

Empowering the Multipurpose Water Resource Program Renewable Water Program Fund to Enable the Missouri Water Resources Revolving Funding Plan

OVERVIEW

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Throughout the State of Missouri there are pressing needs related to water supply, transmission and distribution caused by population shifts, aging water infrastructure and increasingly stringent water quality standards. Large parts of Missouri are or will face water supply and distribution challenges that will place Missouri and Missourians at a competitive disadvantage.

In EPA's 2013 Drinking Water Infrastructure Needs Survey and Assessment (based on a 2011 survey) it is estimated that the nation needs a total of \$384.2 Billion in water system infrastructure capital improvements over a 20 year period. This study includes only infrastructure needs that are eligible for the state revolving loan fund, so it excludes dams, reservoirs, projects related primarily to population growth, and operation and maintenance costs. \$8.5 Billion (2.2%) of this need is attributed to Missouri. The numbers in Missouri are particularly dire for small systems (serving 10,000 or fewer persons) with 50.2% of the total need going to such systems. Only 4 states have a higher percentage.

There are currently efforts underway to "stand-up" a statute that is in existence known as the "Multipurpose Water Resource Program Renewable Water Program Fund" (Multipurpose Fund) (Sections 256.435-256.445, RSMo). The program and models associated with the Multipurpose Fund hold great promise for the creation of a tool that can unleash millions of dollars of water infrastructure development, maximize federal funds to the State and replenish itself or pay back the State of Missouri for its investment.

While the effort to implement the Multipurpose Fund is being led by a team associated with the East Locust Creek Regional Water Supply Reservoir in Sullivan County, their model and the statute could be used for water supply and water distribution projects throughout Missouri, including in Northwest and Southwest Missouri, where projects are progressing, but require State support. The Multipurpose Fund could become a platform or flexible tool for many other projects to use. It could become the centerpiece or flagship for MDNR assistance.

Water Infrastructure Gap Funding Need

There currently exists a gap in the ability of the State of Missouri to assist with the funding of Missouri Department of Natural Resources (MDNR) approved, water resource projects. Specifically, reservoir source water projects are explicitly excluded from State Revolving Fund (SRF) eligibility. The SRF program is the only MDNR funding tool for large scale water and waste water projects in the state. MDNR Reservoir Study Operation Computer Program (RESOP) analysis shows several existing surface water sources in specific communities and regions of the state are nearing their design life and/or capacity. This adverse trend is compounded by a natural and policy-driven trend toward regionalization of public drinking water systems, which eliminates small, inadequate or inefficient supplies and transfers their demand to more sustainable sources. The State and the citizens it serves need a flexible program that can lend an appropriate and justified level of assistance to advance encompass all types of water infrastructure project needs. Comprehensive planning and funding assistance should include applicability for source water development (including reservoirs), water treatment facilities, and transmission and distribution lines. The new "tool" must allow for flexibility, so that the State may participate and partner in assisting local sponsors in long range planning for the water needs on a regional basis and to leverage federal match share programs as available. By developing a flexible funding tool, Missouri can diversify its water resources portfolio, which increases the potential for imminent sustainability.

Revolving Fund Goals

- Develop a program to fill a funding gap for comprehensive water planning
- Access federal funds to reduce the State and local sponsor's financial burden
- Maximize the State's return on investment
- Enable a flexible, sustainable and self-perpetuating fund

Solution in Existence

The State of Missouri has an established statutory solution, in the form of the Multipurpose Fund, to provide financial support to water resource projects. According to public records, the Multipurpose Fund has never been used nor assigned specific implementation policy. Per statute, the Multipurpose Fund states: *“The State may participate with a sponsor in the development, construction or renovation of a water resource project, if the sponsor has a plan which has been submitted to and approved by the director.”* Support of the Multipurpose Fund could provide the necessary gap funding to move projects to implementation and construction phases. Therefore, the State should appropriate funds to the Multipurpose Fund, which has a broader purpose and greater flexibility to fund MDNR approved water resource projects.

