



City of Moline Water Infrastructure Overview

January 2012

Moline's Water Supply System Delivers:

- Public Health Protection
- Fire Protection
- Support for the Local Economy
- Quality of Life



Moline's Water Supply System is Achieving Remarkable Success



Mississippi River Water



High Quality Tap Water

Providing Continuous High Quality, Economical Water and Service to our Customers

Moline Tap Water

- Delivered to customer's taps on 24/7 basis
- Surpasses drinking water standards
- Superior water quality due to softening process
- Costs less than ½ penny per gallon
- Effective customer service & emergency response



Key Water System Financial Challenges

- Diminished water sales (primarily due to water efficient appliances & fixtures)
- Inflationary cost increases
- Increasingly stringent regulations
- **#1 = Renewal of aging infrastructure**



Overview of Moline's Water Supply Infrastructure

Infrastructure Component	Quantity	Capacity	Grade	Estimated Replacement Cost
Water Treatment Plant	1	12 MGD	A	\$35,000,000.00
Pumping Station	1	30 MGD		
Ground Storage Tanks	2	6.8 MG	A	\$8,500,000.00
Elevated Storage Tanks	3	2.25 MG	B	\$4,050,000.00
Distribution System (miles)	231	na	C-	\$182,952,000.00
Water Meters	17,600	na	A	\$4,000,000.00
Fire Hydrants	2,482	na	B	\$5,584,000.00
Total				\$240,086,000.00

