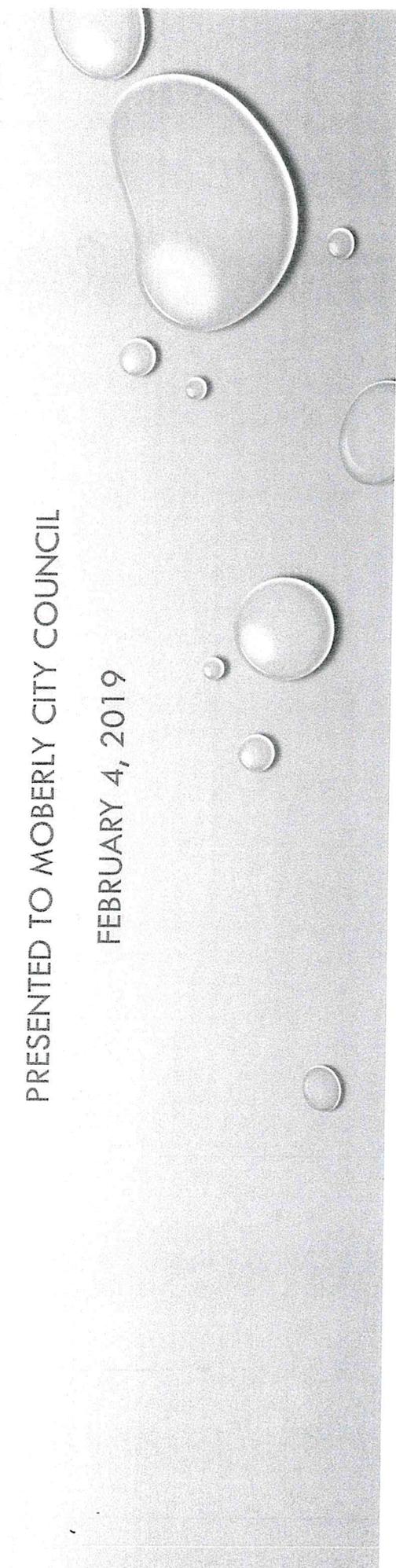


# **MOBERLY PUBLIC UTILITIES CAPITAL IMPROVEMENT PLAN AND FUNDING PROPOSAL**

PRESENTED TO MOBERLY CITY COUNCIL

FEBRUARY 4, 2019



# AGENDA

- STATUS OF INFRASTRUCTURE IN EARLY 2000S
  - PROJECTS DELIVERED
  - ADDITIONAL PROJECTS COMPLETED
- CURRENT STATUS OF INFRASTRUCTURE
  - AGE & CONDITION
  - PRIORITY PROJECTS
  - CIP
- FUNDING OPTIONS
- RATE INCREASE PROPOSAL



**City of Moberly**

# Improvement Project



*Progress as Promised!*

## WHERE WE WERE

- WATER AND SEWER MAINS
- WATER PLANT
- WASTEWATER PLANT
- COMBINED SEWER OVERFLOWS
- SANITARY SEWER OVERFLOWS
- LIFT STATIONS IN DISREPAIR AND FAILING
- UNSEWERED AREAS OF MOBERLY

## PROJECTS COMPLETED

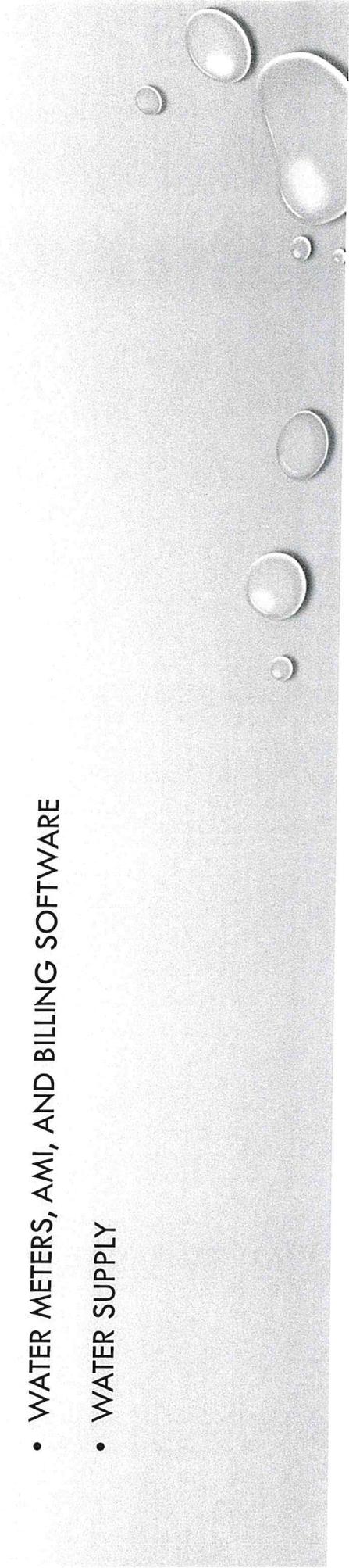
- FUNDS FROM RATES, BOND ISSUES AND CAPITAL IMPROVEMENT SALES TAX
- NEARLY \$26 MILLION IN NAMED PROJECTS HAVE BEEN COMPLETED TO DATE
  - OVER 22,500' OF WATER LINE REPLACEMENTS HAVE BEEN COMPLETED BETWEEN 2011-2017 ALONE
- DRINKING WATER PLANT MAJOR UPGRADE INCLUDING NEW INTAKE STRUCTURE AT SUGAR CREEK LAKE AND NEW RAW WATER LINE TO PLANT AS WELL AS PROCESS IMPROVEMENTS
- WASTEWATER TREATMENT FACILITY IMPROVEMENTS INCLUDING SLUDGE HOLDING AND DISINFECTION OF WASTEWATER

