

MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: CIP PROJECTS REPORT

DATE: FEBRUARY 27, 2024

This memorandum reports on the status of the following Capital Projects as well as other significant operating, maintenance, and planning projects.

For the current CIP and additional project information, please visit: <https://www.rivanna.org/wp-content/uploads/2023/06/2024-2028-CIP-FINAL-DRAFT-1.pdf>

Summary

	Project	Construction Start Date	Construction Completion Date
1	SRWTP and OBWTP Renovations	May 2020	July 2024
2	Airport Rd. Water Pump Station and Piping	December 2021	September 2024
3	MC 5kV Electrical System Upgrades	May 2022	December 2024
4	South Fork Rivanna River Crossing	August 2024	June 2026
5	Red Hill Water Treatment Plant Upgrades	June 2024	December 2025
6	Central Water Line	December 2024	December 2028
7	Scottsville WRRF Whole Plant Generator and ATS	TBD	TBD
8	MC Administration Building Renovation and Addition	April 2025	December 2027
9	RMR to OBWTP Raw Water Line and Pump Station	September 2024	December 2028
10	MC Building Upfits and Gravity Thickener Improvements	August 2024	August 2026
11	Emmet Street Water Line Betterment	October 2024	October 2026
12	MC Structural and Concrete Rehabilitation	September 2024	December 2026
13	Crozet Pump Stations Rehabilitation	January 2025	December 2026
14	Crozet WTP GAC Expansion – Phase I	April 2025	October 2026
15	Beaver Creek Dam, Pump Station and Piping	April 2026	January 2029
16	SFRR to RMR Pipeline, Intake, and Facilities	June 2025	December 2030
17	Upper Schenks Branch Interceptor, Phase II	TBD	TBD
18	North Rivanna Water Treatment Plant Decommissioning	September 2025	March 2027

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations
2. Airport Road Water Pump Station and Piping
3. MC 5kV Electrical System Upgrades

Design and Bidding

4. South Fork Rivanna River Crossing
5. Red Hill Water Treatment Plant Upgrades
6. Central Water Line
7. Scottsville WRRF Whole Plant Generator and ATS
8. MC Administration Building Renovation and Addition
9. RMR to OBWTP Raw Water Line and Pump Station
10. MC Building Upfits and Gravity Thickener Improvements
11. Emmet Street Water Line Betterment
12. MC Structural and Concrete Rehabilitation
13. Crozet Pump Stations Rehabilitation
14. Crozet WTP GAC Expansion – Phase I
15. Beaver Creek Dam, Pump Station, and Piping
16. SFRR to RMR Pipeline, Intake, and Facilities
17. Upper Schenks Branch Interceptor, Phase II
18. North Rivanna Water Treatment Plant Decommissioning

Planning and Studies

19. Asset Management Plan
20. MCAWRRF Biogas Upgrades

Other Significant Projects

21. Urgent and Emergency Repairs
22. Security Enhancements

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	96%
Base Construction Contract +	
Change Orders to Date = Current Value:	$\$36,748,500 + \$1,329,762 = \$38,078,262$
Completion:	July 2024
Budget:	\$43,000,000

Current Status: Improvements continue at the OBWTP including completion of the new Chemical Building and general site improvements. At the SRWTP, sludge pump improvements and final instrumentation programming work continues.

2. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction, Inc. (ACI) (Lynchburg, VA)
Construction Start:	December 2021
Percent Complete:	85%
Base Construction Contract + Change Order to Date = Current Value:	$\$8,520,312 + \$205,908 = \$8,726,221$
Completion:	September 2024
Budget:	\$10,000,000

Current Status: Water line installation is substantially complete. All sections of the waterline have passed pressure testing with flushing and disinfection approximately 50% complete. Paving of Berkmar Drive is proceeding but is weather dependent. Pump station startup and testing can begin once electric power, water, and fiber installations to the site are completed in February. The roof installation is complete. Plumbers and electricians are completing their work inside the pump station.

3. MCAWRRF 5kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer (Hazen)
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	May 2022
Percent Complete:	31%
Base Construction Contract + Change Order to Date = Current Value:	$\$5,180,000 - \$848,368 = \$4,331,632$
Completion:	December 2024
Budget:	\$5,635,000

Current Status: All major site-related work, including underground electrical ductbank, equipment pads, and curb and gutter replacements, is complete. Small electrical equipment for this project continues to arrive at the site, with the larger equipment scheduled to arrive later this Winter through early Spring.

Design and Bidding

4. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	90% Design
Construction Start:	August 2024
Completion:	June 2026
Budget:	\$7,300,000

Current Status: Easement acquisition work is on-going. A required easement on the south side of the river is on a remnant property from the VDOT Berkmar Bridge project, and we cannot finalize that easement until the property transfer back to the original property owner is complete. We had a meeting with VDOT to move this acquisition forward. Another outstanding easement is on a Virginia Dominion Power parcel for which we completed a Phase 1 Environmental Survey because Virginia Dominion Power prefers that we purchase the small parcel instead of acquiring an easement. A purchase agreement package will go to Dominion this month. The final outstanding easement is with Albemarle County across the Brookhill Park property along Rio Mills Rd for which a final draft is pending.