Overview of Recent and Planned Water Infrastructure Improvements



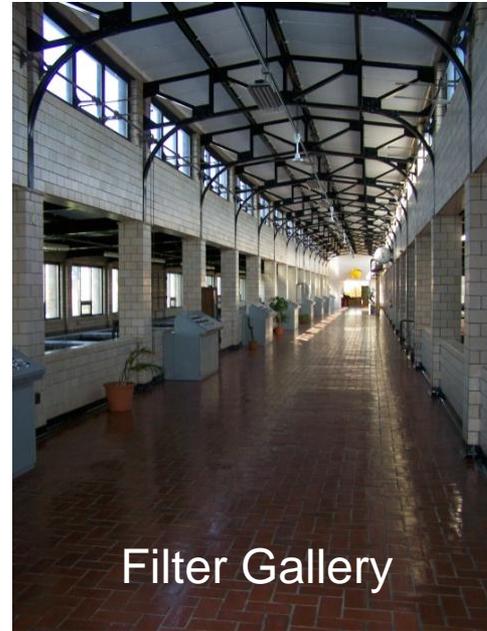
Moline Water Treatment Plant

\$25M Improvement Project Completed in 2005





Clarifiers



Filter Gallery



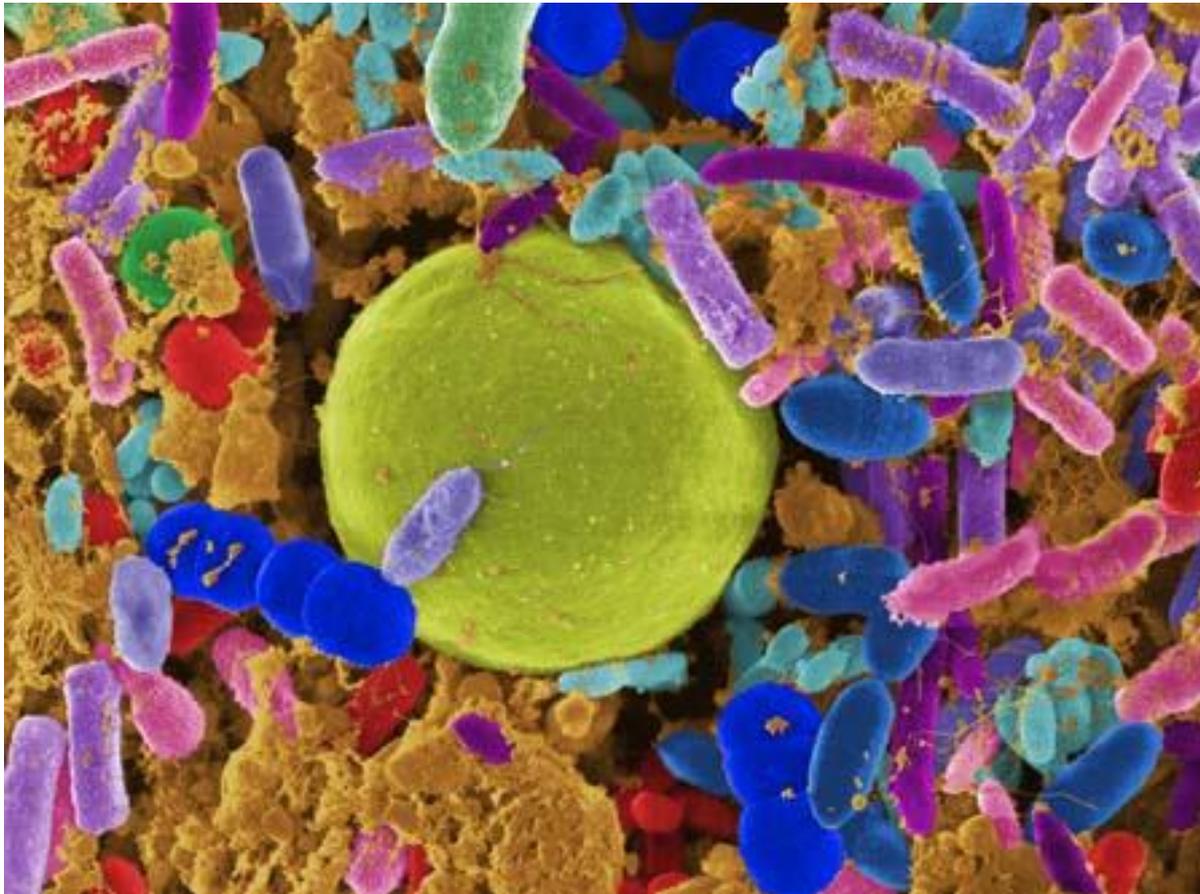
Pumping Station



Ground Storage Tanks

UV Disinfection

\$2M Project Currently in Design & Permitting Phase



cryptosporidium oocyst

Elevated Tanks



7th St Tank Replaced in 2005



17th Ave Tank Rehab in 2012

**\$2.35M in renewals
2005 to 2012**



42nd St Tank Rehab in 2008

Water Metering System

\$3.7M Replacement Project Completed in 2010



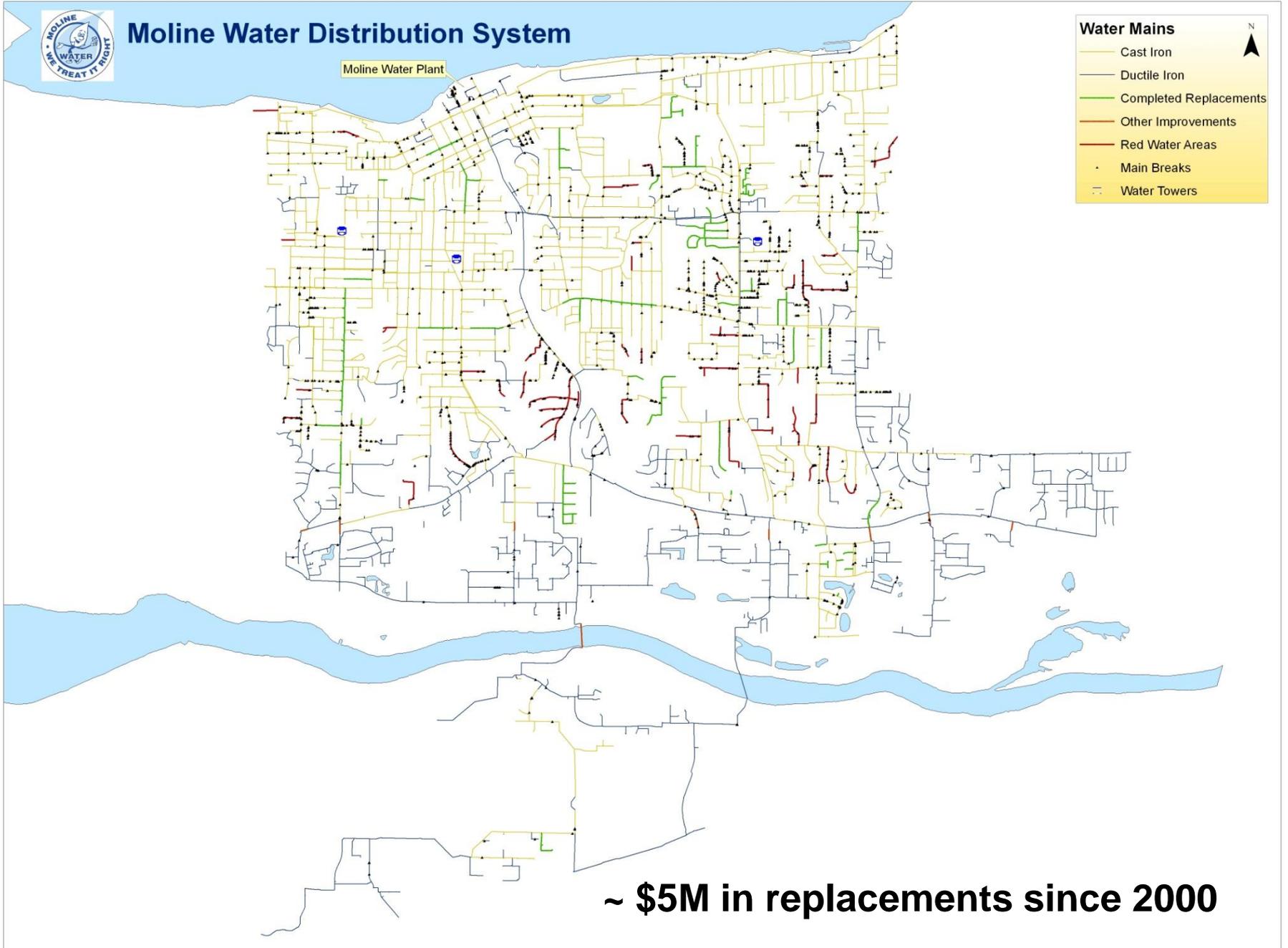


