, including conducting sanitary surveys (inspections), reviewing sampling plans, providing technical assistance to waterworks, and ensuring compliance with both state and federal drinking water regulations. ODW staff also perform site evaluation for well drillings, respond to citizen inquiries concerning water quality, and perform sampling initiatives in support of regulation implementation. ODW is also the primary resource for communication in emergency situations, which have been more frequent as waterworks infrastructure ages, technology requires more attention, and business models become more complex.

ODW has authorized funding for 121 full-time equivalent (FTE) positions. ODW currently has an average yearly 15% vacancy rate and 10% turnover, which highlights the difficulty in recruiting highly technical staff and professional engineers. According to statistics from the bureau of labor statistics, while the turnover rate at ODW is in line with national averages, the vacancy rate of 15% is high compared to other engineering fields which stay around 4.5[1]. At the time of the 2023 Cadmus analysis, the vacancy rate was partly due to hiring delays that stemmed from a prior budget shortfall.

In fiscal year (FY) 2023, ODW received additional funding in the Budget Bill to hire seven new FTEs for a new sampling verification program as recommended by the Office of the State Inspector General. ODW also hired three additional FTEs focused on lead sampling in schools and childcare centers from additional funding in the Budget Bill. These new roles reflect an expansion of program responsibilities.

One of the largest areas of organizational need as identified in the gap analysis is an increased presence of staff at waterworks to provide surveillance and technical assistance services. ODW FTEs dedicated to these activities are outlined in Table 1, which shows ODW has a total of 53 technical staff tasked with complex inspections and technical assistance visits to 2,818 waterworks. ODW is currently collaborating with state agency partners to identify unregulated waterworks that should be permitted. This initiative will be adding eligible waterworks and negatively affecting the waterworks per technical staff.

Field Office	Technical Staff[2]	# of Waterworks	Waterworks per Technical Staff
AFO	7	340	49
LFO	9	487	54
CFO	8	523	64

[1] Table 1. Job openings levels and rates by industry and region, seasonally adjusted - 2025 M06 Results

[2] Technical Staff include District Engineers, Assistant District Engineers, Environmental Specialist Supervisors, Environmental Specialist Seniors – Public Water Systems, and Environmental Health Technical Specialists

RFO	11	545	50
SEVFO	10	501	50
DFO	8	422	52
Total	**53**	**2818**	**53**

Table 1: ODW Field Office Staff per Waterworks

PROGRAM CHALLENGES AND GAP ANALYSIS

ODW has undertaken several initiatives to understand challenges and resource gaps that directly affect the ability of staff to effectively carry out responsibilities. The following is a summary of the different initiatives and the needs that have been identified.

2023 Virginia Workload Analysis Report

The 2023 Virginia Workload Analysis Report identifies several significant challenges and resource gaps that directly affect the ODW staff and their ability to effectively carry out their responsibilities. At the heart of these challenges is a pronounced shortfall in staffing and funding, which has placed considerable strain on the program's capacity to meet both existing regulatory obligations and newly emerging public health initiatives. The report estimates that in 2023 alone, ODW required approximately 29 percent more staff than were available, equating to a deficit of 42 full-time equivalent positions. This shortfall is even more acute when considering that only 101 of the 112 funded positions were staffed at the time of the analysis, which further diminished the operational capacity of the office.

This staffing gap is not only a numerical deficiency but also a structural limitation that has real consequences for the day-to-day functioning of ODW. With increasing regulatory demands—such as the implementation of the Lead and Copper Rule Revisions (LCRR)[3], expanded monitoring for Per- and Polyfluoroalkyl Substances (PFAS)[4], and other state-mandated programs—staff are being stretched beyond their intended capacity. ODW has had to divert attention and personnel from core drinking water responsibilities in order to launch and manage new initiatives. While these new programs are critical for long-term public health, they have exacerbated the workload burden without being matched by permanent increases in staff or resources.

The report highlights that ODW has faced difficulties in filling vacancies, leading to lasting impacts on staff morale and continuity. ODW has struggled to keep pace with the specialized expertise needed in areas such as engineering, data management, and regulatory compliance. Many of these roles require advanced qualifications and offer limited flexibility or compensation when compared to private sector or federal counterparts, making recruitment

[3] Since this analysis was performed, EPA has released the Lead Copper Rule Improvements (LCRI) rule which seeks to improve upon the requirements in the LCRR but also includes many initiatives that are considered time consuming as well.

[4] Since the analysis, EPA has issued a federal PFAS rule which regulated PFAS compounds with a compliance date of 2029.

especially difficult. Hiring professional engineers remains a challenge for the program given the competitive environment for engineering expertise.

ODW has pursued internal efficiency measures, such as data modernization and improved electronic reporting systems, to mitigate work volume burdens to the extent possible. While these streamlining efforts are commendable and have led to modest reductions in workload related to data entry and compliance tracking, they do not compensate for the foundational shortage of personnel. The overall picture presented by the workload analysis is one of a dedicated and capable workforce operating under persistent and intensifying strain. Without significant and sustained investments in staffing and resources, ODW's ability to uphold safe drinking water standards and respond to emerging threats will continue to be compromised.

STRATEGIC PLANNING SWOT ANALYSIS

The ODW strategic planning team Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis identified that the organization faces chronic understaffing that leaves vital engineering, compliance, and administrative roles vacant just as new federal and state mandates multiply, forcing existing staff to stretch far beyond their capacity.

The SWOT analysis highlighted siloed work units, uneven leadership support, and the absence of a unified training or quality-assurance framework, which have fostered a reactive culture, compromising both accountability and strategic planning. Antiquated IT systems and paper-based workflows, while being updated, continue to hamper timely data analysis, enforcement follow-through, and proactive emergency preparedness. The funding plan will help ODW address the concerns observed from the SWOT analysis.

RECOMMENDATIONS

INCREASE FTE PER WATERWORKS RATIO

Based on the 2023 Virginia Workload Analysis Report and national resource assessments conducted by the Association of State Drinking Water Administrators (ASDWA) and EPA, the ideal number of full-time equivalents (FTEs) per waterworks—or public water system—can be inferred through both state-specific and national modeling.

In Virginia, the 2023 Cadmus report concluded that 185 FTEs are needed to effectively manage over 2,800 public water systems. This staffing level is considered the minimum necessary to carry out essential regulatory, enforcement, technical assistance, data management, and emerging contaminant response functions, including those required by the Lead and Copper Rule Revisions and PFAS mitigation. At this time, ODW staff visit each waterworks on a 3-year basis, which is the minimum permissible standard. Increased staffing will improve the frequency of interactions and technical assistance provided to the regulated community and allow onsite presence of waterworks at a greater frequency than the minimum standard. The minimum standard has proven insufficient for waterworks that have technical, managerial, and financial limitations which have resulted in high profile water system failures.

National-level data from ASDWA's 2013 and 2018 analyses support a similar, though slightly broader range. The 2013 national study estimated that 5,400 FTEs were required to maintain a minimum base program across 150,000 water systems nationwide, or roughly 28 systems per FTE. This estimate represents the baseline needed to meet the core requirements of the Safe Drinking Water Act without addressing additional burdens from modern challenges. When more comprehensive program demands are considered including non-regulatory drivers such as PFAS, Legionella, and the need for infrastructure resilience the required staffing rises to 6,500 FTEs, equating to around 23 systems per FTE.

A 2019 report by ASDWA[5] updated information on the 2013 and 2018 workload analysis criteria. ASDWA found that state and territorial drinking water programs had 4,121 FTEs but required 7,518—an 82 percent increase—to meet Safe Drinking Water Act obligations. Available funding was $574 million versus $949 million needed, a 65 percent gap, with the shortfall projected to grow by 2029. Key barriers included limits on FTE allocations, unstable funding, and competing state budget priorities. The analysis also noted that emerging issues such as PFAS and lead in schools were not fully captured in workload estimates, meaning actual needs are likely higher

The addition of technical staff in the field offices will also help with recent initiatives to ensure ODW identifies existing facilities that qualify as waterworks but have not been previously permitted as such. ODW has engaged with state agency partners such as the VDH Office of Environmental Health Services and the Virginia Department of Agriculture and Consumer Services to provide ODW with potential waterworks candidate lists from existing facilities requesting permits as food establishments such as convenience stores and restaurants. These initiatives have resulted in identification of waterworks that have not previously been permitted

[5] 2019-Analysis-of-State-Drinking-Water-Programs-Resources-and-Needs.pdf

but where regulation is appropriate in the interest of public health but also increases the number of waterworks being regulated.

While the proposed addition of technical staff in the field offices does not bring the FTE per waterworks ratio to recommended levels at the national level, it improves the ratio and provides much needed support. The additional field office positions would result in an average of one FTE per 43 waterworks instead of the current level of one FTE per 53 waterworks. Proposed personnel allocations across field offices are summarized in Table 2.

Field Office	Current Technical Staff	Proposed Technical Staff[6]	# of Waterworks	Current Waterworks per Technical Staff	Proposed Waterworks per Technical Staff
AFO	7	9	340	49	38
LFO	9	11	487	54	44
CFO	8	10	523	64	52
RFO	11	13	545	50	42
SEVFO	10	12	501	50	42
DFO	8	10	422	52	42

Table 2: Proposed ODW Field Office Staff per Waterworks

REORGANIZE TO OPTIMIZE MANAGEMENT STRUCTURE

ODW will utilize additional funds to reorganize the management structure to broaden team oversight and streamline management decisions and implementation of office directives. ODW has already began implementation of this structure in some areas but had to reclassify existing positions to execute the structure in some field offices. The additional funding will allow for full-scale implementation without the need for a position to reclassify.

Additional personnel support will be allocated to field office and central office divisions to provide increased presence and expertise to the regulated community. Other resources will be directed to software systems to increase productivity of ODW personnel and ensure consistency of the work product across the office. The following sections detail potential direction of resources along with how the funds will support the office's core mission.

The following table represents a strategic prioritization to address the most urgent needs, given ODW's federal and state regulatory obligations. In light of the varied state of implementation of a more centralized management structure in field offices, the positions vary between field offices and are intended to address each field office's specific needs.

PROPOSED STAFF ADDITIONS AND JUSTIFICATIONS

Position	Median Salary Cost	Total Median Fringe Cost	Total Median Personal SVC Cost by Employee
Central Office Positions			
Buyer Senior	$73,775	$34,631	$108,405
• Ensures compliance with state and departmental procurement laws, regulations, and procedures. • Awards and maintains contracts, performs technical specification research, and manages vendor relationships. • Handles procurements under $100,000 and utilizes competitive procurement practices. • Provides essential support and guidance to office personnel and management on procurement processes and specification development. • Oversees procurement activities, ensuring all transactions meet compliance requirements and maintaining thorough documentation. • Generates reports, maintains procurement databases, and provides general procurement guidance.			
Emergency Planner	$68,946	$33,472	$102,418
• Coordinates with local, state, and federal agencies to ensure rapid response to water-related public health emergencies. • Conducts vulnerability assessments for public water systems to identify risks and enhance preparedness. • Organizes training exercises for emergency scenarios, including natural disasters and hazardous spills affecting water supplies. • Ensures compliance with the Emergency Planning and Community Right-to-Know Act (EPCRA) and related regulations. • Strengthens community resilience by supporting public awareness campaigns on water safety during emergencies.			
Sample Verification Program (SVP) Manager	$80,102	$36,149	$116,251
• This program has been guided by a program manager who also has responsibilities as a data analyst for the Technical Services division. The program specialists are each managed by the compliance specialist position in the field offices. This proposal is to create a program manager to oversee personnel and operations of the program. • Provides direct oversight of the six SVP specialist positions to ensure staff accountability and enhance program effectiveness. • Broadens team oversight to a single manager to increase efficiency and allows compliance specialist positions more time to focus on their core mission. • Allows current SVP program manager to be dedicated to data management to help support efforts to automate, streamline, or centralize business processes.			
Compliance, Enforcement, and Policy Analyst	$67,562	$33,140	$100,702

• Reviews compliance data of waterworks to identify areas to improve ODW's efficiency and efficacy in carrying out compliance and enforcement functions. • Analyzes ODW policies in light of compliance data findings to identify areas to improve ODW policies and procedures, including directives to ODW staff. • Identifies new metrics for development to improve oversight of compliance and enforcement process. • Assists with centralization of any compliance tasks from field offices to central office that would result in efficiencies and improve public health outcomes.	

Field Office Positions			
Culpeper Field Office (CFO) EHS Supervisor	$80,102	$36,149	$116,251
• Supervises five waterworks surveillance and environmental service positions and centralizes non-engineering functions under one manager. • Improves consistency in compliance, surveillance, and documentation. • Enhances technical assistance for groundwater systems and consecutive systems. • Provides dedicated leadership and clearer career progression for EHS staff. • Improves internal controls and procedures to ensure performance metrics and office objectives are attained. • Optimizes field office management structure which is ideal for office with experienced employees and efficient processes and reduces bureaucracy.			
CFO EHTS Non-Community	$67,562	$33,140	$100,702
• Provides technical expertise in evaluating public water systems for compliance with state and federal drinking water standards. • Increases ODW presence at waterworks by conducting field inspections, sampling, and assessments to identify and address water quality issues. • Supports enforcement actions by preparing technical reports and documentation for regulatory violations. • Assists local health departments with interpreting complex drinking water regulations and implementing corrective actions. • Enhances the agency’s capacity to respond to contamination events and public health threats in a timely manner.			
Danville Field Office (DFO) EHS Supervisor	$80,102	$36,149	$116,251
• Centralizes non-engineering functions under one manager. • Improves consistency in compliance, surveillance, and documentation. • Enhances technical assistance for groundwater systems and consecutive systems. • Provides dedicated leadership and clearer career progression for EHS staff. • Improves internal controls and procedures to ensure performance metrics and office objectives are attained. • Optimizes field office management structure which is ideal for office with experienced employees and efficient processes and reduces bureaucracy.			

DFO District Engineer (DE)	$94,018	$39,489	$133,507

• Increases oversight presence at waterworks by reducing the number of waterworks each DE is responsible for ensuring regulatory requirements are met. • Enables increased operational support by DFO for process optimization, operational development, and reliability • Results in long-term increased public health protection and system sustainability. • Increases employee retention by balancing the current DE workload. • Builds resiliency by providing backup leadership and specialized focus areas. • Supports onboarding, seasonal system oversight, needs surveys, and other niche responsibilities.			
Southeast Virginia Field Office (SEVFO) EHS Supervisor	$80,102	$36,149	$116,251
• Centralizes non-engineering functions under one manager. • Improves consistency in compliance, surveillance, and documentation. • Enhances technical assistance for groundwater systems and consecutive systems. • Provides dedicated leadership and clearer career progression for EHS staff. • Improves internal controls and procedures to ensure performance metrics and office objectives are attained. • Optimizes field office management structure which is ideal for office with experienced employees and efficient processes and reduces bureaucracy.			
SEVFO EHTS Non-Community	$67,562	$33,140	$100,702
• Provides technical expertise in evaluating public water systems for compliance with state and federal drinking water standards. • Increases ODW presence at waterworks by conducting field inspections, sampling, and assessments to identify and address water quality issues. • Supports enforcement actions by preparing technical reports and documentation for regulatory violations. • Assists local health departments with interpreting complex drinking water regulations and implementing corrective actions. • Enhances the agency's capacity to respond to contamination events and public health threats in a timely manner.			
Abingdon Field Office (AFO) EHS Supervisor	$80,102	$36,149	$116,251
• Centralizes non-engineering functions under one manager. • Improves consistency in compliance, surveillance, and documentation. • Enhances technical assistance for groundwater systems and consecutive systems. • Provides dedicated leadership and clearer career progression for EHS staff. • Improves internal controls and procedures to ensure performance metrics and office objectives are attained. • Optimizes field office management structure which is ideal for office with experienced employees and efficient processes and reduces bureaucracy.			

AFO DE	$94,018	$39,489	$133,507

• Reduces oversight responsibility from 16 waterworks per DE to 12 per DE making the position requirements more manageable. • Enables increased operational support by AFO for process optimization, operational development, and reliability • Results in long-term increased public health protection and system sustainability. • Increases employee retention by balancing the current DE workload. • Builds resiliency by providing backup leadership and specialized focus areas. • Supports onboarding, seasonal system oversight, needs surveys, and other niche responsibilities.			
Lexington Field Office (LFO) EHTS Non-Community (2 positions)	$135,124	$66,280	$201,404
This field office has already transferred one of their technical staff to an EHS supervisor and is recovering the technical position that was converted to a supervisor position. Salary amounts provided are total for 2 positions. • Provides technical expertise in evaluating public water systems for compliance with state and federal drinking water standards. • Increases ODW presence at waterworks by conducting field inspections, sampling, and assessments to identify and address water quality issues. • Supports enforcement actions by preparing technical reports and documentation for regulatory violations. • Assists local health departments with interpreting complex drinking water regulations and implementing corrective actions. • Enhances the agency's capacity to respond to contamination events and public health threats in a timely manner.			