## WHAT WE DID

- THREE SEWAGE LIFT STATIONS REBUILT (MORLEY, DARWOOD AND MCKINSEY)
- TWO UNSEWERED AREAS NOW HAVE SERVICE: SINNOCK AVE AND KRONER DRIVE
- ONE NEW LIFT STATION ADDED TO ACCOMMODATE WALMART DISTRIBUTION CENTER DEVELOPMENT
- SEWER SYSTEM IMPROVEMENTS INCLUDED REED STREET BRICK ARCH REPLACEMENT FROM BERTLEY TO ROLLINS STREET LAGOON, MEADOWBROOK, BEUTH ROAD, AND MANY OTHERS
- INCREASED SEWER MAINTENANCE WHICH REDUCED SEWER BACKUPS
- STORMWATER SEPARATION PROJECTS FROM COMBINED SYSTEM REDUCED AMOUNT OF COMBINED SEWAGE DISCHARGED TO CREEKS

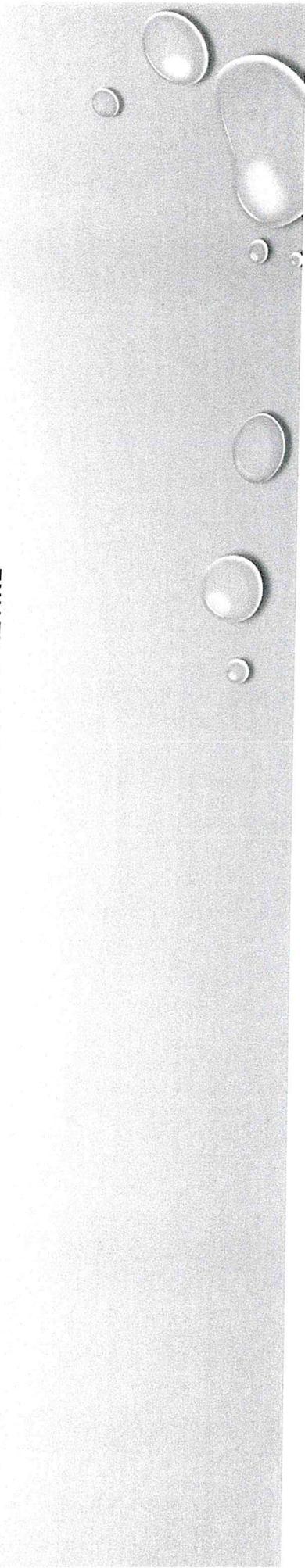
## CURRENT CHALLENGES

- HUNTSVILLE AVE AND ROLLINS ST LIFT STATION (1982 & 1978)
- WATER MAINS
- SEWER MAINS
- BIOSOLIDS DISPOSAL
- WATER METERS, AMI, AND BILLING SOFTWARE
- WATER SUPPLY



# PRIORITY PROJECTS

- METHODOLOGY
- PAST STUDIES AND INFORMATION
- RISK AND CRITICALITY
- HIGH PRIORITY PROJECTS TO MAINTAIN SYSTEM FUNCTIONALITY AND COMPLIANCE WHILE MINIMIZING ADDITIONAL COST UNTIL BONDS BEGIN TO RETIRE