Implementation Process for the Revolving Fund

The process begins with the Missouri State Legislature approving an appropriation for the Multipurpose Fund in the State’s annual budget. Next, a sponsor will submit a plan to the Missouri Water Resources Center of MDNR to utilize the Multipurpose Fund. The Missouri Water Resources Center will review/comment and negotiate the plan and pass along a recommendation to the Director of MDNR. Upon approval by the Director, the sponsor and MDNR will enter into a plan contract for project funding implementation. This flexibility creates a funding platform for the greatest number of projects for which there are no other State programs and/or it can be used in conjunction with other state or federal programs. The General Assembly still maintains oversight through appropriating to and from the Multipurpose Fund.

Discussion in Support of Flexibility to Meet Current and Future Needs

The Multipurpose Fund is a flexible water resource program that allows the MDNR to customize a financial solution on a case-by-case basis as initiated by the submittal of a sponsor’s plan. Application can be submitted for projects including, but not limited to, those intended for consolidation and regionalization. Moving the specific approval criteria of a sponsor’s plan to the negotiation stages of application development allows for an adaptive management process. This is an opportunity for MDNR to get outside the constraints of the typical loan/grant program with its point system for ranking and let the merits of the project plan drive the arrangement between the State and the sponsor. It also allows for the local sponsor to become a “conduit financier”, which then enables maximization of highly favorable loan rates (and grants) through federal programs.

Though the Multipurpose Fund has never been used, last year MDNR began the process of developing administrative rules to accompany it. This process has been recently suspended and should get started again.

To address programmatic gaps in funding, it is suggested that discretion be afforded to the Water Resource Center and ultimately the Director of MDNR. The flexibility is intended to take lessons learned from previous and current projects and adapt the plan to match the sponsor’s true needs in accordance with State Water Plan. This will afford the broadest application for the greatest benefit to Missouri water infrastructure projects. While oversight, accountability and auditability are of paramount importance, prescriptive or proscriptive rules will have the effect of limiting applications to the Multipurpose Fund.

Example of a Plan: North Central Missouri Regional Water Commission (NCRMWC) East Locust Creek Water Supply Reservoir

The Sponsor (in this example NCRMWC) will contract with NRCS to cost share on a regional surface water project capable of supplying raw water of 7 MGD. Based on the NRCS agreement the local share of the project will be 40% of the total project costs. Because of the regional nature of the reservoir, MDNR will cost share with the sponsor on the local share based on current need vs. project future capacity subject to an annual calculation. The Sponsor will act as a conduit financier for State of Missouri thus allowing MDNR and the sponsor to take advantage of additional grants and low interest loans available through USDA-RD for which the State **would not otherwise** qualify. On an annual basis the Sponsor and MDNR will split, based on use, the annual debt service payment. As future available water capacity is realized due to the addition of new customers or increased demand, MDNR's obligation will decline concurrently and eventually be eliminated. Once the total water use reaches 7 MGD, or the USDA-RD loan is repaid, MDNR's obligation ends.

The Sponsor's plan, includes a robust marketing plan for expansion (based on a target wholesale water rate of \$3.50 per 1,000 gallons), a repayment of State investment (achieved by the Sponsor dedicating a portion of their water rate to fund for the life of the project), provides volumetric water rights to the State proportional to current water need of the Sponsor vs. available water capacity (the State portion). In return, the Sponsor will maintain priority access to the Multipurpose Fund for expansion and maintenance projects (upon the submittal of plan amendments, subject to separate approval or extension by the Water Resource Center. The marketing plan for expansion will ensure the State is relieved of its obligation and the Sponsor will become a Member of the Multipurpose Fund which requires a dedication of a portion of their water rate to fund the Multipurpose Fund for the life of the project. The amount of the rate dedicated to replenishing the fund will be calculated by a set formula that keeps the water rate marketable to entice expansion. In this example plan, amendments would be filed with the Water Resource Center for funds to build transmission lines and expand the water plant. With each plan amendment, the Sponsor will continue to seek other federal support through USDA-RD, CDBG, EDA or other federal programs, thereby maximizing the federal funds to the project.