Richmond Field Office (RFO) EHTS Non-Community (2 positions)	$135,124	$66,280	$201,404
This field office has already transferred one of their technical staff to an EHS supervisor and is recovering the technical position that was converted to a supervisor position. Salary amounts provided are total for 2 positions. • Provides technical expertise in evaluating public water systems for compliance with state and federal drinking water standards. • Increases ODW presence at waterworks by conducting field inspections, sampling, and assessments to identify and address water quality issues. • Supports enforcement actions by preparing technical reports and documentation for regulatory violations. • Assists local health departments with interpreting complex drinking water regulations and implementing corrective actions. • Enhances the agency's capacity to respond to contamination events and public health threats in a timely manner.			
Total Median Personnel Costs			**$1,764,006**

APPENDIX A– CHAPTER 725 OF THE 2025 VA ACTS OF THE ASSEMBLY –ITEM 280 (H)

Authority: §§ 32.1-163 through 32.1-176.7, 32.1-246, 32.1-246.1, and 62.1-44.18 through 62.1-44.19:9, Code of Virginia; and P.L. 92-500, P.L. 93-523 and P.L. 95-217, Federal Code.

A. It is the intent of the General Assembly that the Virginia Department of Health be the agency designated to receive and manage general and non-general funds appropriated pursuant to the federal Safe Drinking Water Act of 1996.

B. The fee schedule for charges to community waterworks shall be adjusted to the level necessary to cover the cost of operating the Waterworks Technical Assistance Program, consistent with § 32.1-171.1, Code of Virginia, and shall not exceed $3.00 per connection to all community waterworks.

C. Any positions necessary for the Office of Drinking Water to perform regulatory functions in dispersing federal State and Local Recovery Funds (SLRF) pursuant to the American Rescue Plan Act of 2021 (ARPA) for drinking water infrastructure shall be restricted positions and shall expire at the end of the grant period.

D. Out of this appropriation, $1,500,000 the first year and $1,500,000 the second year from the general fund shall be provided to the Virginia Department of Health to implement a Water Sampling Verification Program. The program shall ensure sampling is valid and representative of the actual water quality and conditions at the waterworks.

E. Out of this appropriation, $6,464,800 the first year and $6,464,800 the second year from the general fund is provided as state match for additional federal awards for the Drinking Water State Revolving Fund from the Infrastructure Investment and Jobs Act (P.L. 117-58).

F. Out of this appropriation, $3,624,600 the first year and $3,624,600 the second year from the general fund is provided as state match for additional federal awards for the Drinking Water State Revolving Fund from the Safe Drinking Water Act.

G. Out of this appropriation, $500,000 the first year from the general fund shall be provided for the Virginia Department of Health to conduct a cost analysis of implementing pending federal Per- and Polyfluorinated Substances (PFAS) regulations for Virginia local water systems and to implement pending federal Environmental Protection Agency Copper Rules for water system lead service lines. The report shall include the results of the cost analysis, possible funding models, and identify federal funding that may be available. The department shall submit the report to the Chairs of the House Appropriations and Senate Finance and Appropriations Committees by December 1, 2024.

H. Out of this appropriation, $1,803,598 the second year from the general fund shall be provided to ensure compliance with the Safe Drinking Water Act, National Primary Drinking Water Regulations, Virginia Public Water Supplies Law, Virginia Waterworks Regulations, and to support Office of Drinking Water programs. The Office of Drinking Water shall provide a report to the Chairs of the House Appropriations and Senate Finance and Appropriations Committees by October 1, 2025, describing actions taken to maintain compliance with federal and state regulations.

I.1. Out of this appropriation, $25,000,000 the first year from the general fund shall be provided for the Virginia Department of Health to provide one-time grants to localities to upgrade or replace existing drinking water infrastructure. The Department shall develop guidelines establishing: (i) criteria for grant eligibility; (ii) conditions to be included in the grants; and (iii) grant distribution priorities. Among the factors that shall be included in criteria for grant eligibility and in the grant distribution priorities shall be the financial condition of the locality wherein a grant is sought and a locality's effort to access additional funding for the proposed drinking water infrastructure project from other sources. Localities must be able to provide evidence of critical drinking water needs, such as occurrences of boil advisories, systems failures, or evidence of contaminants, such as polyfloroalkyl substances (PFAS) and gross alpha reactivity, in the drinking water.

2. To receive a grant, localities must provide proof of at least a 25.0 percent match for the cost of a project. No grant to a locality shall fully fund a drinking water project.

3. The Department shall report to the Chairs of the Senate Finance and Appropriations and House Appropriations Committees on the number of applications received for grants, the total grants and grant amounts awarded, the localities to which grants will be awarded, and the description of drinking water infrastructure projects for which the grants will be used no later than December 1, 2025.

4. The Department shall give priority consideration for grants to Greene County and the Town of Bowling Green, as both localities have demonstrated outstanding critical drinking water needs.

5. The Department may use up to $250,000 of the funds in paragraph I.1. for administration costs of providing drinking water infrastructure grants to localities.

6. Any unexpended balances in paragraph I.1. at the close of business on June 30, 2025, shall not revert to the general fund but shall be carried forward and reappropriated for this purpose.

Item 280	First Year - FY2025	Second Year - FY2026
Drinking Water Improvement (50800)	~~**$139,436,004**~~ ***$164,436,004***	~~**$138,936,004**~~ ***$140,739,602***
Drinking Water Regulation (50801)	$15,521,324	~~$15,521,324~~ *$17,324,922*
Drinking Water Construction Financing (50802)	~~$122,918,859~~ *$147,918,859*	$122,918,859
Public Health Toxicology (50805)	$995,821	$495,821
Fund Sources:		
General	~~$17,419,071~~ *$42,419,071*	~~$16,919,071~~ *$18,722,669*
Special	$6,941,130	$6,941,130
Dedicated Special Revenue	$19,864,132	$19,864,132
Federal Trust	$95,211,671	$95,211,671

APPENDIX B– ACRONYMS AND ABBREVIATIONS

AFO – Abingdon Field Office

ASDWA – Association of State Drinking Water Administrators

CFO – Culpeper Field Office

DE – District Engineer

DFO – Danville Field Office

EHS – Environmental Health Specialist

EHTS – Environmental Health Technical Specialist

EPCRA - Emergency Planning and Community Right-to-Know Act

EPA – U.S. Environmental Protection Agency

FTE – Full-time Employee

LCR – Lead and Copper Rule

LCRI – Lead and Copper Rule Improvements

LCRR – Lead and Copper Rule Revisions

LFO – Lexington Field Office

ODW – Office of Drinking Water at the Virginia Department of Health

PFAS – Per- and Polyfluoroalkyl Substances

RFO - Richmond Field Office

SDWA – Safe Drinking Water Act

SEVFO – Southeast Virginia Field Office

SWOT – Strengths Weaknesses Opportunities and Threats

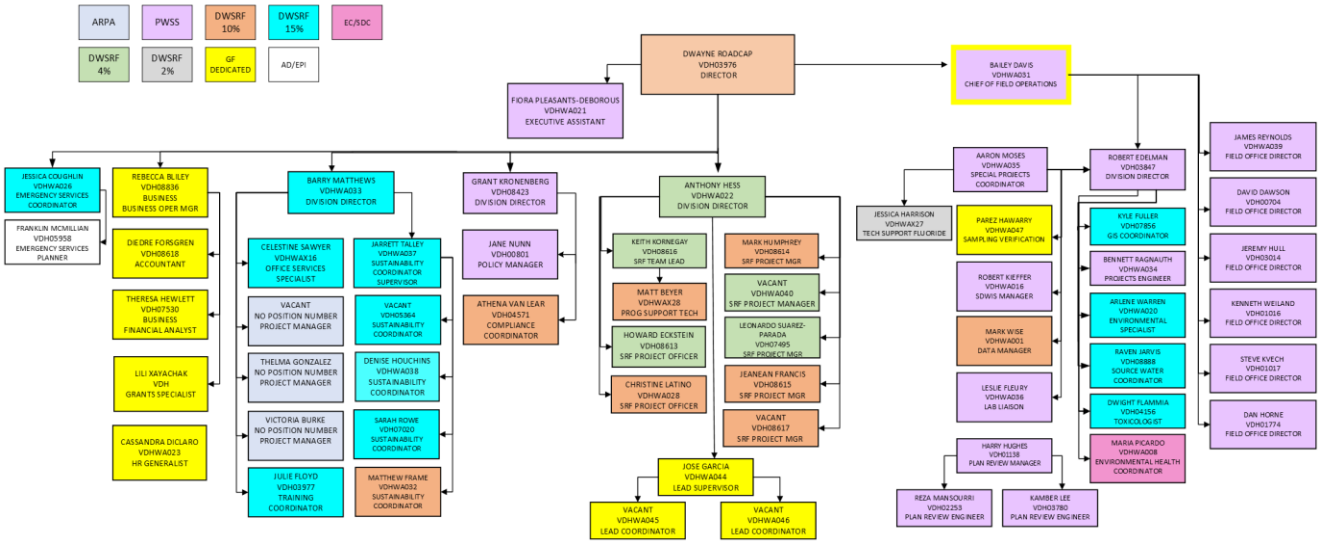
SVP – Sample Verification Program

VDH – Virginia Department of Health

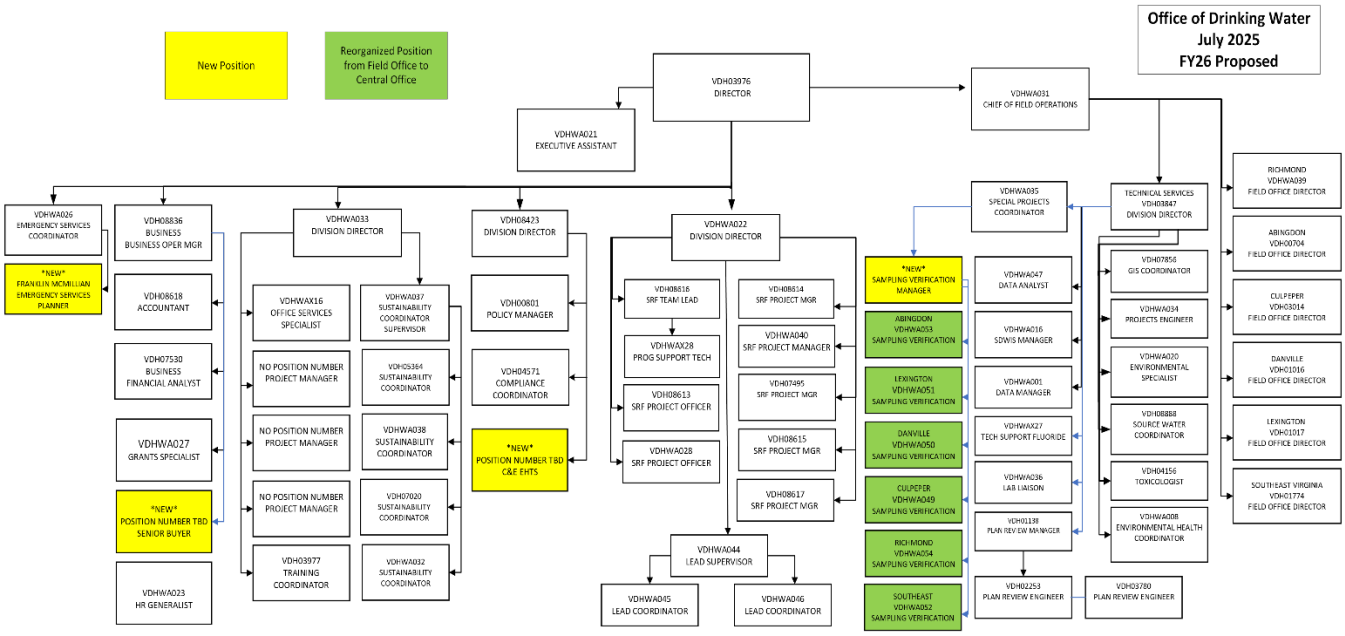
APPENDIX C– ORGANIZATIONAL CHARTS

The following are the current central and field office org charts showing where and how the positions will be deployed and the revised structure of the field offices.