Moline Water Distribution System

Moline Water Plant

Water Mains

- Cast Iron
- Ductile Iron
- Completed Replacements
- Other Improvements
- Red Water Areas
- Main Breaks
- Water Towers



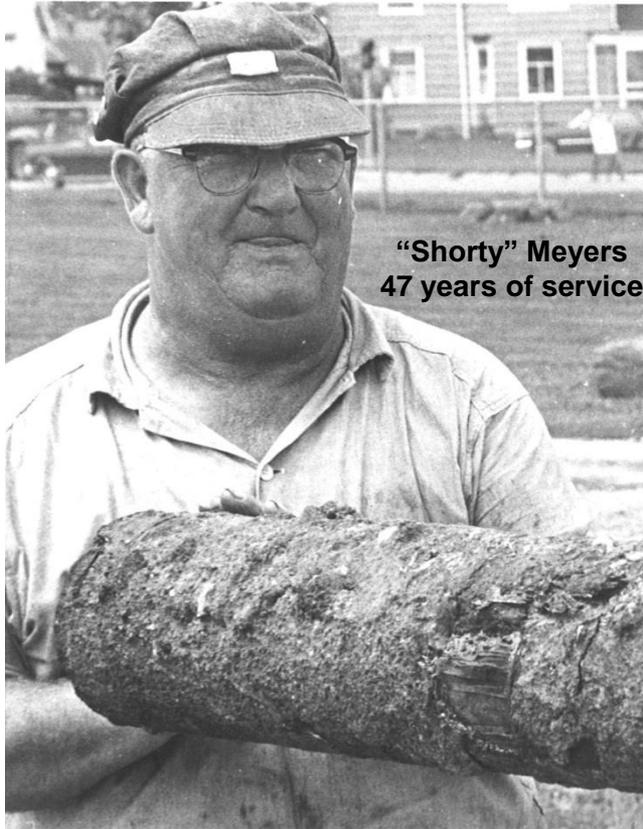
~ \$5M in replacements since 2000

Distribution System Concerns

- ~ 231 miles of water mains
- > 50% of these are out-dated cast iron pipe
- Aging cast iron pipes are subject to failures causing problems such as interruptions of service, road closures, and aesthetic water quality concerns
- Certain other pipes, known as sub-mains, do not meet current water supply standards
- Additional replacements are required



