

CITY of HARRISONBURG

Raw Water Supply Management Plan

FY2021: 8th Edition



harrisonburgva.gov/water-engineering

Value of Raw Water Supply Management Plan (RWSMP)

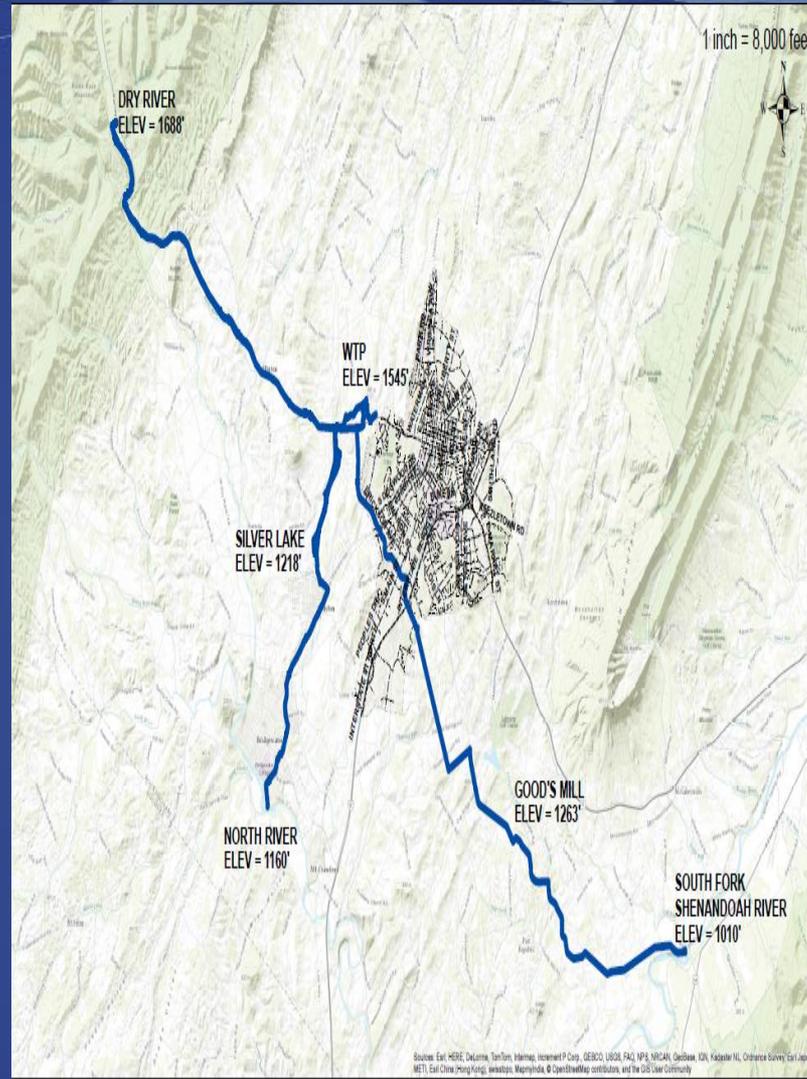
Six Recommendations to:

- Coordinate use land planning and water supply planning

<u>YEAR</u>	<u>CITY</u>	<u>TOTAL</u>
2020	7.9 MGD	9.8 MGD
2070	12.1 MGD	15.0 MGD

Raw Water Supply Management Plan

- Dry River
- North River
- South Fork Shenandoah River
- Silver Lake



Value of Raw Water Supply Management Plan (RWSMP)

Six Recommendations to **RELIABILITY**

- Coordinate use land planning and water supply planning

<u>YEAR</u>	<u>REQ'D</u>	<u>AVAILABLE</u>	<u>DRI</u>	<u>NRI</u>	<u>SFI</u>	<u>OTHER</u>
2020	9.8 MGD	11.0 MGD	4.0 MGD	7.0 MGD	0.0 MGD	0.0 MGD
2070	15.0 MGD	15.0 MGD	0.0 MGD	2.5 MGD	9.1 MGD	3.4 MGD

Value of Raw Water Supply Management Plan (RWSMP)

SUSTAINABILITY

Source	Max. Capacity	kwhrs/mG	<u>50%/25%/25%</u>	<u>70%/12.5%/12.5%</u>
DRI	13.8 MGD	0	-6.3M lbs –CO2	-8.8M lbs –CO2
NRI	7.6 MGD	2,200		
SFI	13.2 MGD	3,500		

VAC Local and Regional Water Supply Plan

Plan Recommendation #1	Status – FY 2021
<p>Maintain compliance with Virginia Administrative Code requirements for a regional and local water supply plan.</p>	<ul style="list-style-type: none">✓ 2013: Original “Plan” was adopted by resolution of City Council and approval by DEQ✓ 2018: Updated “Plan” was reapproved• 2023: “Plan” update and re-approval due

VWWP #16-0730

Plan Recommendation #2

Renew Virginia Water Withdrawal Permit #16-0730

Comply with the requirements of the re-issued permit

Status – FY 2021

- ✓ 2016 permit was re-issued; expires 2031
- Permit requirements:
 - ✓ Conservation Ordinance adopted
 - Install aquatic protection screens at all intakes: \$6M 2023 CIP
 - Comply with maximum withdrawals

Dry River

Plan Recommendation #3

- Upgrade 55,000' raw water pipe
- Transition 1959 pipe to potable water
- Decommission 1929 pipe
- Decommission 1898 pipe

Status – FY 2021

- ✓ 22,000 feet complete
- 11,400 feet 2027 CIP: \$6.1M
Convert 16" pipe to potable status
- 21,600 feet 2032 CIP: \$12.2M
Convert 16" pipe to potable status

North River

Plan Recommendation #4

- Upgrade North River Pump Station
 - Variable output; energy efficient
 - Retire critical assets
 - Add power loss response
 - Model for PDPS & GMPS
- NRPS: Add Energy AI Technology
- 20” pipe rehab & retirement
- 24” pipe rehab & retirement

Status – FY 2021

- ✓ NRS Project 100% complete \$1.6M
- ✓ Energy Optimizer installed 2021
- 20” pipe corrosion protection 2022-2040
- 24” pipe retirement-post 2050

Silver Lake

Plan Recommendation #5

- Address lease expiration with Dayton
- Configure intake for temporary connection
- Understand long term need to Silver Lake water

Status – FY 2021

- ✓ Lease revised and renewed
- FY2022 CIP: Intake project
- Long term need has been identified in the RWSMP

South Fork Shenandoah River

Plan Recommendation #6
Complete construction phase of the South Fork Shenandoah River Raw Water Project
90,000 feet pipe
\$45M –
59,000 feet pipe complete
31,000 feet 2022-2023
PDPS 50% complete
GMPS 25% complete

Status – FY 2021
• PD & GM PS..... 2022-2024
• 256.1A (PDPS + 2,200 feet pipe) Complete
• 256.1B (256.1A + 17,275feet pipe) Complete
• 256.1C (256.1B + 9,479feet pipe) 2022-2023
• 256.2ARX (3 Bores-256.2A) 2021-2022
• 256.2A (Port Republic Rd Corridor - 16,670' pipe).... 2022-2023
• 256.2B (Port Republic Road to ECL) Complete
✓ 256.3A-E (ECL to WCL) Complete
✓ 256.4 (WCL to Rt 33) Complete
✓ 256.5 A&B (WCL to WTP) Complete