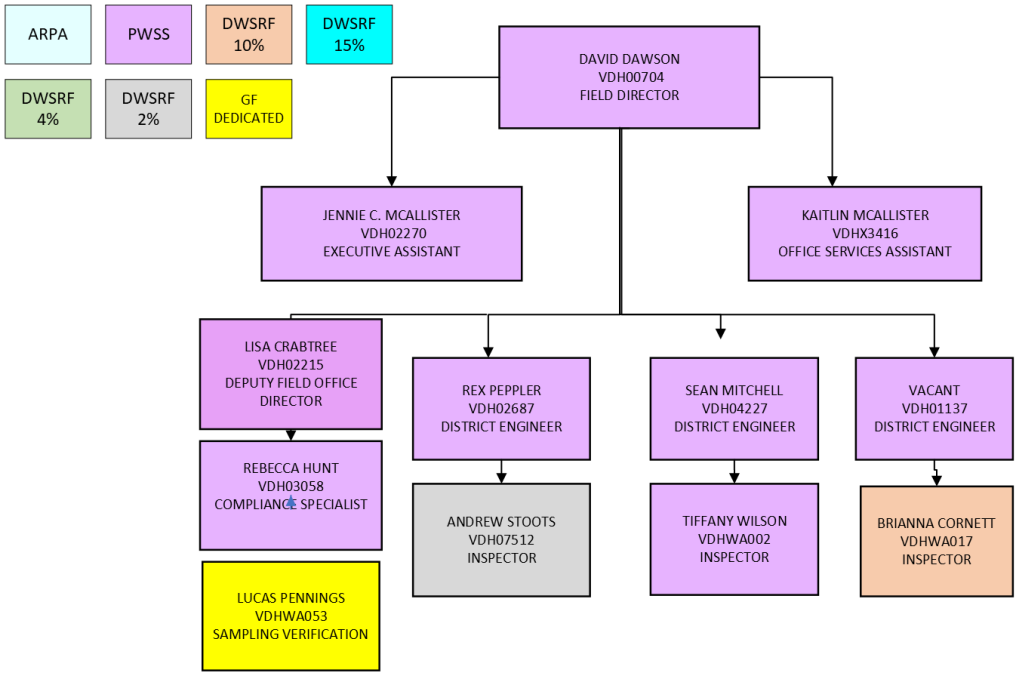
Central Office Current



Central Office NEW



AFO CURRENT



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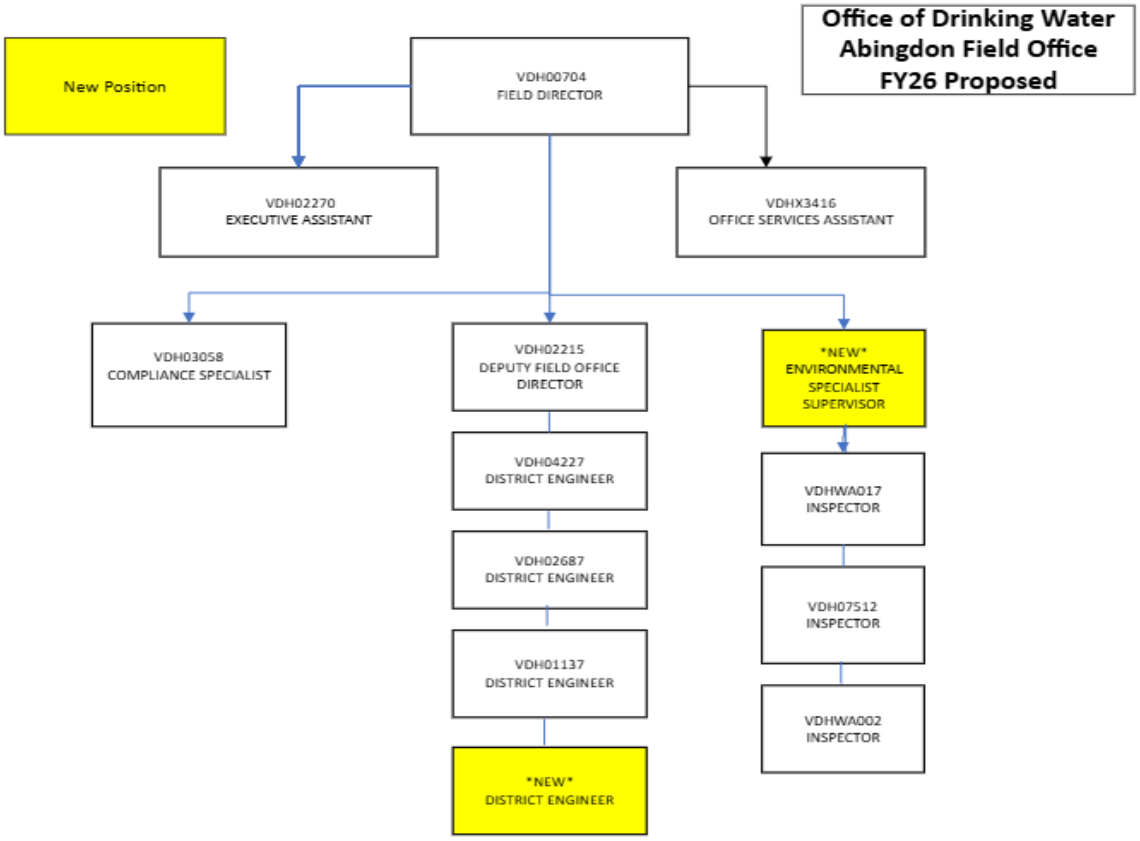
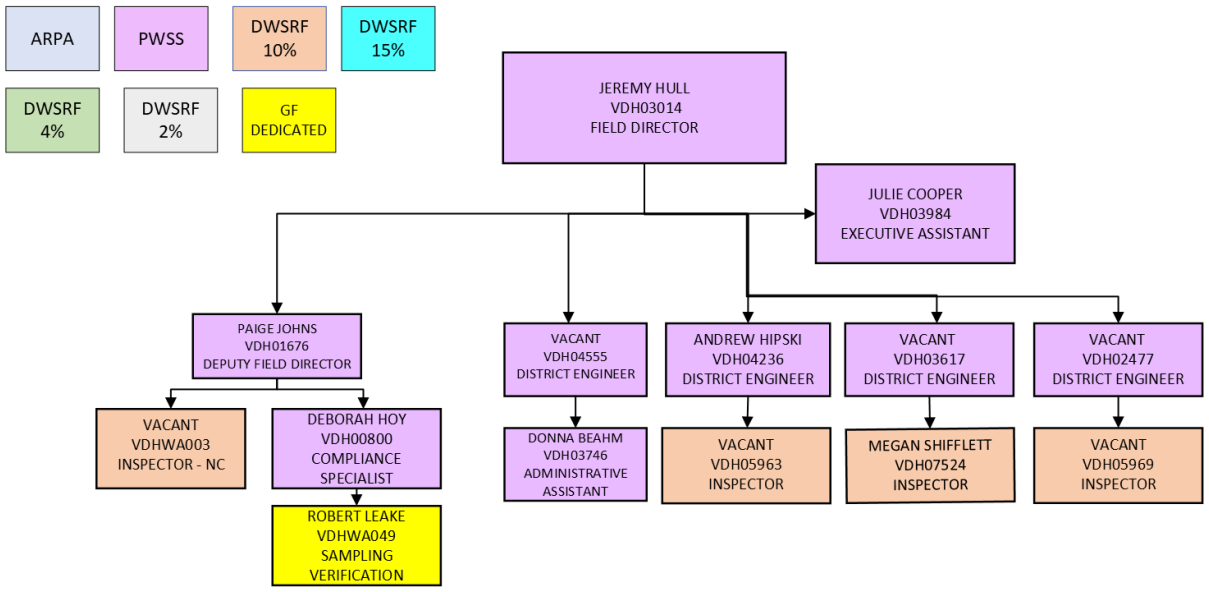
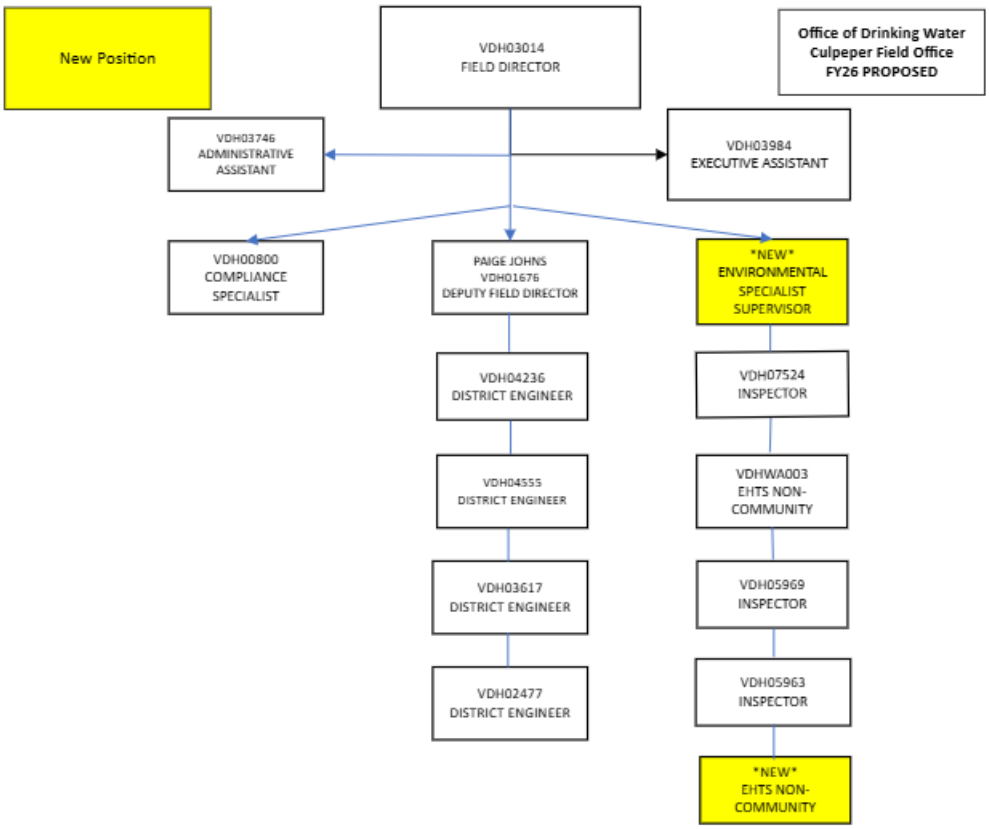


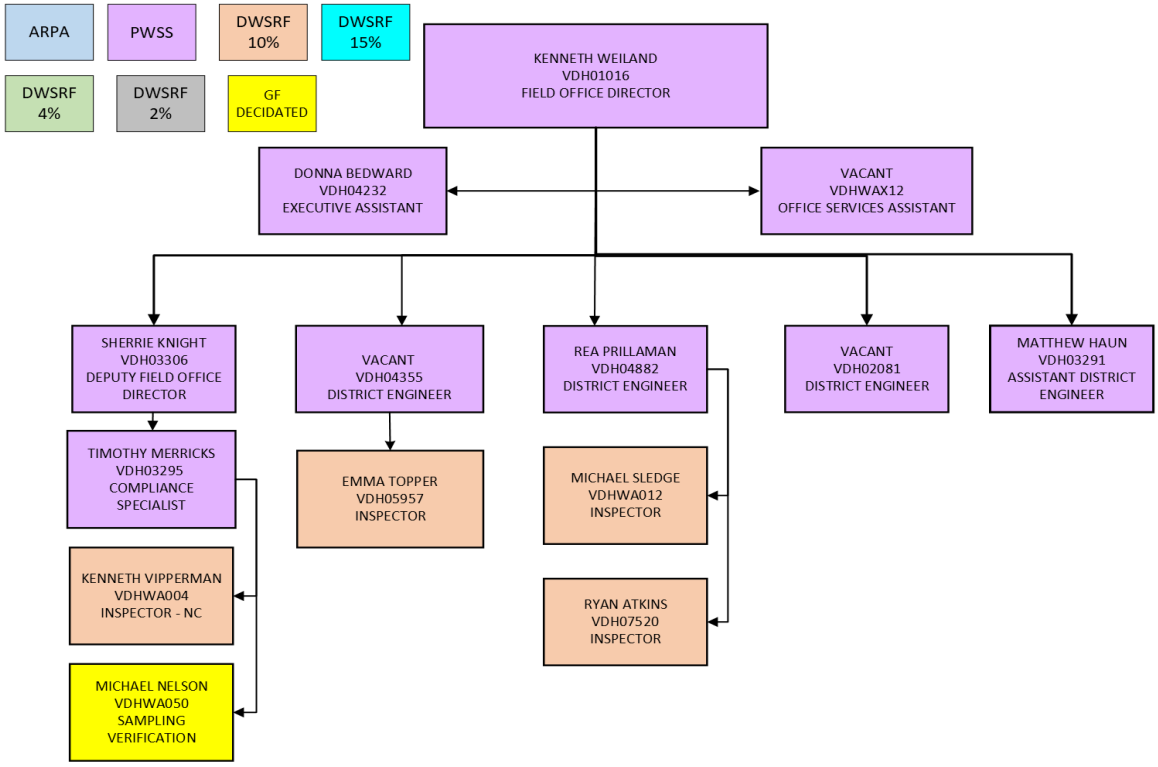
CFO CURRENT



CFO NEW



DFO CURRENT



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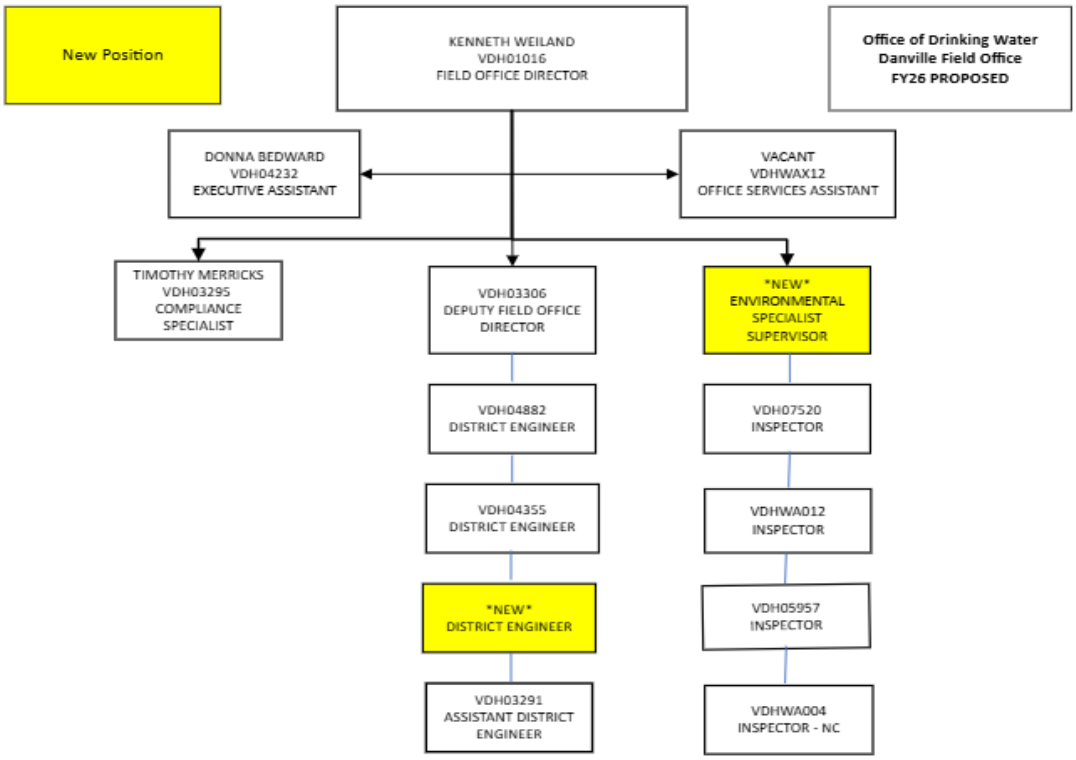
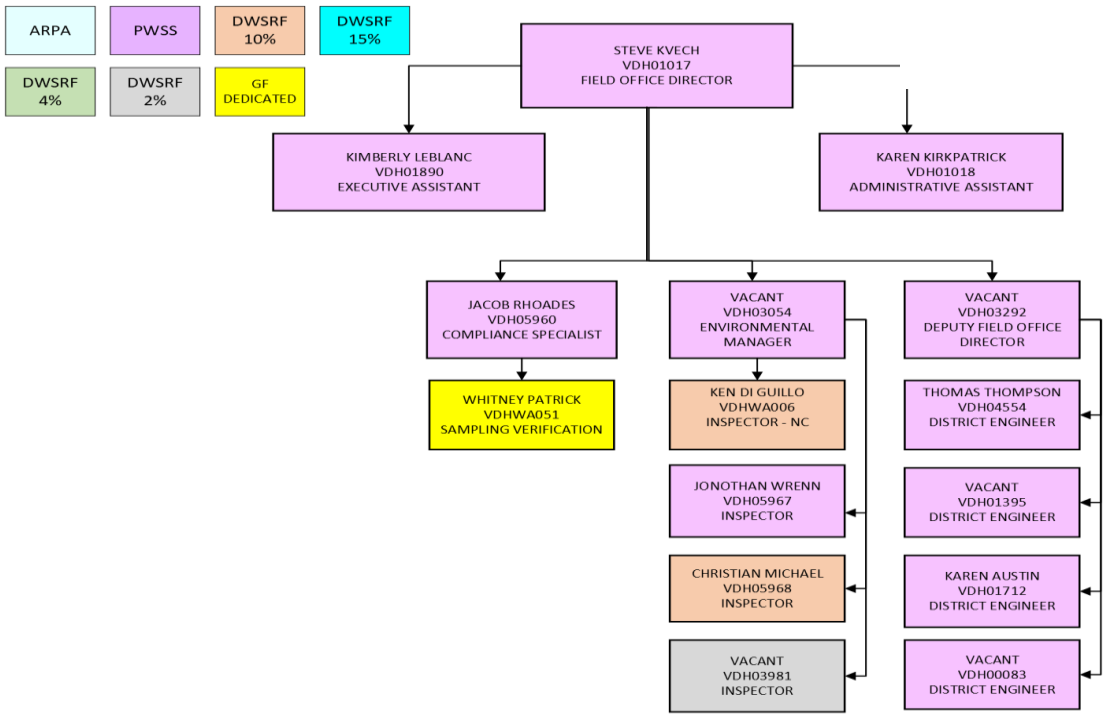
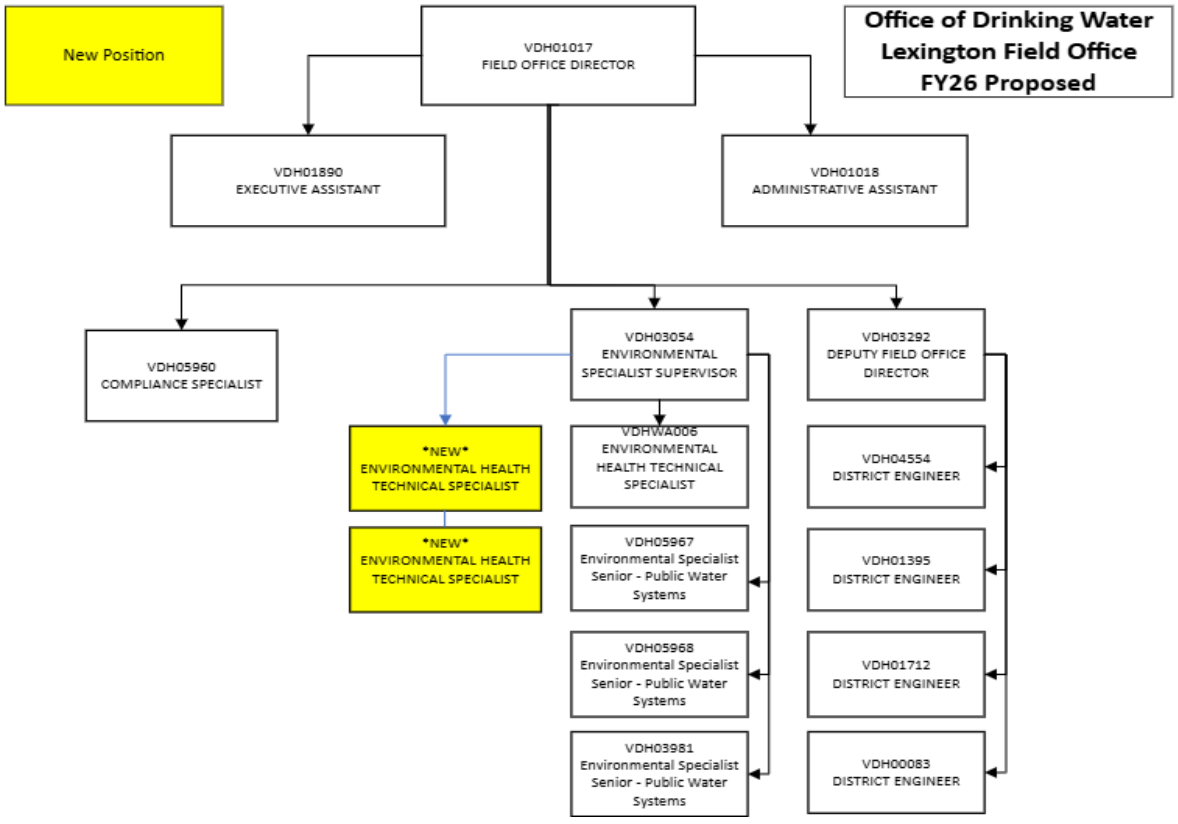