With a reliable water source, a marketable wholesale water rate, and the ability to finance system expansion, the customer base of the Sponsor increases. This increase in customers allows the fixed O&M costs to be reduced per customer, increasing the available portion of the water rate for contribution to the Multipurpose Fund. Because of this, the State investment under the NCRMWC model is \$18 million with a return on investment of \$150 million in water infrastructure funding over the life of the system.

Points of Analysis for Comprehensive Marketing Plan

1.6 MGD (0.6 MGD finished, 1.0 MGD raw)

- Current demand

2.3 MGD (1.3 MGD finished, 1.0 MGD raw)

- Phase 1 demand (South to Chariton-Linn #3, Marceline, and Brookfield)
- Assumes completion of Phase 1 distribution expansion (\$12-\$18M)

3.0 MGD (2.0 MGD finished, 1.0 MGD raw)

- Phase 2 demand (Continuation of Phase 1, plus trunk line to Unionville)
- Assumes completion of Phase 2 distribution expansion (\$2-\$5M)
- Near current WTP capacity

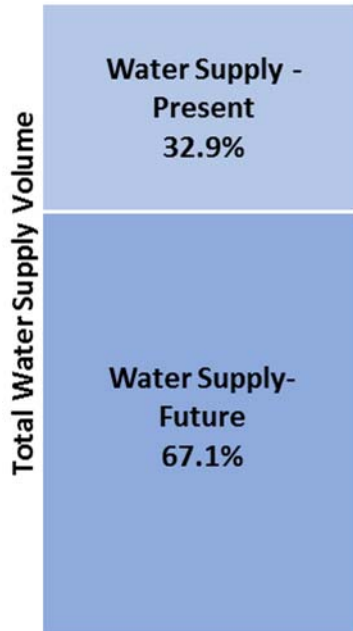
5.0 MGD (4.0 MGD finished, 1.0 MGD raw)

- Requires a WTP project to increase capacity (\$12-\$18M)

7.0 MGD (6.0 MGD finished, 1.0 MGD raw)

- Full ELCR water provision capacity
 - Assumes completion of additional distribution expansion phases (\$12-\$18M)
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Phase 1 Expansion



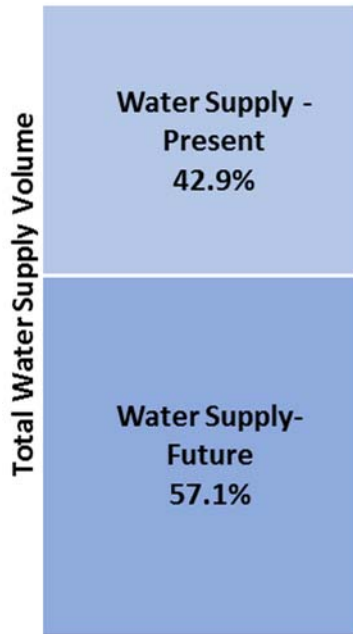
			Alt. 2 @ 2.3 MGD		
NCMRWC / State Cost Share Analysis	Item		Total Cost	NCMRWC	State
			100%	32.9%	67.1%
	Total Local Cost		\$36,279,118		
	P & I 35 years 2.75 % Interest		\$1,627,352	\$534,701	\$1,092,651
	Lake O & M		\$100,000	\$32,857	\$67,143
	Total Annual Obligation		\$1,727,352	\$567,559	\$1,159,794
NCMRWC Rate Analysis (\$/1,000 gal.)	Item	Current			
	O&M rate	\$2.76	\$1.84	-	
	Debt Rate Drinking	\$2.62	\$0.72	-	
	Debt Rate Expansion	\$0.00	\$0.92	-	
	Total Rate	\$5.38	\$3.49	-	
Annual Assumptions	Gallons per Day Treated		1,300,000		
	Revenue / 1\$ of Water Rate		\$474,500		
	Sales Tax Revenue		\$225,000		
	O&M Water Treatment Plant		\$873,800		
	Cumulative Expansion Revenue		\$437,350		
	Additional Expansion Revenue		\$437,350		
	Expansion Project		<u>\$9,750,000</u>		