5. **Red Hill Water Treatment Plant Upgrades**

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2022
Project Status:	Bidding
Construction Start:	June 2024
Completion:	December 2025
Budget:	\$2,000,000

Current Status: Review of bid costs and potential changes are ongoing with the contractor and Rivanna personnel. This is being done to ensure all operational needs are met while incorporating cost savings measures where feasible. This project received partial grant funding from Albemarle County.

6. **Central Water Line**

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	75% Design
Construction Start:	December 2024
Completion:	December 2028
Budget:	\$47,000,000

Current Status: Completion of 90% construction documents is anticipated this month with a stakeholder's workshop to follow. Easement acquisitions are being initiated with our real estate consultant. Soil borings and utility test pits along the alignment are complete. Railroad permits will be submitted this month.

7. **Scottsville WRRF Whole Plant Generator and ATS**

Design Engineer:	Wiley Wilson
Project Start:	December 2021
Project Status:	100% Design
Construction Start:	TBD
Completion:	TBD
Budget:	\$520,000

Current Status: An update from VDEM indicated that the grant approval and funding process may continue until Summer 2024. As a result, the overall project schedule is uncertain.

8. Moore's Creek Administration Building Renovation and Addition

Design Engineer:	SEH
Project Start:	October 2022
Project Status:	60% Design
Construction Start:	April 2025
Completion:	December 2027
Budget:	\$20,000,000

Current Status: Value Engineering recommendations are under review. Site planning for the temporary trailers is being incorporated. The education exhibit design will be incorporated into the 90% documents.

9. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station

Design Engineer:	Kimley-Horn
Project Start:	August 2018
Project Status:	87% Design
Construction Start:	September 2024
Completion:	December 2028
Budget:	\$46,000,000

Current Status: Design of the pump station is 75% complete, and design of the waterline is 90% complete. Comments from the County on the Water Protection Ordinance permitting documents are being incorporated. Staff are meeting with UVA this month to discuss the final easement needed. An information meeting with contractors will be scheduled.

10. MCAWRRF Building Upfits and Gravity Thickener Improvements

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	March 2023
Project Status:	5% Design
Construction Start:	August 2024
Completion:	August 2026
Budget:	\$7,500,000

Current Status: A work authorization for design, bidding and construction administration services is being submitted this month for Board approval with design kickoff anticipated for early March.

11. Emmet Street Water Line Betterment

Design Engineer:	Whitman, Requardt & Associates (WRA)
Project Start:	September 2021
Project Status:	Ivy Corridor Public Realm – Complete Contemplative Commons – Complete Emmet Streetscape –70% Design Hydraulic/29 – Preliminary Design

Completion:	2024 - 2026, Phase I
Budget:	\$2,900,000

Current Status: WRA has completed 70% construction documents for the water main. Permitting efforts are underway. RWSA is coordinating with City Utilities for construction of a 24-30" water main in Emmet Street from Ivy Road to Arlington Boulevard as part of the City's Emmet Streetscape Phase I project. A Betterment Agreement and costs are under review by City Utilities.

An analysis of possible water main alignments along the Emmet Street Corridor was completed for the section between Morton Drive and Hydraulic Road. The report detailing this analysis was completed in December 2023.

12. MCAWRRF Structural and Concrete Rehabilitation

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	April 2023
Project Status:	Preliminary Engineering
Construction Start:	September 2024
Completion:	December 2026
Budget:	\$11,300,000

Current Status: Revisions are underway to the draft PER Report to include additional information and associated costs for the digester alternatives. Design documents are progressing for all the other structural rehabilitation and repair elements towards a 90% deliverable within the next month.

13. Crozet Pump Stations Rehabilitation

Design Engineer:	Wiley Wilson
Project Start:	July 2023
Project Status:	60% Design
Construction Start:	January 2025
Completion:	December 2026
Budget:	\$10,350,000

Current Status: 60% design documents have been completed and a review workshop was held in January. Preparations are underway for a value engineering workshop.

14. Crozet GAC Expansion – Phase I

Design Engineer:	SEH
Project Start:	July 2023
Project Status:	Preliminary Engineering
Construction Start:	April 2025
Completion:	October 2026
Budget:	\$6,550,000

Current Status: The Preliminary Engineering Report will be completed in February.

15. Beaver Creek Dam, Pump Station and Piping Improvements

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	10% Design
Construction Start:	April 2026
Completion:	January 2029
Budget:	\$47,000,000

Current Status: Design work is underway by Hazen for the new raw water pump station, intake, raw water main, and hypolimnetic oxygenation system, and by Schnabel Engineering for final design of the dam spillway upgrades, temporary detour, and spillway bridge. Site survey work for the pump station will be completed in March 2024.