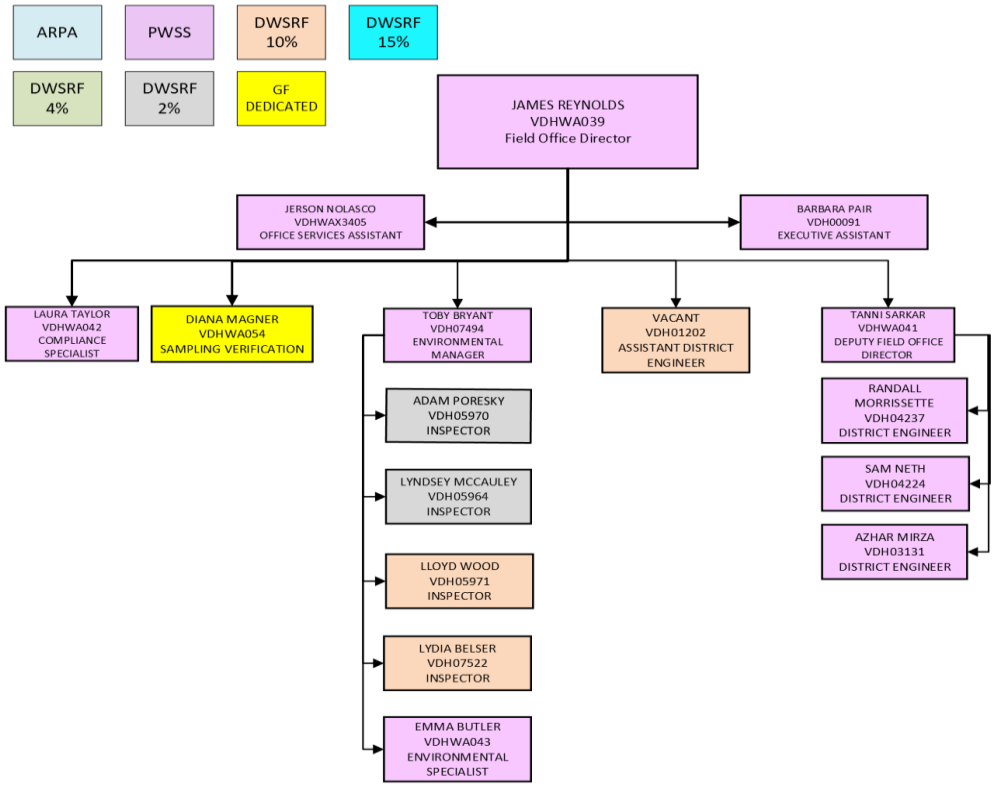
LFO CURRENT



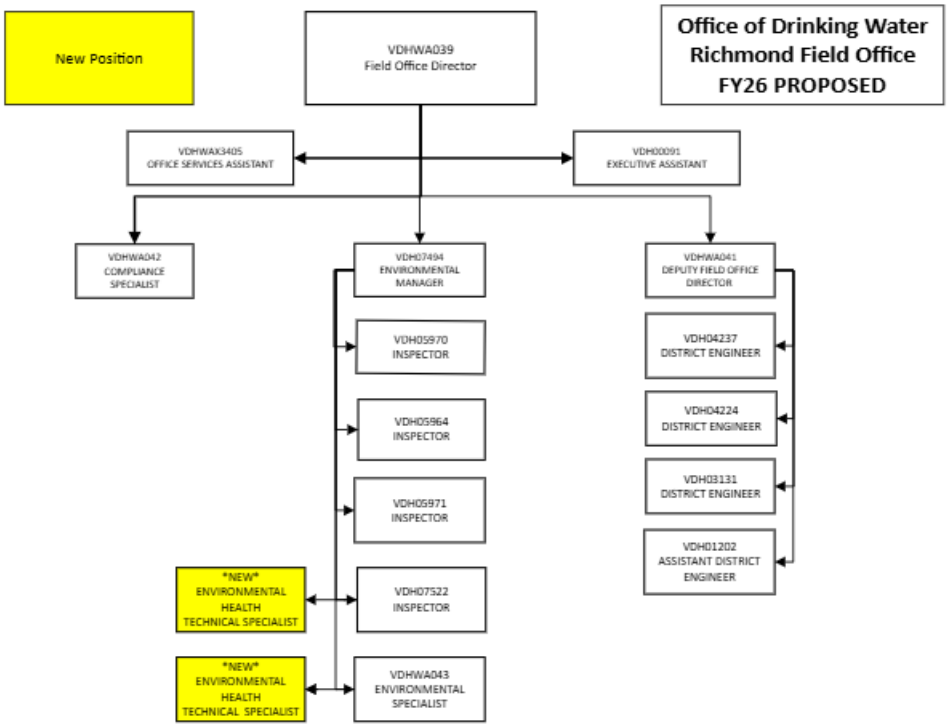
LFO NEW



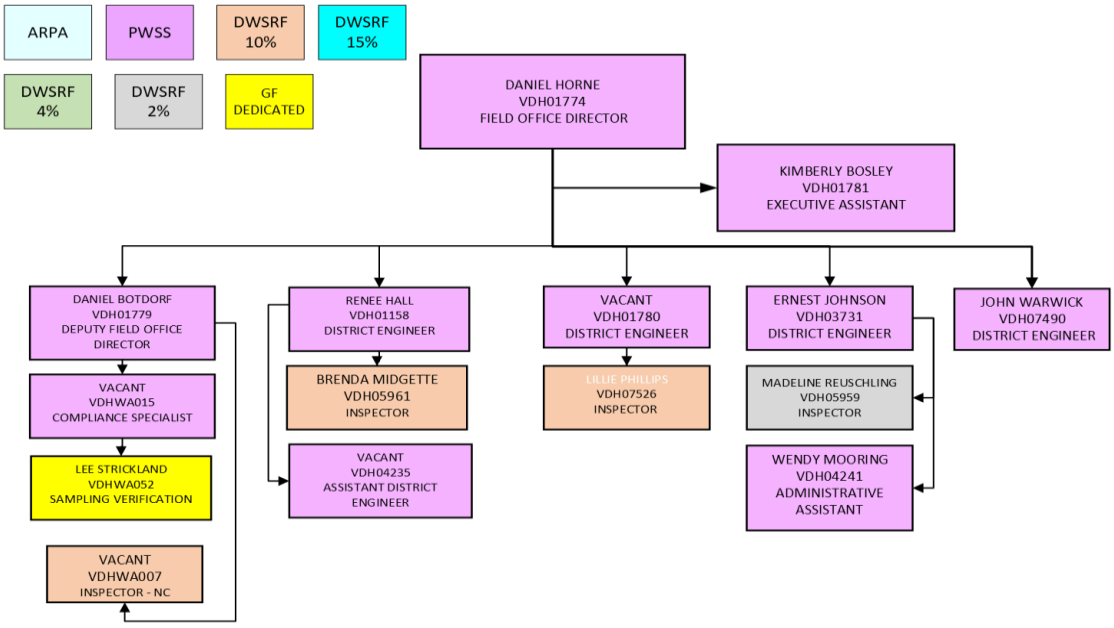
RFO CURRENT



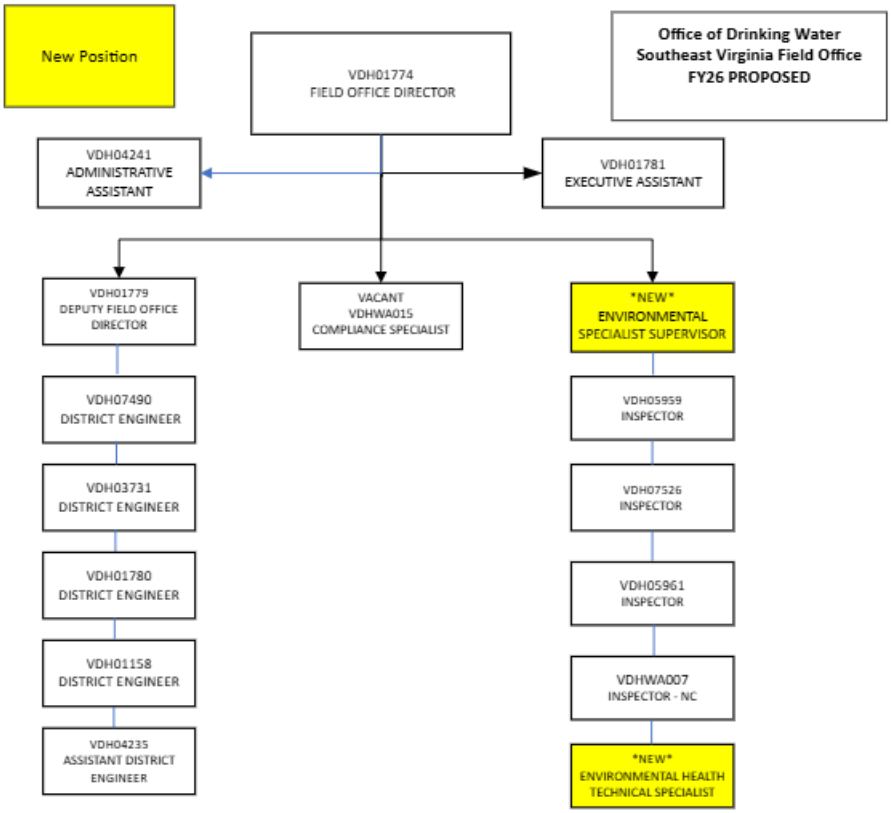
RFO NEW



SEVFO CURRENT



SEVFO NEW



APPENDIX D– THE 2023 VIRGINIA WORKLOAD ANALYSIS REPORT

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Analysis of Virginia's Drinking Water Program Resources and Needs

Final Report: March 2023

Prepared for:

Virginia Department of Health (VDH) and the U.S. Environmental Protection Agency (EPA) Region 3

CADMUS

Prepared by:
Jacqueline Sharry
Michelle L. Young
Taner Durusu
Hannah Kiene

CADMUS

Acronyms

ARPA	American Rescue Plan Act
ASDWA	Association of State Drinking Water Administrators
BIL	Bipartisan Infrastructure Law
CMDP	Compliance Monitoring Data Portal
CCR	Consumer Confidence Rule
DWSRF	Drinking Water State Revolving Fund
EPA	U.S. Environmental Protection Agency
FTE	Full-time Equivalent
LCR	Lead and Copper Rule
LCRI	Lead and Copper Rule Improvements
LCRR	Lead and Copper Rule Revisions
MDBP	Microbial and Disinfection Byproducts Rules
ODW	Office of Drinking Water at the Virginia Department of Health
PFAS	Per- and Polyfluoroalkyl Substances
PWSS	Public Water System Supervision
SFY	State Fiscal Year
SDWA	Safe Drinking Water Act
WIIN	Water Infrastructure Improvements for the Nation Act
VDH	Virginia Department of Health

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Figures

Virginia's drinking water program, implemented by the Office of Drinking Water (ODW) within the Virginia Department of Health (VDH) oversees more than 2,800 public water systems[1] and serves a vital role in upholding public health protection. Virginia's drinking water program ensures that public water systems are in compliance with the Safe Drinking Water Act (SDWA), delivering safe drinking water to customers, and attempts to avert public health crises as have been seen in recent instances across the country.

*This report analyzes workload for **Virginia's drinking water program**, which refers to the Office of Drinking Water (ODW) in Virginia Department of Health*

For this project, U.S. Environmental Protection Agency (EPA) Region 3 contracted Cadmus to conduct a state-specific workload analysis for Virginia. The findings and conclusions of this report are the results of independent analysis based on a revised model that was originally built for the 2019 national analysis of resource needs conducted by Association of State Drinking Water Administrators (ASDWA) and Cadmus. Through the process of developing workload projections for Virginia, Cadmus revised and updated the model to reflect state-specific activities and specifics strengths and challenges of Virginia's drinking water program. The workload analysis shows that a gap between resources currently available to Virginia's drinking water and projected resources needed to implement the drinking water program in the future. Figure 1 provides the gap in resources from State Fiscal Year 2022 through 2031. Throughout this report, the years referred to are the state fiscal years.

Virginia's drinking water program is understaffed and underfunded. The workload model estimates that in 2023 Virginia's drinking water program needs **$9,412,098** more in funding and an additional **42 FTEs.** In 2023, Cadmus concludes that **Virginia 's drinking water program needs approximately 29 percent more full-time employees (FTEs) and a 56 percent increase in funding than currently available** to effectively implement the program and ensure safe drinking water for the public. Cadmus estimates that Virginia's drinking water program **needs 185 FTEs and approximately $26.3 million** in additional funding to carry out current program responsibilities, implement drinking water regulations, and uphold public health protection in 2023. The greatest need is in 2031 when it is estimated that Virginia will **need 186 FTEs and $26.4 million** to implement the baseline drinking water program required by the SDWA.

[1] This reflects the number of public water systems at the time of the analysis, but note that the number of water systems VDH oversees fluctuates.

Figure 1: Gap in Virginia Drinking Water Program Resources (2022-2031)

SFY	FTE Gap	Gap as % of Available FTEs	Funding Gap	Gap as % of Available Funding
2022	-73	65%	-$11,850,700	82%
2023	-42	29%	-$9,412,098	56%
2024	-40	28%	-$8,625,812	50%
2025	-38	26%	-$8,277,405	48%
2026	-38	26%	-$8,277,417	48%
2027	-38	26%	-$8,776,150	52%
2028	-50	38%	-$8,921,833	53%
2029	-53	40%	-$9,320,985	55%
2030	-54	41%	-$9,413,038	56%
2031	-55	42%	-$9,593,836	57%

Note: Gap refers to the difference between needed resources and available resources at the time of writing this report (which was 2022-2023).

For Virginia's drinking water program, there are additional barriers to accessing resources and effectively implementing the program. Within the drinking water program, there are competing priorities from new state initiatives that are redirecting resources and attention from federal drinking water requirements. For example,

EPA delegates primary enforcement responsibility (also called primacy) for public water systems to states and Indian Tribes if they meet certain requirements.

the Commonwealth has directed ODW through legislation from 2020 through 2022 to conduct PFAS, Chromium VI, and 1,4 Dioxane sampling, regulate PFAS and other contaminants as necessary; start a new sampling verification program; and apply additional resources to a new program focused on lead in drinking water at schools and child daycare centers. While these new initiatives strengthen the drinking water program in Virginia, they also drain resources as ODW's attention diverts to policy and planning, hiring, training, and other needs to start the new programs, regulations, and sampling. When this analysis was started in July 2022, ODW had 101 FTEs with 18 vacancies[2]. From a budget shortfall that existed for the past two years, ODW has delayed hiring and even proposed a lay-off of 14 positions, which was later canceled. Cadmus finds that the Commonwealth should strengthen its drinking water program with additional FTEs and financial support to better protect public health.

The Commonwealth must invest time and resources to ensure their drinking water program is properly staffed to ensure primacy requirements are met, prevent any potential public health emergencies, and fulfill the core preventative work the program was created to provide. In the upcoming decade, the program will accumulate additional responsibilities based on new regulations and program changes, adding further stress to the organization. Virginia's drinking water program is expected to adapt to limited resources and increasing demands by prioritizing threats to public health and implementing efficiency measures, but their ability to meet all

[2] Since the original data was provided in July 2022, the number of vacancies increased. ODW currently has 92 FTEs and 35 vacancies. This new information was not incorporated into this report as the number of FTEs and vacancies can change frequently and the analysis was conducted with the data originally gathered. In addition, this analysis includes contractor support as FTEs and ODW does not track that information as current FTEs.

demands and requirements is greatly compromised. Virginia is further hindered by additional barriers to accessing resources, including challenges in filling a high number of vacancies, competing priorities within the drinking water program, and stagnant drinking water-related fee caps. The Commonwealth will need to invest resources and pay close attention to hiring as their available FTEs will increase substantially from 2022 to 2023 and beyond. The Commonwealth should provide additional investments into its drinking water program to meet the growing workload while engaging in the core preventive and emergency response work necessary to deliver safe, trusted, affordable, and dependable drinking water to the residents of Virginia.

INTRODUCTION

Why is a state-specific workload analysis important?

The SDWA requires EPA to establish and enforce standards that public drinking water systems must follow. EPA then delegates the primary enforcement responsibility (or primacy) to state or territorial governments. States and territories have established PWSS programs that meet the standards set by EPA to support drinking water systems, ensure that drinking water systems consistently provide a safe and adequate supply of water to consumers, and ultimately protect public health. In Virginia, the PWSS program is administered by the ODW within the VDH. For the purpose of this report, Virginia's drinking water program refers to ODW. Virginia's drinking water program oversees more than 2,800 public water systems in the Commonwealth.

Cadmus has worked with the ASDWA and EPA in recent decades to conduct several national analyses of the resources needed to effectively run state drinking water programs. Analyses were conducted in 1989, 1993, 1999, 2001, 2011, and 2019. Taken together, the analyses demonstrate that nationally state workload has increased substantially over the years with the promulgation of each new drinking water regulation and statutory requirement, even as PWSS program resources remained stagnant.