All Wooden Water Mains
have been removed from service



"Shorty" Meyers
47 years of service

Cast Iron Water Mains
dating back to 1875
remain in service



Lloyd Grantz-
47 years of service

Example of Failed Cast Iron Main



Example of Tuberculated Interior of Cast Iron Main



Example of Lead Water Service Pipes



Example of Catastrophic Main Break 16-inch Main @ 23 St & River Drive



Pipe Material Comparison

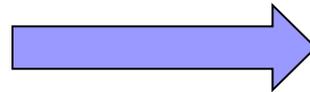
Ductile Iron (new)

- Strong & flexible
- Cement lining
- Ideal for system pressure conditions
- Ideal for system H₂O temperatures



Cast Iron (old)

- Strong & rigid/brittle
- No lining
- Pressure related failures
- H₂O temperature related failures



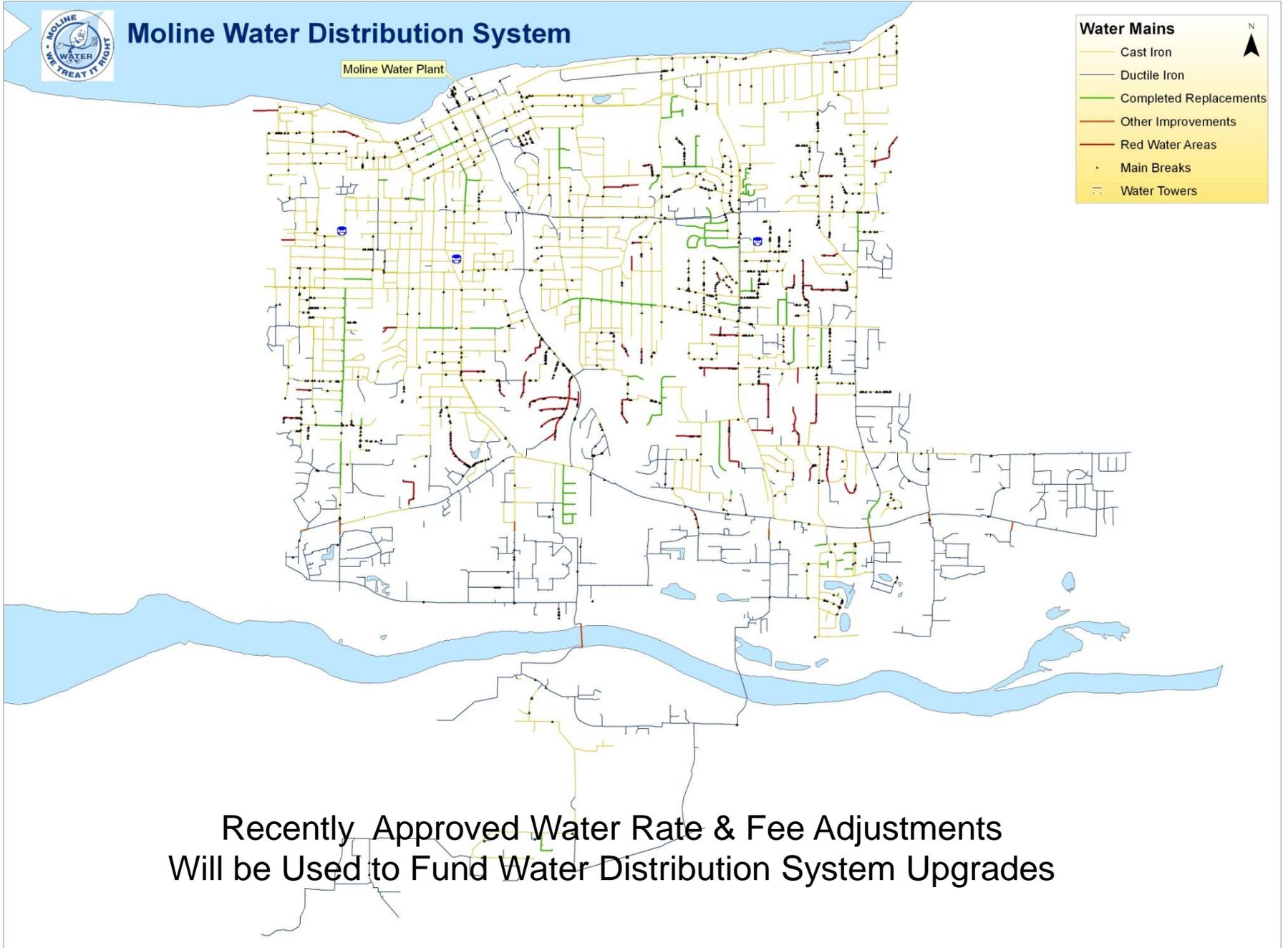


Moline Water Distribution System

Moline Water Plant

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Recently Approved Water Rate & Fee Adjustments
Will be Used to Fund Water Distribution System Upgrades

Approved Annual Distribution System Renewal Allocations

- Water main replacements: \$1.25M
- Elevated tanks: \$150K
- Sub-Main upgrades: \$75K
- Paving restoration: \$225K



Related Goal:

Balance water, sewer and coordinated CIP project priorities to achieve maximum benefit from expenditures

Moline's Water Utility = Enterprise Fund



- ✓ Funded solely by water rates & fees – NO tax dollars
- ✓ Reimburses City's general & WPC funds for support services
- ✓ Infrastructure replacements funded from water revenue