How the Model Works

- ▶ Increasing the number of customers causes an increase in revenue
- ▶ The increase in water treatment costs associated with new customers is less than increased revenue.
- ▶ The difference or new revenue is recycled back to the fund for debt repayment and/or future use by system(s).



Phase 2 Expansion



			Alt. 2 @ 3.0 MGD		
NCMRWC / State Cost Share Analysis	Item		Total Cost	NCMRWC	State
			100%	42.9%	57.1%
	Total Local Cost		\$36,279,118		
	P & I 35 years 2.75 % Interest		\$1,627,352	\$697,437	\$929,916
	Lake O & M		\$100,000	\$42,857	\$57,143
Total Annual Obligation		\$1,727,352	\$740,294	\$987,058	
NCMRWC Rate Analysis (\$/1,000 gal.)	Item	Current			
	O&M rate	\$2.76		\$1.45	
	Debt Rate Drinking	\$2.62		\$0.71	
	Debt Rate Expansion	\$0.00		\$1.25	
	Total Rate	\$5.38		\$3.40	
Annual Assumptions	Gallons per Day Treated			2,000,000	
	Revenue / 1\$ of Water Rate			\$730,000	
	Sales Tax Revenue			\$225,000	
	O&M			\$1,055,927	
	Cumulative Expansion Revenue			\$912,500	
	Additional Expansion Revenue			\$475,150	
	Expansion Project			\$10,592,673	

**East Locust Creek Reservoir
Proposed Revolving Fund Concept
Annual Investment Estimates**

	<u>NCMRWC Demand</u>	<u>Initial State Investment (Project 1)</u>	<u>Total NCMRWC Reinvestment</u>	<u>1st Fund Reinvestment (Project 2)</u>	<u>2nd Fund Reinvestment (Project 3)</u>	<u>3rd Fund Reinvestment (Project 4)</u>	<u>4th Fund Reinvestment (Project 5)</u>
2017	1.6 MGD	\$1,332,480	\$0	\$0	\$0	\$0	\$0
2018	1.6 MGD	\$1,332,480	\$0	\$0	\$0	\$0	\$0
2019	1.6 MGD	\$1,332,480	\$0	\$0	\$0	\$0	\$0
2020	1.6 MGD	\$1,332,480	\$0	\$0	\$0	\$0	\$0
2021	2.3 MGD	\$1,159,794	\$437,350	\$437,350	\$0	\$0	\$0
2022	2.3 MGD	\$1,159,794	\$437,350	\$437,350	\$0	\$0	\$0
2023	2.3 MGD	\$1,159,794	\$437,350	\$437,350	\$0	\$0	\$0
2024	2.3 MGD	\$1,159,794	\$437,350	\$437,350	\$0	\$0	\$0
2025	2.3 MGD	\$1,159,794	\$437,350	\$437,350	\$0	\$0	\$0
2026	3.0 MGD	\$987,058	\$912,500	\$437,350	\$475,150	\$0	\$0
2027	3.0 MGD	\$987,058	\$912,500	\$437,350	\$475,150	\$0	\$0
2028	3.0 MGD	\$987,058	\$912,500	\$437,350	\$475,150	\$0	\$0
2029	3.0 MGD	\$987,058	\$912,500	\$437,350	\$475,150	\$0	\$0
2030	3.0 MGD	\$987,058	\$912,500	\$437,350	\$475,150	\$0	\$0
2031	5.0 MGD	\$493,529	\$2,073,200	\$437,350	\$475,150	\$1,160,700	\$0
2032	5.0 MGD	\$493,529	\$2,073,200	\$437,350	\$475,150	\$1,160,700	\$0
2033	5.0 MGD	\$493,529	\$2,073,200	\$437,350	\$475,150	\$1,160,700	\$0
2034	5.0 MGD	\$493,529	\$2,073,200	\$437,350	\$475,150	\$1,160,700	\$0
2035	5.0 MGD	\$493,529	\$2,073,200	\$437,350	\$475,150	\$1,160,700	\$0
2036¹	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2037	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2038	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2039	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2040	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2041	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2042²	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2043	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2044	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2045	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2046	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
2047	7.0 MGD	\$0	\$2,825,100	\$437,350	\$475,150	\$1,160,700	\$751,900
Total		\$18,531,825	\$51,016,452	\$11,808,459	\$10,453,292	\$19,731,900	\$9,022,800