The Virginia workload analysis is based on the 2019 national analysis of resource needs conducted by ASDWA and Cadmus and includes implementation activities that are not specifically defined in federal regulations, such as emerging issues on PFAS, ARPA, and BIL. The 2019 analysis presents a more realistic view of the 55 state and territorial drinking water programs workload and shows that nationally state workload will continue to grow.

While Virginia has started actions to address PFAS contamination, lead testing in schools and child care facilities, and administering a sampling verification program, Cadmus finds that Virginia's drinking water program does not have sufficient resources to adequately address these issues without compromising core drinking water program responsibilities, which are required by SDWA.

Workload projections for this analysis were developed using a Microsoft Access-based model built for the national workload analyses. The national workload model was originally built as part of the 2011 workload analysis. The 2011 model estimated workload associated with program activities specifically mandated by the SDWA or an associated EPA primacy requirement. For the 2019 national analysis, the structure of the workload model remained the same, with the addition of some new line items. The model inputs (i.e., burden estimates) were updated to reflect a more realistic estimate of workload, considering additional activities state programs may conduct to ensure the water systems they oversee are in compliance with the regulations and are delivering safe drinking water to consumers. For more information about the design of the workload model and line items included in the model, see the 2020 ASDWA report.[3]

For this project, Cadmus was contracted by EPA Region 3, under EPA Contract No. EP- C-15-022, Work Assignment 7-04, to conduct a state-specific workload analysis for Virginia. Cadmus conducted interviews with Virginia drinking water program staff and EPA Region 3 to understand the drinking water program and develop workload estimates specific to Virginia that were then used to generate projected needs (in staff and funding) for 2022-2031. This workload analysis tailored to Virginia provides a comprehensive view of workload and an accurate estimate of resource needs. The results of this analysis can help in future planning to ensure Virginia's drinking water program is adequately and effectively implemented.

METHODS

How was the workload analysis conducted?

As described above, the workload analysis projections were developed using a Microsoft Access-based model built for the national workload analyses and tailored for Virginia's specific needs. A detailed breakdown of model inputs is included in the ASDWA report "2019 Analysis of State Drinking Water Programs' Resources and Needs"[4]. Line items were added to the model based on state-specific activities that Virginia conducts as part of its' drinking water program and some line items were revised based on the specific context and unique challenges the Commonwealth of Virginia faces.

To account for state-specific activities and tailor the model to Virginia's specific state context, Cadmus consulted with staff from Virginia's drinking water program and EPA Region 3 to:

1. Understand resources currently available to Virginia's drinking water program and
2. Estimate resources needed to adequately run Virginia's drinking water program and associated drinking water activities.

To gather information on available resources, Virginia's drinking water program completed a survey, which asked for the number of current FTEs and funding dedicated to the drinking water program. This survey was originally

[3] ASDWA. 2020. 2019 Analysis of State Drinking Water Programs' Resources and Needs: Addressing Emerging Issues and State Specificity in Program Implementation. https://www.asdwa.org/wp-content/uploads/2020/07/2019-Analysis-of-State-Drinking-Water-Programs-Resources-and-Needs.pdf.

[4] ASDWA. 2020. 2019 Analysis of State Drinking Water Programs' Resources and Needs: Addressing Emerging Issues and State Specificity in Program Implementation. https://www.asdwa.org/wp-content/uploads/2020/07/2019-Analysis-of-State-Drinking-Water-Programs-Resources-and-Needs.pdf.

used for the 2019 national workload analysis and was tailored to the Virginia-specific analysis. Cadmus met with Virginia and EPA Region 3 to discuss the responses. The final information on FTEs and funding currently available to the drinking water program are presented in the **Available Resources** section.

To estimate resources necessary to run Virginia's drinking water program and implement associated drinking water activities effectively, Cadmus used the 2019 national workload model from the 2019 ASDWA workload analysis and tailored it to Virginia's drinking water program. The 2019 national workload model refers to the Microsoft Access database built to calculate projected staffing needs for 55 state and territorial drinking water programs. The workload model includes 14 different categories, which are briefly described in Figure 2, with approximately 80-line items representing various drinking water program activities.

Figure 2: Workload Model Categories

Category	Description
Program Administration	Components of a drinking water program that are necessary for it to function (e.g., data management, engineering reviews, and Drinking Water State Revolving Fund {DWSRF}) and additional state-specific programs (e.g., lead testing in schools and child care facilities, administering a sampling verification program, and PFAS).
Enforcement Response Policy	Policy that encompasses what drinking water programs must do to address drinking water systems that are not in compliance with the SDWA.
Capacity Development	Strategy to assist drinking water systems in acquiring and maintaining technical, managerial, and financial capacity.
Operator Certification	Minimum professional standards for the operation and maintenance of drinking water systems that are implemented through certification programs.
Suite of Surface Water Treatment Rules	Regulations that improve public health protection through the control of microbial contaminants, including viruses, *Giardia lamblia*, and *Cryptosporidium*, in surface water sources; and prevents significant increases from microbial risk that might occur when surface drinking water systems implement Disinfectants and Disinfection Byproducts Rules.
Ground Water Rule	Regulation that reduces the risk of illness caused by microbial contamination in ground water systems.
Revised Total Coliform Rule	Regulation that improves public health protection by reducing fecal pathogens through the control of total coliform and *E. coli*.
Disinfectants and Disinfection Byproducts Rules (Stage 1 & 2)	Regulations that improve public health protection by reducing exposure to disinfectants and disinfection byproducts.
Lead and Copper Rule	Regulation that protects public health by minimizing lead and copper levels in drinking water; this includes the Lead and Copper Rule Revisions.
Chemical Contaminant Rules	Regulations that enhance public health protection by setting limits on several chemical contaminants, including nitrate and arsenic.
Radionuclides Rule	Regulation that reduces exposure to radionuclides.
Consumer Confidence Report Rule	Regulation that improves public health protection by providing educational materials to allow consumers to make educated decisions regarding any potential health risks pertaining to the quality, treatment, and management of their drinking water system.

Category	Description
Public Notification Rule	Regulation that requires water systems to notify the public of drinking water violations or other situations that may pose a health risk.
Future Regulations	Revised versions of current regulations or new regulations to address new contaminants or issues.

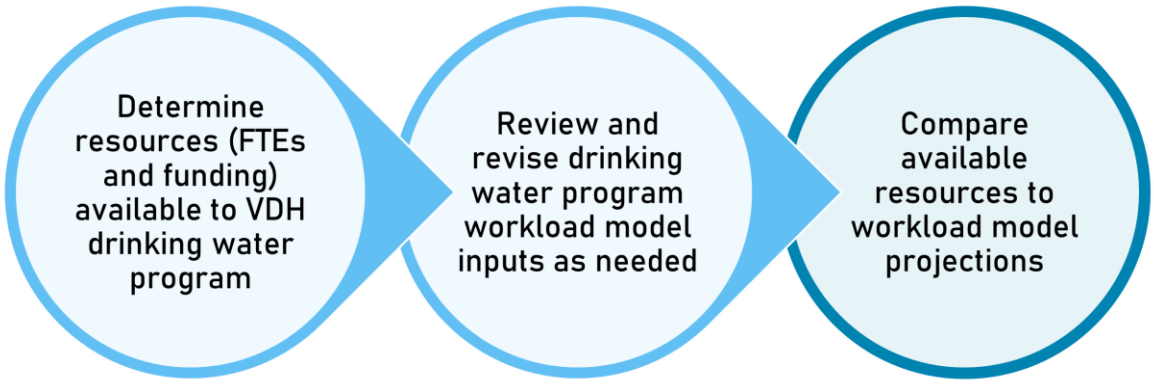
Through a series of meetings, Cadmus conducted interviews with Virginia's drinking water program and EPA Region 3 to:

1. Review and revise model inputs for each line item to reflect realistic workload estimates specific to Virginia's drinking water program,
2. Understand drivers for any resource gaps, and
3. Identify possible approaches to close the resource gap.

"Realistic" workload estimates refer to the amount of time required to adequately implement and oversee Virginia's drinking water program, which is often different than the amount of time staff currently dedicate to the activity. Cadmus staff used their best professional judgment and knowledge of state drinking water programs to ensure the estimates did not overstate the workload. In addition, new line items were added to the model under Program Administration to cover state-specific activities in Virginia. These state-specific activities include PFAS, 1,4 Dioxane, Hexavalent Chromium, lead testing in schools and child care facilities, waterworks advisory committee, administering the sampling verification program, managing ARPA and BIL funds, and overseeing WIIN 2104 and 2105 grants.

Virginia's drinking water program workload projections from the updated model were compared to resources available to the drinking water program to determine if there was a deficit in resources. Figure 3 summarizes the approach used to develop Virginia's resource needs analysis.

Figure 3: Approach for Virginia Resource Needs Analysis



OVERVIEW OF VIRGINIA'S DRINKING WATER PROGRAM

VDH is the state agency that has primacy for implementation of the SDWA. ODW is directly responsible for implementing and enforcing federal and state drinking water regulations, which includes one central office with five

divisions and six field offices. VDH oversaw 2,800 public water systems at the time of the analysis, including 1,081 community water systems, 505 non-transient non-community water systems, and 1,214 transient non- community water systems.[5] Oversight responsibilities of these water systems are split between the field offices and central office. The field offices are responsible for conducting sanitary surveys, reviewing sampling plans, and other direct oversight activities of water systems. The central office provide guidance for the field offices, determines policy, and manages statewide efforts and programs such as the DWSRF, capacity development, emergency preparedness (Emergency Support Function 3 lead), and enforcement and compliance.

Virginia experienced a significant budget deficit in their drinking water program and a subsequent report about its causes and how to prevent a reoccurrence was published in December 2022.[6] The report includes recommendations, but those recommendations also require funding to implement. The report also describes emerging concerns about the drinking water budget, including a reduced level of DWSRF funding. Historically, ODW received $17.9 million in DWSRF funding, but most recently EPA provided $11.4 million. ODW had supported up to 51 of its FTEs with "set aside" DWSRF funding. Given the reduced funding, new funding sources are likely needed.

AVAILABLE RESOURCES

What resources are currently available to Virginia 's drinking water program?

FTES

At the time of the analysis, VDH had **112 FTEs** dedicated to the drinking water program. Figure 4 shows the breakdown of staffed FTEs vs. positions that are funded but are not yet filled. VDH currently has authorized funding for 112 positions. Salaries for the 7 vacancies related to the new sampling verification program are not included in the 2022 funding but will be included in future years. With additional available funding in future years, the number of positions that are funded but unfilled will total 40 positions from 2023 to 2027 and will decrease to 31 from 2028 to 2031. Additional funding is available through ARPA and the sampling verification program. This will result in an increase of 143 projected FTEs starting in 2023. However, the additional funding through ARPA is set to expire in 2028, resulting in a decrease to 132 FTEs.

[5] This analysis used Virginia's water system inventory data from Safe Drinking Water Information System (SDWIS Fed) Federal Reporting Services (submission year 2022 and submission quarter 1).

[6] See RD805, Appropriation Act – Item 296.F.2. (Special Session 1, 2022) at https://rga.lis.virginia.gov/Published/2022/RD805.

Figure 4: Staffed Positions vs. Funded Positions Unfilled

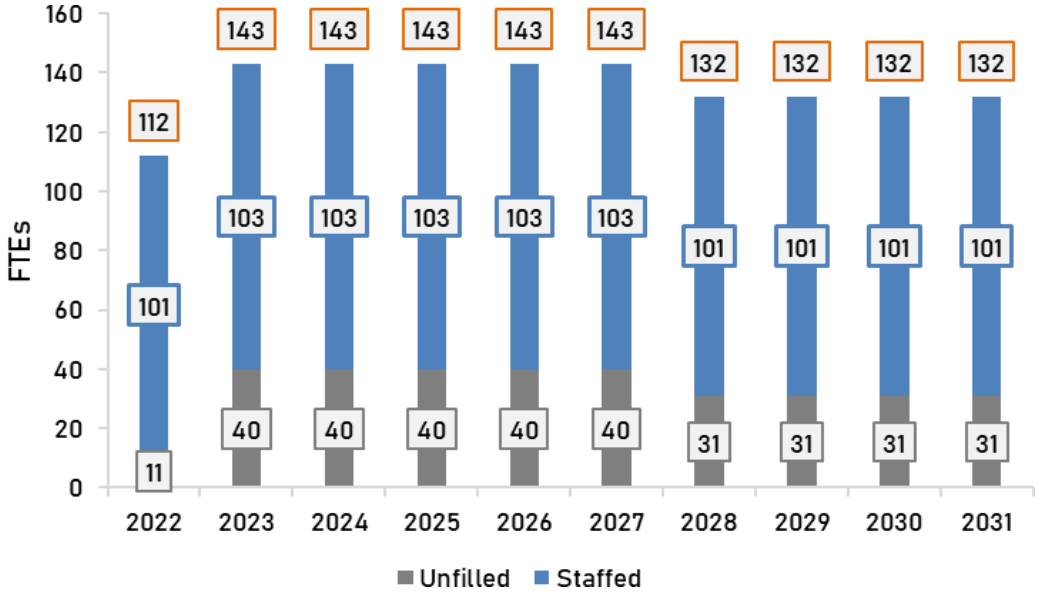
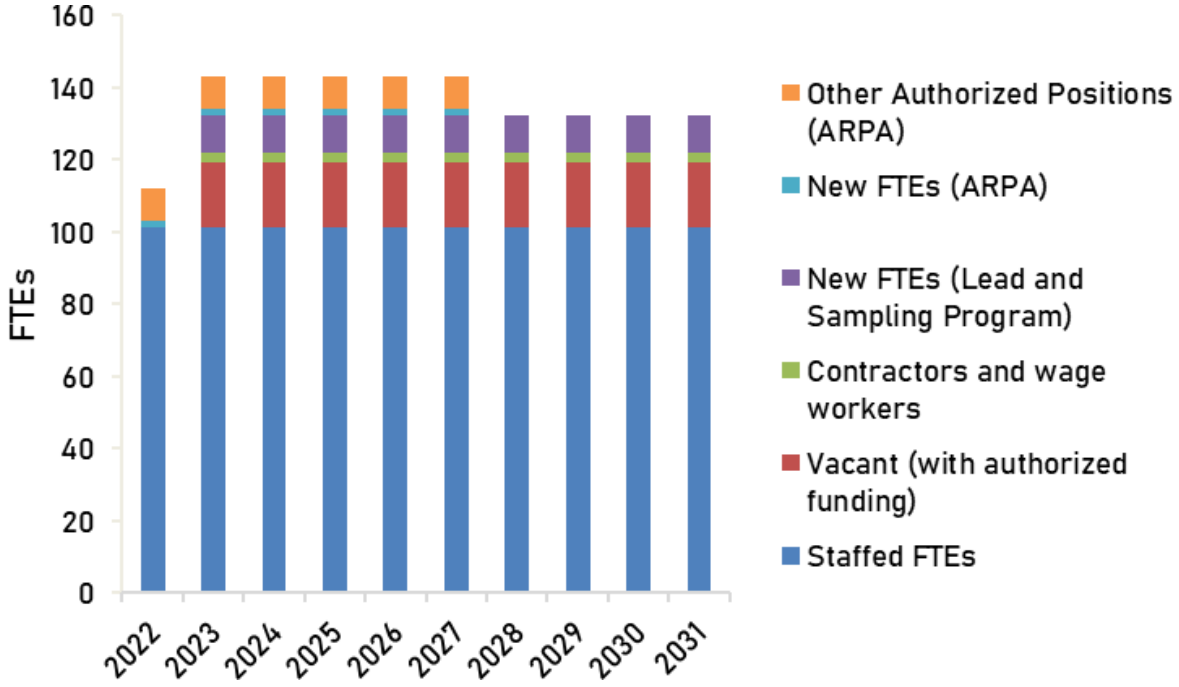


Figure 5 shows the breakdown by category of the funded FTEs, including the positions that need to be filled and new positions that will be necessary in coming years, such as FTEs for Lead and Sampling Programs.