Water Fund Expenditure Dynamics

- ✓ ~ 90 % of utility expenditures are fixed.
- ✓ Only energy, treatment chemical, and sludge disposal expenditures vary with water demand
- ✓ Other expenditures, such as, debt service, operations and maintenance, EPA compliance testing, and capital replacements do not vary with water demand



Total Cost to Operate the Water System

**Total Annual
Revenue Requirement
(FY 2012: \$8,447,172)**

Revenue Requirements

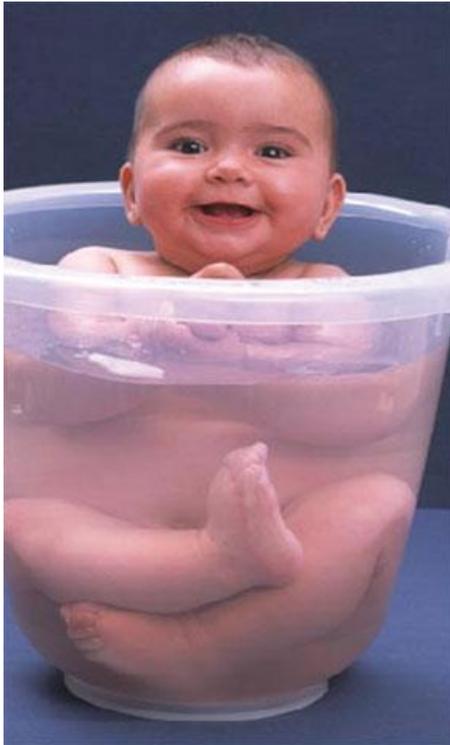


Capital Improvement Projects

Projects	FY 12	FY 13	FY 14	FY 15	FY 16
Paving Restorations	\$225,000	\$225,000	\$225,000	\$225,000	\$225,000
Main Replacements	\$750,000	\$1,000,000	\$1,250,000	\$1,250,000	\$1,250,000
Elevated Tanks	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
17th Avenue Tank Rehab Project	\$700,000	\$ -	\$ -	\$ -	\$ -
UV Disinfection Project	\$1,960,000	\$ -	\$ -	\$ -	\$ -
Total Capital Projects	\$3,785,000	\$1,375,000	\$1,625,000	\$1,625,000	\$1,625,000

Funding Source	FY 12	FY 13	FY 14	FY 15	FY 16
Cash Funded	\$1,125,000	\$1,375,000	\$1,625,000	\$1,625,000	\$1,625,000
Bond Funded	\$ -	\$ -	\$ -	\$ -	\$ -
Funded through Reserves	\$2,660,000	\$ -	\$ -	\$ -	\$ -

Moline's Water Infrastructure is Essential for Today and Tomorrow



- Public Health Protection
- Fire Protection
- Support for the Local Economy
- Quality of Life



Only Tap Water
DeliversSM

Questions?

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