1) By 2036 it is estimated that the State will have reinvested its initial \$18.5 Million investment thus doubling their initial investment.

2) By 2042 it is estimated that the state will have tripled their investment .

**East Locust Creek Reservoir
Pre-Proposal Analysis**

Applying Alternative 2 to the Marketing Plan

			Alt. 2 @ 1.6 MGD		Alt. 2 @ 2.3 MGD		Alt. 2 @ 3.0 MGD		Alt. 2 @ 5.0 MGD		Alt. 2 @ 7 MGD	
NCMRWC / State Cost Share Analysis	Item	Total Cost	NCMRWC	State	NCMRWC	State	NCMRWC	State	NCMRWC	State	NCMRWC	State
		100%	22.86%	77.14%	32.86%	67.14%	42.86%	57.14%	71.43%	28.57%	100.00%	0.00%
	Total Local Cost	\$36,279,118	\$8,293,406	\$27,985,712								
	P & I 35 years 2.75 % Interest	\$1,627,352	\$372,013	\$1,255,340	\$534,701	\$1,092,651	\$697,437	\$929,916	\$1,162,394	\$464,958	\$1,627,353	
	Lake O & M	\$100,000	\$22,860	\$77,140	\$32,857	\$67,143	\$42,857	\$57,143	\$71,429	\$28,571	\$100,000	
	Total Annual Obligation	\$1,727,352	\$394,873	\$1,332,480	\$567,559	\$1,159,794	\$740,294	\$987,058	\$1,233,823	\$493,529	\$1,727,353	
NCMRWC Rate Analysis (\$/1,000 gal.)	Item	Current	No Assistance									
	O&M rate	\$2.76	\$2.76	\$2.76		\$1.84		\$1.45		\$1.14		\$1.03
	Debt Rate Drinking	\$2.62	\$6.62	\$0.75		\$0.72		\$0.71		\$0.69		\$0.69
	Debt Rate Expansion	\$0.00	\$0.00	\$0.00		\$0.92		\$1.25		\$1.42		\$1.29
	Total Rate	\$5.38	\$9.38	\$3.51		\$3.49		\$3.40		\$3.25		\$3.00
Annual Assumptions	Gallons per Day Treated		622,000		1,300,000		2,000,000		4,000,000		6,000,000	
	Revenue / 1\$ of Water Rate		\$227,030		\$474,500		\$730,000		\$1,460,000		\$2,190,000	
	Sales Tax Revenue		\$225,000		\$225,000		\$225,000		\$225,000		\$225,000	
	O&M		\$626,603		\$873,800		\$1,055,927		\$1,660,727		\$2,249,446	
	Cumulative Expansion Revenue				\$437,350		\$912,500		\$2,073,200		\$2,825,100	
	Additional Expansion Revenue				\$437,350		\$475,150		\$1,160,700		\$751,900	
	Expansion Project				\$9,750,000		\$10,592,673		\$25,875,880		\$16,762,363	