Figure 5: Breakdown of Current and Projected FTEs



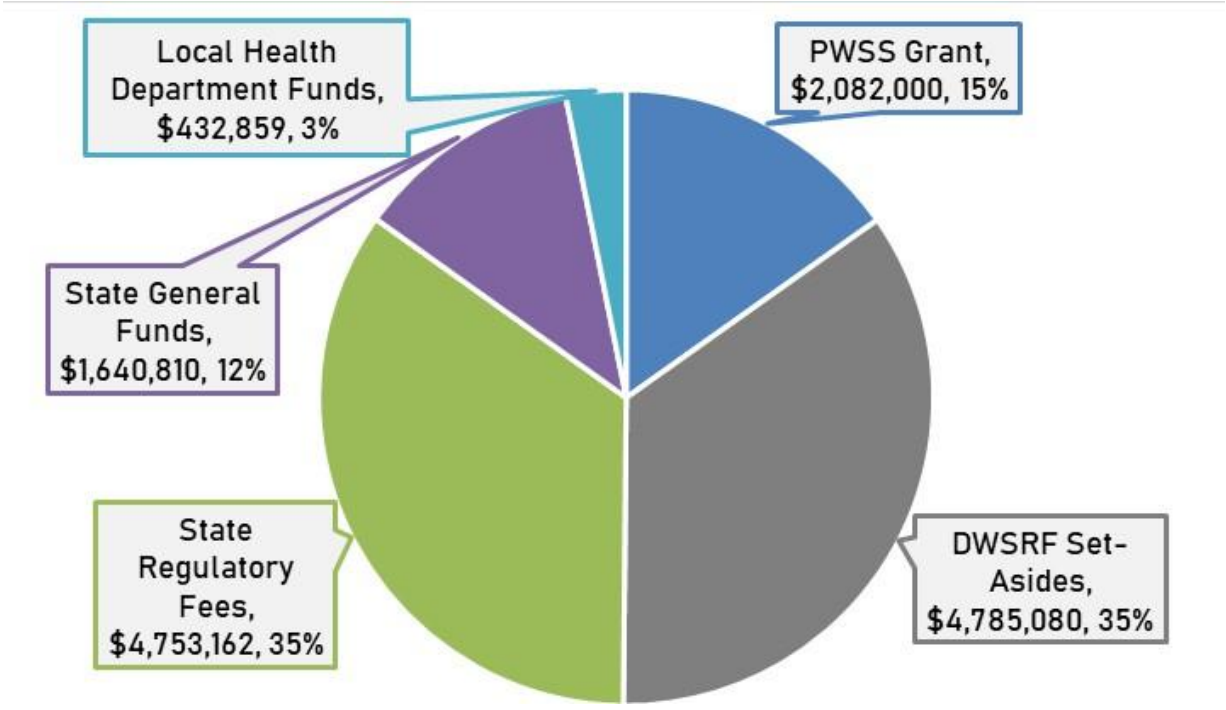
As a point of comparison, in the 2011 national resource needs analysis, it was projected that the Virginia's drinking water program needed 140 FTEs dedicated solely to federally required activities, and it was estimated that Virginia's drinking water program had approximately 115 FTEs dedicated to the whole drinking water

program.[7] Since VDH only had 101 FTEs employed the available resources for 112 FTEs in 2022, they are currently operating with fewer staff than when the 2011 analysis was conducted. In addition, the scope of this state-specific analysis varies from that of 2011. The 115 FTEs accounts for all drinking water-related activities required by federal regulations. This analysis includes the same but also covers additional state-specific activities that were not considered for the 2011 analysis. For example, this analysis considers the resources the state spends on PFAS, Lead, Sampling Verification, BIL, and supplemental DWSRF related activities. These positions are accounted for in this analysis, but did not exist when the 2011 analysis was completed. In late 2022, ODW received permission to hire 7 new FTEs for a new sampling verification program. In the last quarter of 2022, ODW also completed hiring of 3 new FTEs for another state specific program on enhancing protections and sampling for lead in drinking water at schools and childcare centers, these 3 FTEs are not included in the analysis included in this report.

FUNDING

Based on 2021 funding data, Virginia's drinking water program currently has **$13,272,275** in annual funding. This includes funding from both federal and non-federal sources. Federal funding sources include the DWSRF set- asides and the PWSS grant. Non-federal funding includes state program fees and Virginia's general fund. In SFY22, Virginia included Local Health Department Funds in the budget, this is not to be expected in future years. Figure 6 presents current funding for Virginia's drinking water program broken down by funding source.

Figure 6: Breakdown of Current Funding



Nationally, according to information gathered from 36 states for the 2019 national workload analysis, state drinking water programs are funded by a balanced funding mix between federal and non-federal sources, as is the case with Virginia. Collectively, the 36 state drinking water programs surveyed received 42 percent of their funds

[7] Information collected by ASDWA and Cadmus for the 2011 resource needs analysis from non-federal sources (i.e., state general funds and fee programs), and the other 58 percent of funding is received from federal sources (i.e., DWSRF set-asides and PWSS grants). Virginia's drinking water program relies almost equally on federal funding as it does non-federal funding. Approximately 50 percent of funding comes from federal sources. Approximately 50 percent of funding for Virginia's drinking water program comes from state funding, and some of this state funding is required to meet the match requirement for the PWSS grant.

Fee Program

Virginia has drinking water fee programs, including a fee system paid by community waterworks. Traditionally, states have developed and implemented fee programs to provide a dedicated source of funding for the state drinking water program, so revenue is included in the program's annual budget. In Virginia, the fee is $3 per connection. For example, if a community has 20,000 connections, the fee is $60,000. There is a $160,000 cap of fees charged to the regulated community. The cap was put into place in 1992 and has not been changed since. The cap causes about $2 million of unrealized revenue for the state. If the cap is removed, larger water systems will pay more, resulting in an estimated $2 million revenue increase. A major limitation related to the fees is that they have been codified in statute and require legislation by the Virginia General Assembly to be changed. Due to this legislative barrier, drinking water-related fees in Virginia have remained stagnant for the past 30 years. The report on ODW's budget shortfall describes additional options to update fees.

ARPA and BIL

ARPA and BIL are anticipated to improve drinking water infrastructure across the state and assist small and disadvantaged communities. Virginia currently has $2.5 million to fund positions for ARPA from 2022-2026, which equates to about $500,000 per year to fund these positions. Virginia has hired two contractors using ARPA funding. The current number of FTEs for Virginia's drinking water program reflects ARPA hires. Funding for BIL was not incorporated into the budget, but in future years there will be set-aside funding to hire new FTEs to implement BIL.

ARPA and BIL are time limited funding sources and cannot provide funding and positions for BIL and ARPA. The program will lose FTEs associated with BIL and ARPA by 2027, but if there were another funding source identified, then these FTEs could cover other needed work and functions within the drinking water program.

PROJECTED RESOURCES

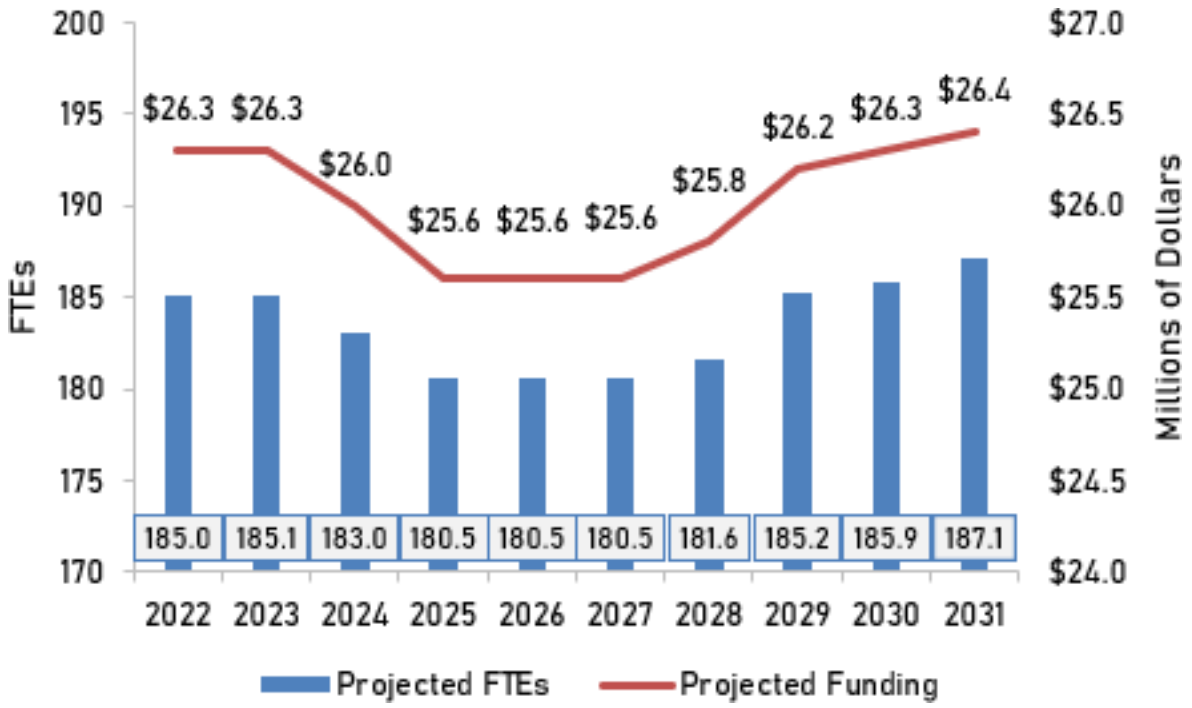
What are the workload model projections for Virginia?

The projected number of FTEs and funding required to run Virginia's drinking water program from 2022 through 2031 are presented in Figure 7 and Figure 8. The workload model estimates the annual number of FTEs needed to address the categories discussed in Figure 2. Annual funding amounts are calculated by multiplying the projected number of FTEs by the average salary per FTE determined for Virginia's drinking water program ($111,437.41) plus

capital costs which are estimated at 27.3% of FTE costs. The average salary per FTE includes employee salary plus benefits and indirect costs for the program. Indirect costs include costs such as equipment, travel, and office space. Virginia does not currently have any contractors but plans to hire as soon as there is funding to fill those positions. The projected annual cost for contractors is added in future years as their workload was not accounted for in the FTEs.

As shown in Figure 7, it is estimated that Virginia's drinking water program **needs 185 FTEs and approximately $26.3 million** in funding to carry out current program responsibilities, implement drinking water regulations, and uphold public health protection in 2023. The greatest need is in 2031 when it is estimated that Virginia will **need 187 FTEs and $26.4 million** to run its drinking water program.

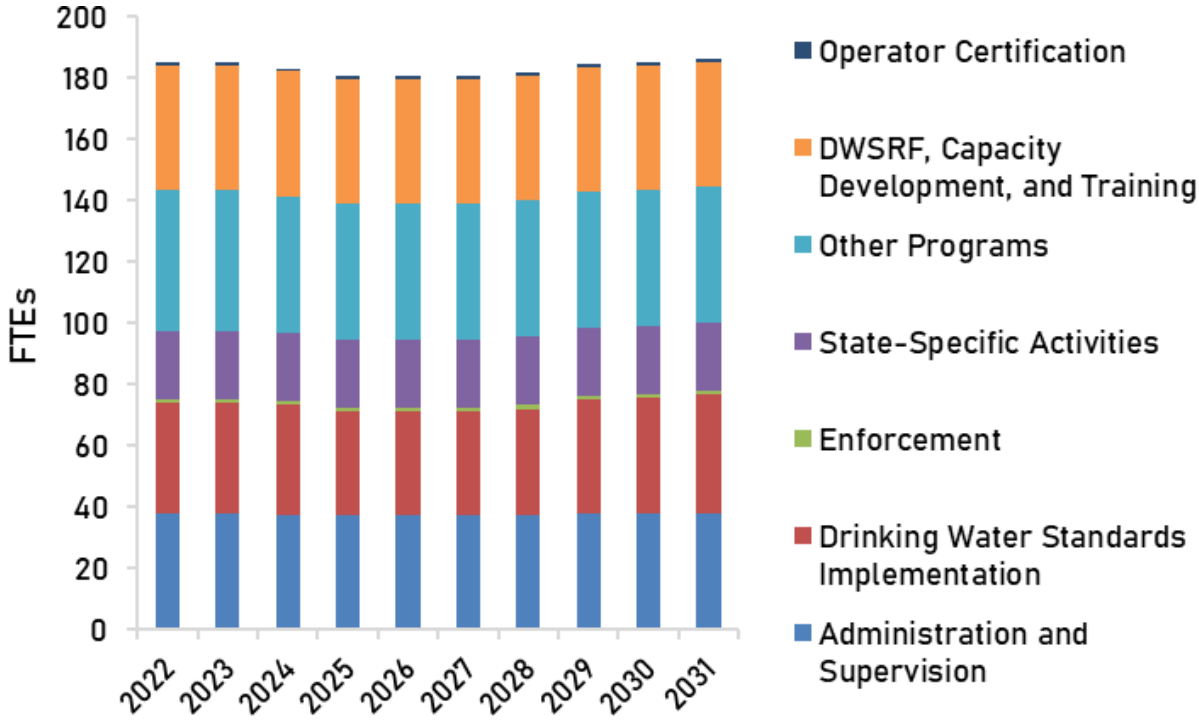
Figure 7: Projected FTEs and Funding Needed by Year (2022-2031)



The distribution of projected FTEs needed across different areas of Virginia's drinking water program is presented in Figure 8. The categories included in Figure 8 are broad, but they include more specific categories from Figure 2. In 2022, it is estimated that Virginia's drinking water program needed the following:

- 46.2 FTEs for other programs (e.g., engineering plan reviews, DWSRF management, and data management),
- 22.3 FTEs for state-specific programs (e.g., PFAS, lead testing in schools and child care facilities, 1,4 Dioxane, Hexavalent Chromium, waterworks advisory committee, and administering the sampling verification program),
- 35.8 FTEs for drinking water standards implementation,
- 37.9 FTEs for administration and supervision,
- 40.6 FTEs for DWSRF, capacity development, and training,
- 1.1 FTEs for operator certification, and
- 1.1 FTEs for enforcement.

Figure 8: Breakdown of Projected FTEs Needed by Year (2022-2031)



The projections in Figure 7 and Figure 8 show minor fluctuations in needed resources between 2022 and 2031. Increases in workload are due to different activities, including but not limited to the LCRR. This situation is discussed in detail in the next section.

The LCR was published in 1991 to protect public health by reducing exposure to lead and copper in drinking water. In 2000, the Minor Revisions were published to address implementation issues. In 2007, the Short-Term Revisions were published to improve implementation for monitoring, treatment, public education, and lead service line replacement requirements. States, including Virginia, continue to be strained by the workload required to properly implement the rule and to address new and ongoing implementation challenges.

The public health crisis related to lead in drinking water in Flint, Michigan resulted in increased scrutiny from EPA and the general public on state drinking water programs. The EPA Assistant Administrator for Water issued letters and memorandums that urged states to increase their attention on LCR and re- evaluate how the rule was implemented in their states. As a result, state drinking water programs increased drinking water system oversight as part of LCR implementation. Despite limited

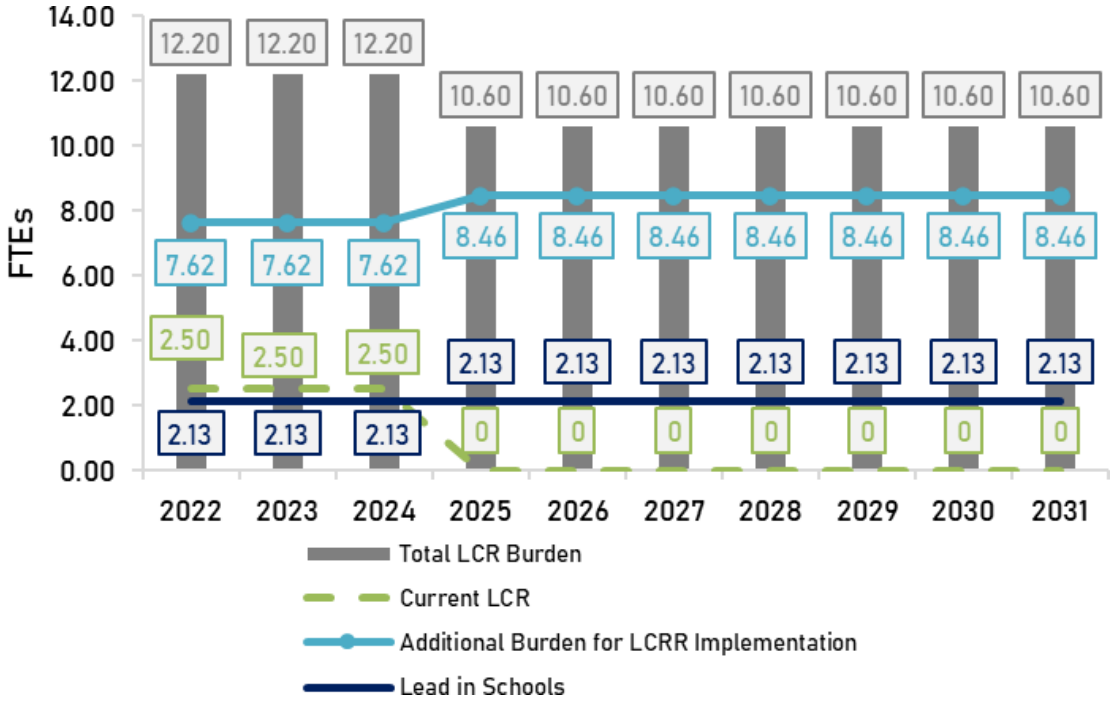
resources, Virginia has invested in implementation of the LCR and related lead programs. According to the 2020 annual PWSS program review conducted by EPA Region 3, Virginia has staff dedicated to overseeing systems compliance with the LCR, which has resulted in very few systems with violations.