16. SFRR to RMR Pipeline, Intake, and Facilities

Design Engineer:	Kimley Horn/SEH
Project Start:	July 2023
Project Status:	11% Design
Construction Start:	June 2025
Completion:	December 2030
Budget:	\$80,000,000

Current Status: Boundary survey of the watermain alignment in VDOT right-of-way and the geotechnical investigation will be completed this month. Modifications to the Ragged Mtn Reservoir intake tower and perimeter clearing to allow for the 12-foot pool raise will be included in this overall project. A short section of the 36" raw water main is being constructed with the Victorian Heights housing development on Woodburn Road and will be completed in March 2024.

17. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	CHA Consulting
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD
Budget:	\$4,725,000

Current Status: The design team has provided additional information to assist the County with easement acquisition considerations.

18. North Rivanna Water Treatment Plant Decommissioning

Design Engineer:	SEH
Project Start:	July 2019
Project Status:	5% Design
Construction Start:	September 2025
Completion:	March 2027
Budget:	\$2,425,000

Current Status: Design is underway for decommissioning of the North Rivanna Water Treatment Plant. Staff are pursuing funding and administrative assistance for removal of the North Fork Rivanna low head dam from the U.S. Fish and Wildlife Service (USFWS) through their Partners for Fish and Wildlife Program. River survey work requested by USFWS is expected to be completed this month.

Planning and Studies

19. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	AMP Implementation – 80% Complete
Completion:	AMP Implementation – 2024
Budget:	\$1,180,000

Current Status: Work continues to fully implement the Asset Management program across all applicable Authority facilities with refinement of a linear asset Excel model and planning associated with performing condition assessments on critical RWSA assets.

20. MCAWRRF Biogas Upgrades

Design Engineer:	SEH
Project Start:	October 2021
Project Status:	Preliminary Engineering/Study (99%)
Completion:	December 2024
Budget:	\$2,145,000

Current Status: This project now includes the Methane Sphere Rehabilitation, in addition to possible Cogeneration upgrades. RWSA and City staff continue to discuss all available options to reuse the biogas, with further investigation and analysis ongoing.

Other Significant Projects

21. Urgent and Emergency Repairs

Staff are currently working on several urgent repairs within the water and wastewater systems as listed below:

Project No.	Project Description	Approx. Cost
2023-01	Finished Water System ARV Repairs	\$150,000
2024-01	Rivanna Wastewater Pumping Station Flood	TBD
2024-02	North Rivanna Waterline Break Near Camelot	\$15,000

- RWSA Finished Water ARV Repairs: RWSA Engineering staff recently met with Maintenance staff to identify a list of Air Release Valves (ARVs) that need to be repaired, replaced, or

abandoned. Several of these locations will require assistance from RWSA On-Call Maintenance Contractors, due to the complexity of the sites (proximity to roadways, depth, etc.). The initial round will include six (6) sites, all along the South Rivanna Waterline, and will be completed starting in March 2024.

- Rivanna WWPS Flood: As discussed in the January Board of Directors Meeting and in this month's board packet, the Rivanna Wastewater Pump Station experienced a significant flooding event on the evening of January 9th, 2024, that has rendered the facility inoperable. Work continues on the 53-MGD bypass pumping installation, with completion anticipated over the next several weeks. In addition, staff continues investigation into the root cause of the event on the dry well side of the facility and has also begun analyzing procurement needs for long-lead equipment items.
- North Rivanna Waterline Break Near Camelot Subdivision: At around 1:45 PM on January 25th, the North Rivanna Waterline experienced a catastrophic failure, between its crossing of the North Fork of the Rivanna River and Camelot Drive. RWSA crews mobilized quickly and were able to isolate the leak, which helped to restore overall system pressures. Repair efforts began around 5:30 PM once the Virginia Miss Utility Ticket cleared, and the watermain was placed back into service around 1:00 AM the following morning.

22. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	10% (WA9), 0% (WA10)
Based Construction Contract +	
Change Orders to Date = Current Value:	\$718,428 (WA1) + \$834,742 (WA2-10)
Completion:	June 2024 (WA9), August 2024 (WA10)
Budget:	\$2,810,000

Current Status: WA9 will include installation of card access on all exterior doors at the South Rivanna WTP. Work began during the week of January 29th. WA10 will include installation of card access on the exterior doors of the finished water pump station and 795 tank buildings in Scottsville, as part of the recent transfer in ownership of these facilities to RWSA. Materials are currently being procured for this work. Design of MCAWRRF entrance modifications with Hazen & Sawyer also continues, with discussions with Dominion Energy also ongoing, as relocation of existing electrical infrastructure will be required. This relocation process will need to be finalized prior to the project proceeding to the bidding phase. Relocation of existing electrical infrastructure will require coordination with the adjacent landowner, as the infrastructure must be completely relocated from the entrance area. As these discussions are ongoing, staff has submitted appropriate permitting documents with Albemarle County.