Figure 9 shows the total number of annual FTEs needed for implementation of lead-related regulations in Virginia from 2022 to 2031. The gray bar (numbers are in gray boxes at the top) represents the total number of FTEs required, and the three lines with various markers are the number of FTEs for the three different categories included in the total. The green line with dashes represents the number of annual FTEs to implement current LCR requirements. **To implement the current LCR requirements, it is estimated that Virginia's drinking water program needs 2.5 FTEs from 2022 to 2024.**

In addition to burden directly related to the LCR and the LCRR, the Virginia's Department of Health receives WIIN grant funding to test for lead in drinking water at schools and child care facilities.[8] Estimated burden for the drinking water program's support to lead testing in schools and child care facilities is represented by the navy blue line in Figure 9. **It is estimated that Virginia's drinking water program needs 2.13 FTEs to implement the state's lead testing in schools and child care facilities program**.

[8] WIIN grant funding was not included under the drinking water program's current funding as this funding goes to the Department of Education who is responsible for the lead testing in schools and child care facilities program. Work performed by the Department of Education was also not included in current FTEs.

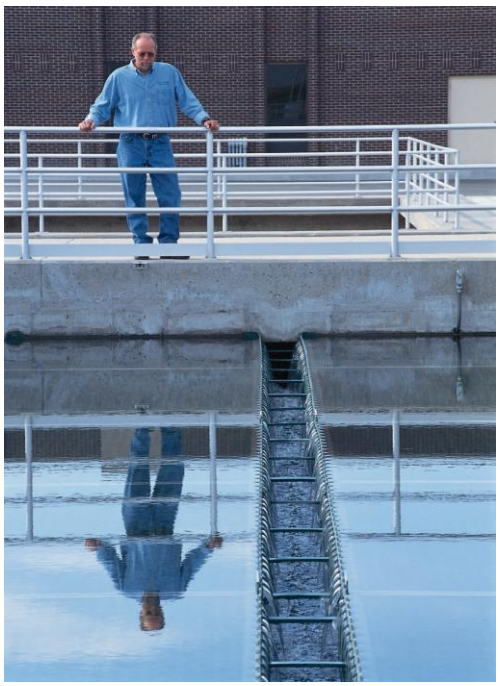
Figure 9: Annual FTEs for Lead-Related Workload



The LCRR has placed substantial burden on state drinking water programs in addition to ongoing work under the current LCR. State programs have started working with water systems to develop their water system specific lead service line inventories, which are required to be preliminarily completed by October 16, 2024. The intent of the revised rule is to strengthen public health protection by continuing to reduce exposure to lead and copper and to improve implementation of the lead and copper standards. A line item was added to the 2019 national workload model for additional burden related to LCRR implementation. The burden estimate for this new line item was developed for the 2019 national workload model using ASDWA's Costs of States' Transactions Study submitted as part of the public comment process for the proposed rule.[9]

The LCRR was published in the *Federal Register* on January 15, 2021. However, the EPA hosted virtual engagements to obtain further input and subsequently conducted a review of the new rule. EPA concluded that there were significant opportunities to improve the rule to support the overarching goal of proactively removing lead service lines and more equitably protecting public health. As a result, the LCRR will go into effect to support near-term development of actions to reduce lead in drinking water while EPA develops a new proposed rulemaking to strengthen key elements of the rule. The effective and compliance dates of the LCRR were delayed to December 16, 2021 and October 16, 2024, respectively. The new rule LCRI, is expected to be finalized before October 16, 2024. For the purpose of this analysis, workload estimates were developed based on the approach used for the 2019 national workload model, assuming that the state workload for LCRI will be similar to the LCRR in that it will place substantial burden on state drinking water programs.

[9] ASDWA. 2020. Comments on the Proposed LCRR. https://www.asdwa.org/wp-content/uploads/2020/02/ASDWA-Cover-Letter_Comments_CoSTS-on-Proposed-LCRR-Final.pdf.



Virginia's LCRR burden is represented by the teal line with circle markers in Figure 9. From 2022 to 2024, LCRR implementation activities include obtaining primacy, conducting other start-up activities (e.g., learn the rule and conduct rule training sessions for state drinking water staff and public water systems), and working with public water systems to develop inventories of lead services lines connected to the water systems' distribution systems. This amounts to 7.62 FTEs. In 2022 Virginia needed

7.62 FTEs for the additional burden for LCRR implementation activities in addition to the 4.63 FTEs already needed for current LCR implementation and lead testing in schools and child care facilities for a total of 12.2 FTEs (represented by the gray bar). Starting in 2025, LCRR burden is expected to increase to 8.46 FTEs, when the water systems begin complying with the additional new requirements. Ongoing LCR implementation and lead testing in schools and child care facilities is expected to decrease to 2.13 FTEs. Therefore, the projected number of FTEs to fully oversee compliance with the lead and copper standards and to conduct testing for lead in drinking water at schools and child care facilities (which will also by this time be required under the LCRR) will decrease to 10.6 FTEs in 2025 and remain at

10.6 FTEs through 2031.

- Workload related to lead in drinking water reveals an important point about Virginia's drinking water program, which applies to most state drinking water programs: Not too long ago, the LCR was considered a "steady state" regulation, meaning that workload related to the LCR was assumed to be static. The lead crisis in Flint, Michigan drew attention to the LCR, requiring states to invest more resources into implementation. Workload has increased over the past few years and will continue to increase well into the future with the promulgation of the LCRR and anticipated promulgation of the LCRI. This shows how dynamic state drinking water program workload can be, even for "steady state" regulations and programs.

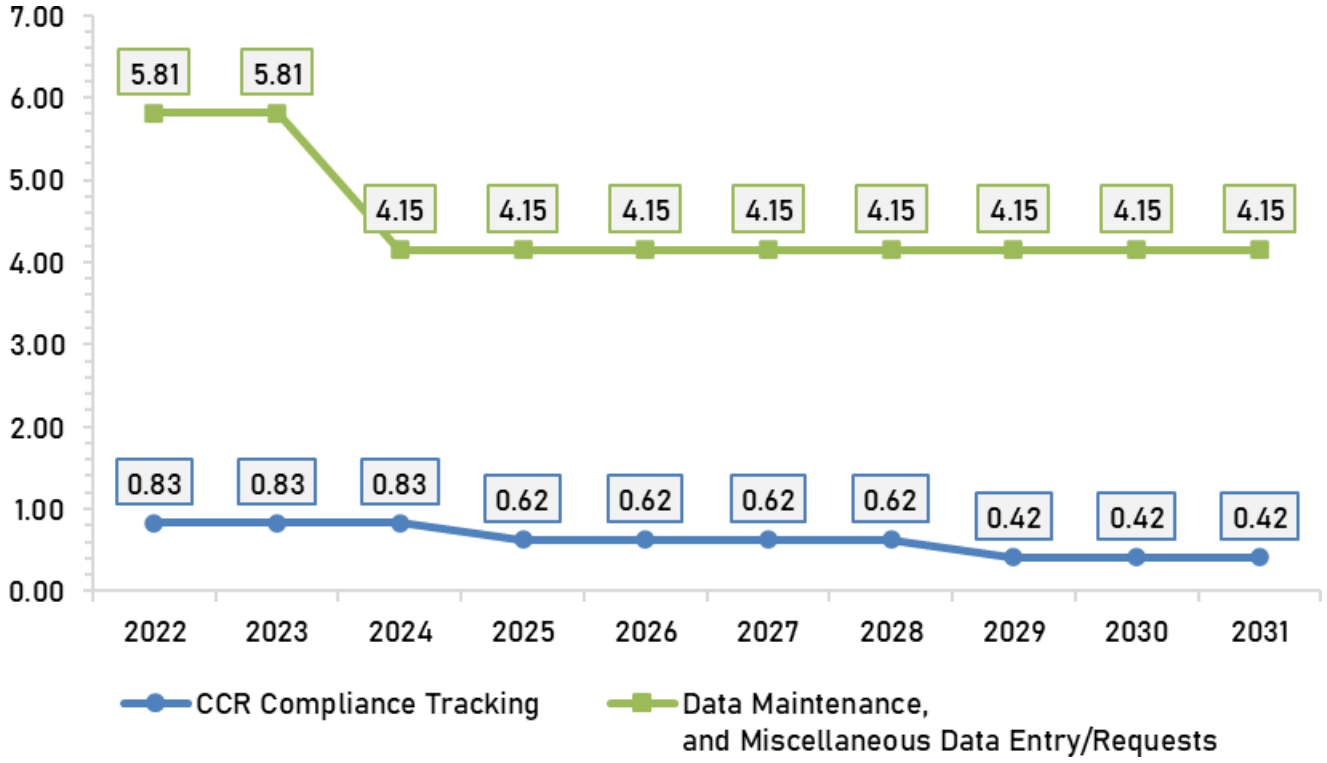
PROGRAM EFFICIENCIES

The report on ODW's budget shortfall included many efficiencies the program has undertaken. Virginia's drinking water program has identified areas of efficiencies that will limit time and resources devoted to data management tasks. Figure 10 shows the total number of estimated FTEs needed as data management increases efficiencies from 2022 to 2031. It is estimated that Virginia's drinking water program needs approximately 5.81 FTEs in 2022 for data maintenance and miscellaneous data entry, while in 2031 that number drops to 4.15 FTEs. The decrease is due to Virginia assuming they will have streamlined the processes. For example, all labs in Virginia, except for the state lab, are utilizing the CMDP, and all labs are reporting information electronically. This limits data errors and optimizes time and the use of state resources. While Virginia is currently attempting to retire their in-house system developed as a back end for SDWIS Fed, they do use some version of the EPA system in combination as well. Virginia has hired a contractor to take over their in-house system, as well as building needed tools for Virginia to make data management easier. However, there is a cost to improve efficiency. Virginia's drinking water program staff plan on working with their contractor to build these tools. This will require devoting one FTE for project management and project engineering to assist the contractors.

CCR provides an example of where current workload can be reduced. For compliance tracking under CCR, it is estimated that Virginia's drinking water program needs approximately 0.83 FTEs in 2022, while in 2031 that number drops to 0.42 FTEs. One cause of this decrease can be attributed to Virginia purchasing a new management product. This tool will be available to all water systems, and will develop a contaminants table, showing all detected, regulated contaminants that must be reported under CCR. This will reduce staff time to review and track water system's compliance with the CCR. Compared to the staff needed to build data tools specific for Virginia with a contractor, the level of effort needed to implement this tool will be less.

Virginia's drinking water program can implement efficiency measures to increase available funding and staff, however, this is not the sole solution to their resource gap. A permanent solution and new sources of funding must be implemented to prevent an annual deficit for Virginia's drinking water program.

Figure 10: Annual FTEs for Data Management Efficiencies



What is the gap between available resources and projected resources?

The workload model estimates that the resources needed to implement Virginia's drinking water program exceed available resources. Figure 11 shows the projected funding needs generated by the workload model against the funding available to Virginia from 2022 to 2031. Figure 12 shows the projected FTEs needed generated by the workload model against the available FTEs from 2022 to 2031.

As shown in Figure 11 and Figure 12, the workload model estimates that in 2023 Virginia's drinking water program needs **$9,412,098** more in funding and an additional **42 FTEs**.

Results of 2019 National Workload Analysis
The 2019 national workload analysis estimated that 55 state and territorial drinking water programs would collectively need 88 percent more FTEs and 71 percent more funding than they currently have to effectively implement their programs and ensure safe drinking water for the public in 2022. Virginia's analysis showed a smaller yet still significant gap in resources, especially in FTEs.

In other words, Virginia's drinking water program **needs approximately 56 percent more funding and 29 percent more FTEs** than is currently available to effectively implement the program and ensure safe drinking water for the public in 2023. Workload need was projected to peak in 2022 when Virginia's drinking water program needed an additional **$11,850,700** (i.e., **approximately 82 percent more funding than was available**) and an additional **73 FTEs** (i.e., **approximately 65 percent more than available FTEs**).

Figure 11: Projected Funding Needs Compared to Available Funding

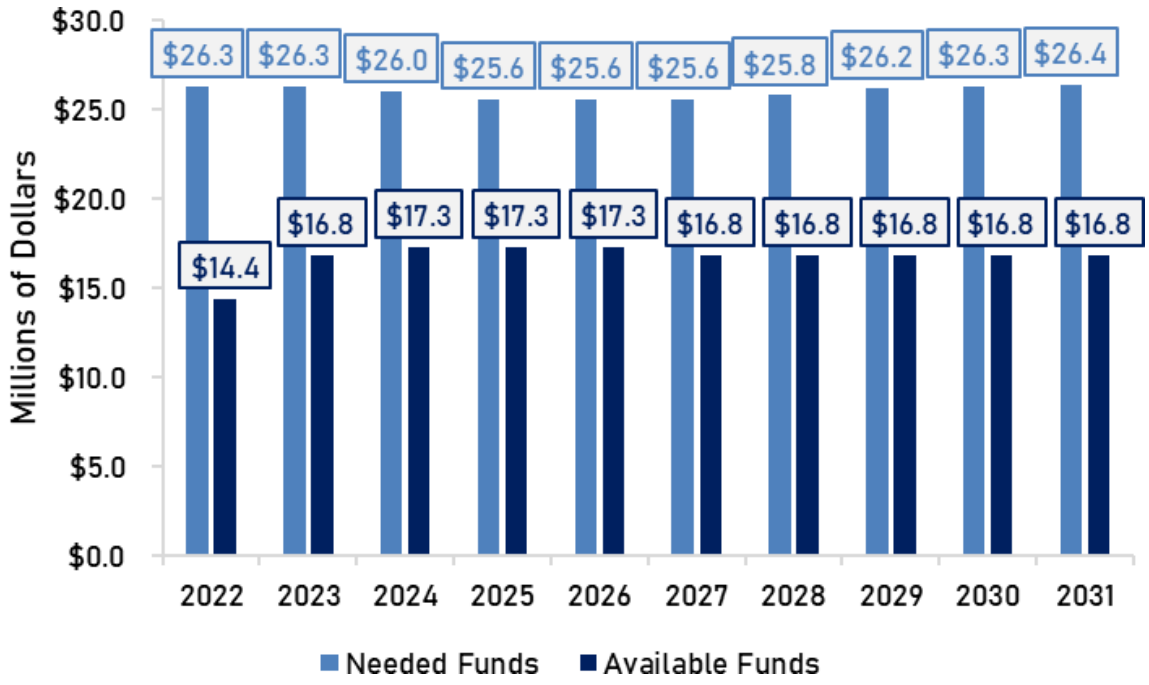
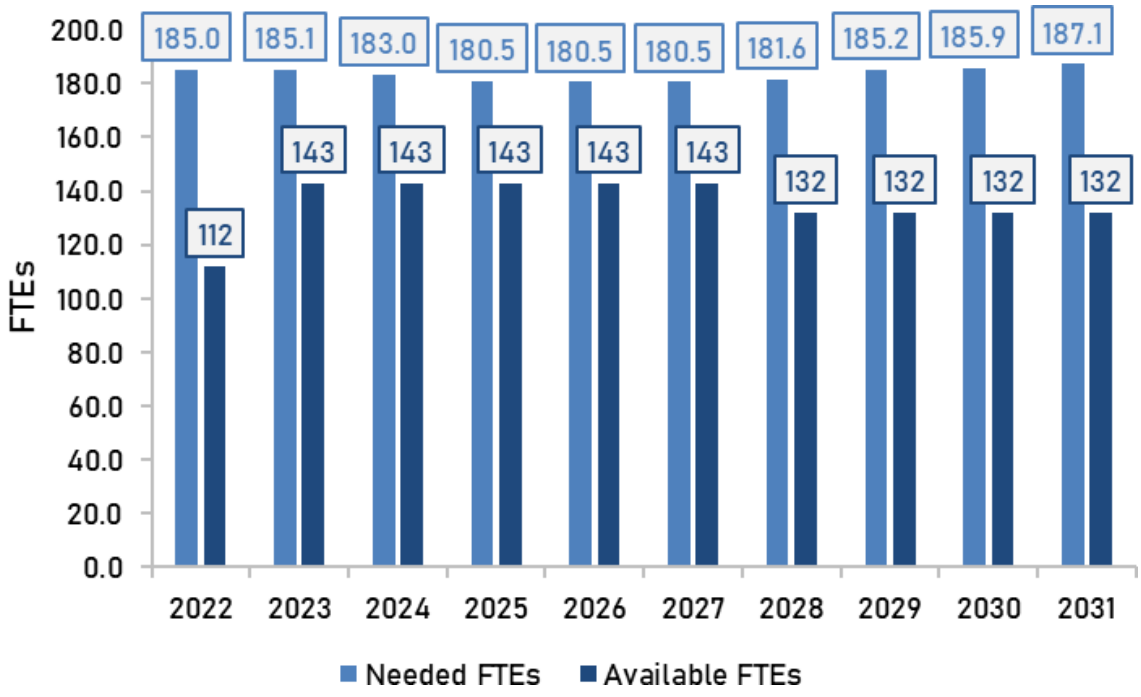


Figure 12. Projected Staffing Needs Compared to Virginia Available Staffing



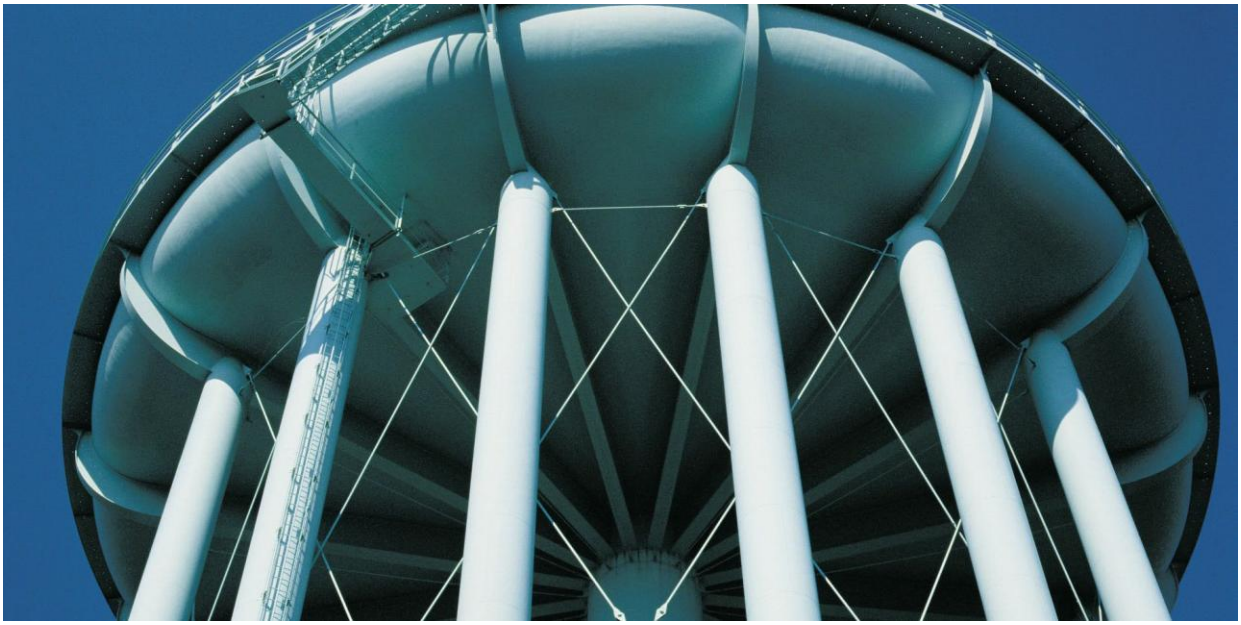
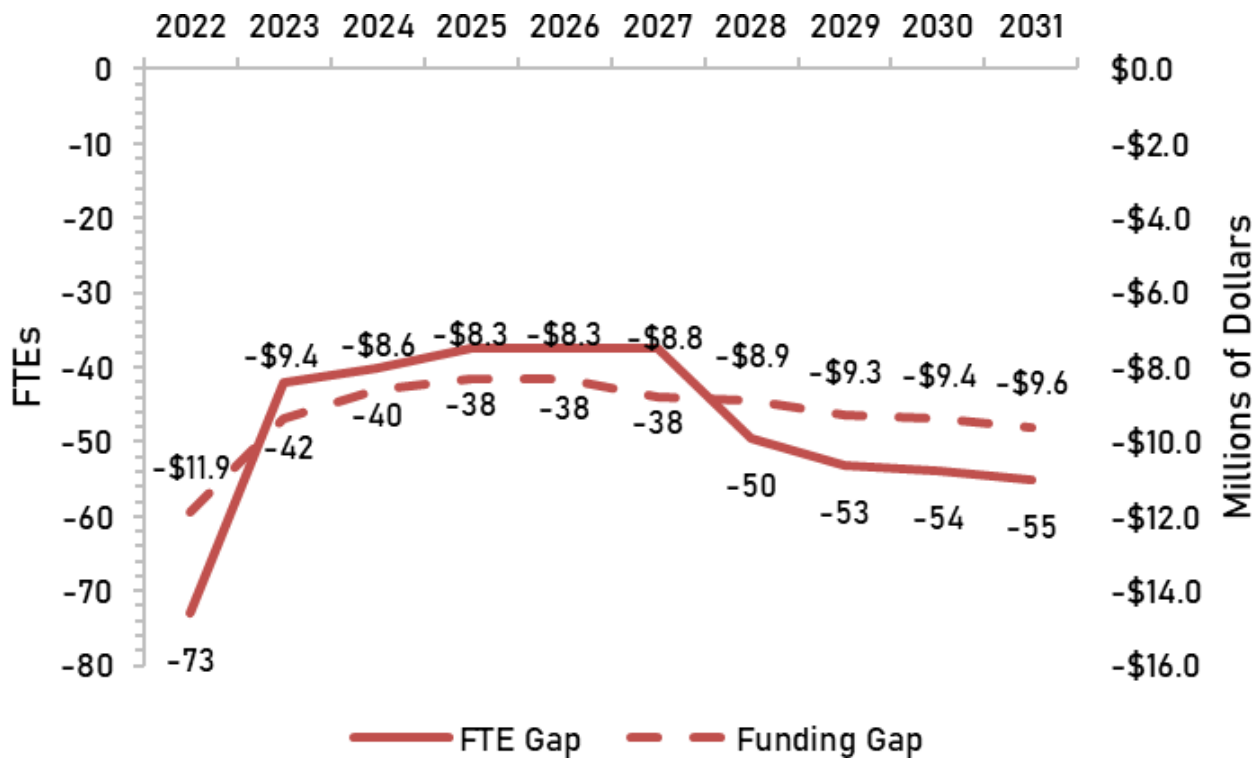


Figure 13 lists the resource deficits projected through 2031. The numbers in this figure represent the drinking water program's staffing and funding needs in addition to available resources. In 2022, there was a gap of **73 FTEs** (difference between 112 FTEs and 185 FTEs) and **$11,850,700** (difference between $14,400,911 and $26,251,611). The largest future gap is observed in 2031 when there is a gap of **55 FTEs** (difference between 187 FTEs and 132 FTEs) and **$9,593,836** (difference between $16,841,052 and $26,434,888).

Figure 13. Total FTE and Funding Deficits

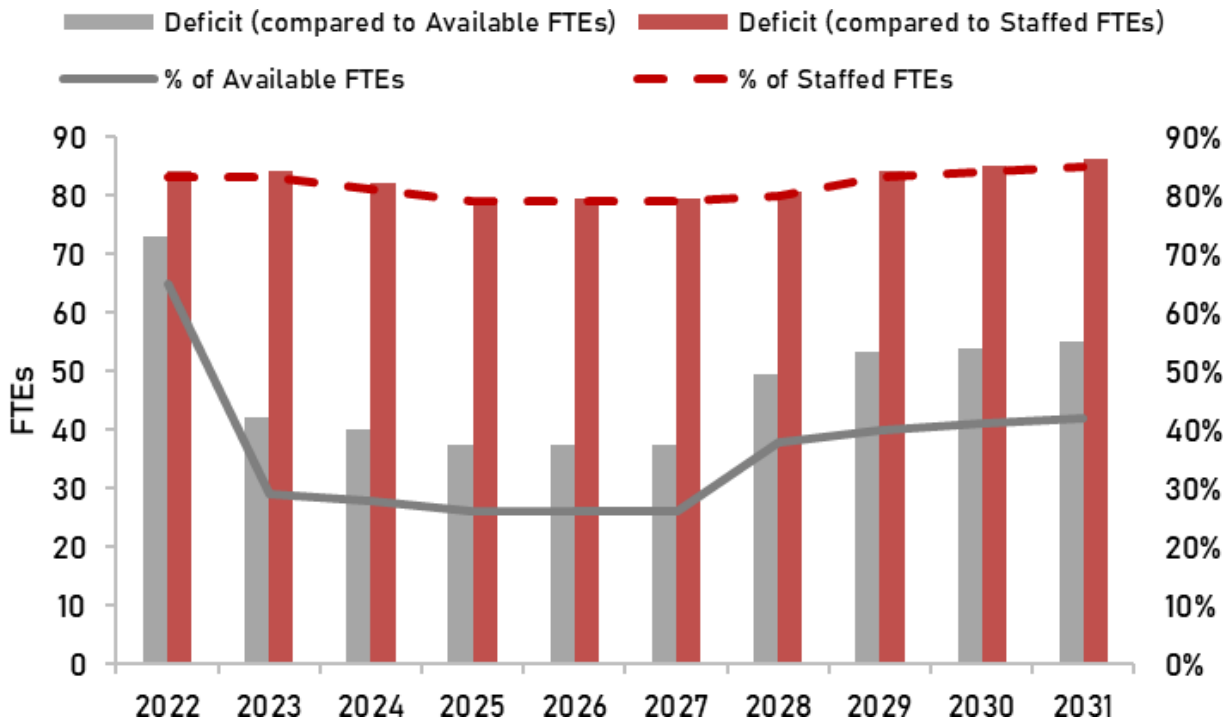


What is the gap between staffed FTEs and projected FTEs?

In 2022, Virginia needed 185 FTEs but had 112 FTEs currently funded. Additionally, out of those 112 FTEs, only 101 positions are currently staffed. The remaining 11 positions are funded but not staffed. In other words, in 2022 Virginia needed **approximately 65 percent more FTEs than currently available and 83 percent more FTEs than currently staffed**. Figure 14 displays how the current vacancies affect Virginia's staffing needs. Figure 14 graphs the following:

- FTE deficit calculated by subtracting the projected FTEs from the available FTEs (112), which include funded but not staffed positions (gray bar),
- FTE deficit as a percentage of available FTEs (dark gray dashed line),
- FTE deficit calculated by subtracting the projected FTEs from the staffed FTEs (101), which do not include vacant positions (red bar), and
- FTE deficit as a percentage of staffed FTEs (dark red solid line).

Figure 14: FTE Deficits – Available FTEs vs. Staffed FTEs



UNDERSTANDING THE RESULTS

What do the results of this workload analysis mean for Virginia's drinking water program?

The results of this analysis show Virginia's drinking water program does not have enough resources to effectively implement the drinking water program. This is exacerbated by increasing regulations and demands placed on the state drinking water program. Virginia's drinking water program also faces internal barriers in implementing the program and accessing resources, including challenges filling vacancies, competing priorities within the drinking water program, and stagnant drinking water-related fees.

Filling a high number of vacancies: VDH has a high number of vacancies, partially because of previous budget shortfall, a potential layoff plan that was cancelled, and delay in hiring while the budget issues were resolved. The layoff plan was not executed and the General Assembly, which establishes the total number of FTEs assigned to VDH as part of the budget process corrected the budget shortfall for FY23. The General Assembly infused $1.83 million into the drinking water program. Filling a large number of vacancies can be challenging given the expertise necessary, pay scale, and changing trends in work that the COVID-19 pandemic accelerated, such as the prevalence of remote work.

Competing priorities within the drinking water program: Over the past few years, new state initiatives have been started that creates more work for the drinking water system but adequate resources to support these initiatives are not always allocated. Like many states, Virginia has been put in a difficult position with unregulated issues and contaminants. In their 2018 report, ASDWA estimated that states are experiencing workload increases ranging from 1.1 percent to 12.5 percent, with the average workload increase at 4.3 percent, beyond current workload to address unregulated issues and contaminants.[10] Limited FTEs and current workload within Virginia's drinking water program allows minimal time to be dedicated to such issues as PFAS and lead in schools and child care facilities. Given additional resources, the drinking

water program could invest more in these areas, which make up a necessary part of programs across the country, given the amount of time needed to develop federal regulations.

Stagnant drinking water-related fee cap: Virginia receives a substantial amount of its funding (36%) from water system fees, but there is a cap to these fees that has not increased in 30 years. Legislation codifies that the maximum payment a waterworks shall pay to VDH is $160,000 which has not changed since 1992[11]. There is also a maximum fee of $3.00 per connection for community waterworks.

Future Regulations: Drinking water programs must continue to respond to changes in workload and new regulations. In addition to the LCRI, EPA is expected to pass three additional new regulations:

- CCR Rule Revisions, [12]
- A rule for PFAS, and [13]
- Revisions to the microbial and disinfection byproducts (MDBP) rules.[14]

The workload model currently accounts for burden related to the existing Consumer Confidence Reports Rule, MDBP rules (which include the Suite of Surface Water Treatment Rules, Ground Water Rule, Revised Total Coliform Rule, and the State 1 and Stage 2 Disinfectants and Disinfection Byproducts Rules), and state-specific activities related to PFAS covered under Program Administration. In the model, the burden for these future regulations only reflects the start-up activities associated with each rule and does not predict workload for implementation past these start-up activities. Currently, there is not enough information to quantify the additional implementation burden in this analysis, but there is expected to be increased workload related to these future regulations. This increase in workload could begin as early as 2025.

[10] ASDWA. 2018. Beyond Tight Budgets: 2018 Resource Demands Analysis for State Drinking Water Programs. https://www.asdwa.org/wp-content/uploads/2018/12/Beyond-Tight-Budgets-2018.pdf

[11] Code of Virginia, Title 32.1. Health, Chapter 6. Environmental Health Services, Article 2. Public Water Supplies § 32.1-171.1. § 32.1-171.1. Waterworks operation fee required; special fund established; certain technical assistance program to be provided (virginia.gov)

[12] https://www.epa.gov/ccr/consumer-confidence-report-rule-revisions

[13] https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

[14] https://www.epa.gov/dwsixyearreview/potential-revisions-microbial-and-disinfection-byproducts-rules

Virginia's drinking water program is understaffed and underfunded. Though ODW is meeting Safe Drinking Water Act obligations, there are additional resources needed to administer the program, manage current requirements, and successfully implement new rules, regulations, and programs more effectively. The current level of funding does not allow ODW to be proactive in preventing potential public health crises but instead mostly meet the requirements and respond to urgent needs. In recent years, ODW has had to take on additional responsibilities without an increase in resources. In the upcoming decade, the program will continue to accumulate additional responsibilities based on new regulations and program changes, adding further stress to the organization. Virginia is challenged by competing priorities in the drinking water program. Virginia's drinking water program is expected to adapt to limited resources and increasing demands by prioritizing threats to public health and implementing efficiency measures, but their ability to meet all demands and requirements is greatly compromised.

Virginia is further hindered by additional barriers including challenges in filling a high number of vacancies and boosting morale. The potential layoff plan impacted morale and caused the loss of some staff which resulted in a loss of institutional knowledge. Though the layoff plan was not executed, the program still feels some impact from the situation and filling vacancies remains a challenge. The Commonwealth will need to invest resources and pay close attention to hiring as their need for available FTEs will increase substantially from 2022 to 2023 and beyond.

Stagnant drinking water-related fee caps further strain the program as the cap has not increased in 30 years yet the amount of work necessary to maintain safe drinking water and prevent public health has increased. ODW essentially has to do more with less because if fees are not marginally raised over time, the amount of resources available practically decreases because of increased costs of running the program that result from inflation, cost of living increases, and price increases that occur naturally over a long period of time. To help solve the issue, the Commonwealth should explore options to remove the cap, approve a cost of living increase for the cap, or other ways to increase revenue from water system fees.

To provide greater public health protection and be more proactive in providing safe drinking water, the Commonwealth should invest the additional critical resources that this analysis identifies. These increased investments would allow ODW to improve drinking water oversight, quality assurance, and quality control in several ways. A few examples of improvements that could be implemented with additional resources include reducing the number of inspections per FTE. Reducing the number of inspections per FTE would allow for more thorough, higher quality inspections of water systems. Allowing for fewer inspections per FTE would allow more time for inspections would translate to fewer missed findings, observations, and deficiencies. Additionally, more staff would encourage proper categorization of observed conditions and would allow for more proactive responses to issues identified. For example, staff may start documenting more "significant deficiencies" from more robust inspections, which require follow-up and monitoring rather than identifying mostly "minor deficiencies" that do not require follow-up and monitoring. Additional FTEs could help reduce the number of systems with health based violations or other violations as more staff translates to more frequent interactions and technical assistance. Additional compliance and enforcement staffing would translate into more robust monitoring of violations and needs of the waterworks to resolve violations. The Office of the State Inspector General (OSIG) found a need for more consistent program implementation and a need for more compliance and enforcement. Implementing a more consistent approach requires more staff. Finally, additional FTEs could increase emergency preparedness. With more staff working on emergency preparedness, boil water advisories may decrease and there could be faster recovery and response from natural and man-made disasters. To help

solve these issues, the Commonwealth should provide additional investments into its drinking water program to meet the growing workload while engaging in the core preventive and emergency response work necessary to deliver safe, trusted, affordable, and dependable drinking water to the residents of Virginia.