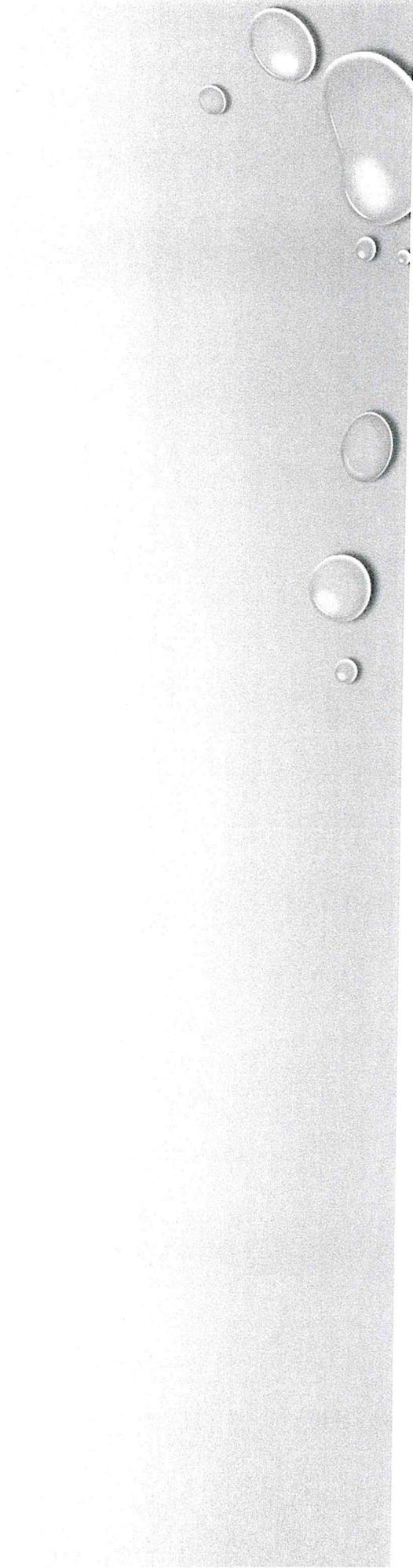


## AGE OF PIPELINE ASSETS

- MAPS AROUND THE ROOM INDICATE WHEN DIFFERENT PARTS OF MOBERLY DEVELOPED AND WHAT LINES HAVE BEEN REPLACED OR ADDED SINCE 1900S-1950S
- TYPICAL LIFE OF WATER LINES IS 50-100 YEARS
- TYPICAL LIFE OF SEWER LINES IS THE SAME, DEPENDING ON SOIL CONDITIONS, PEAK FLOW, NUMBER OF SEWER TAPS, ETC.
- MANHOLES HAVE A SHORTER LIFE SPAN AND NEED MAINTENANCE OR REPLACEMENT SOONER
- WATER VALVES ALSO NEED MAINTENANCE AND EXERCISE

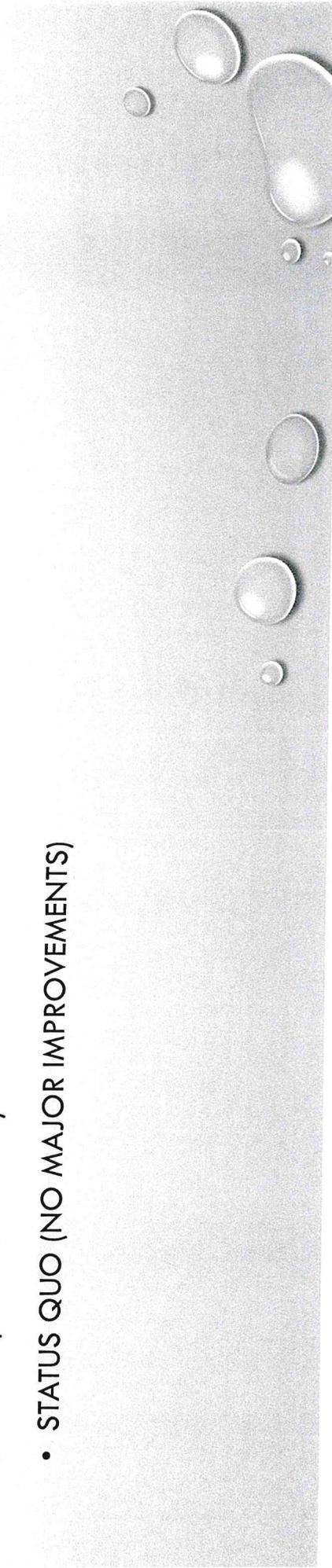
# CAPITAL IMPROVEMENT PLAN DETAILS

- TABLE 4 IN YOUR HANDOUT



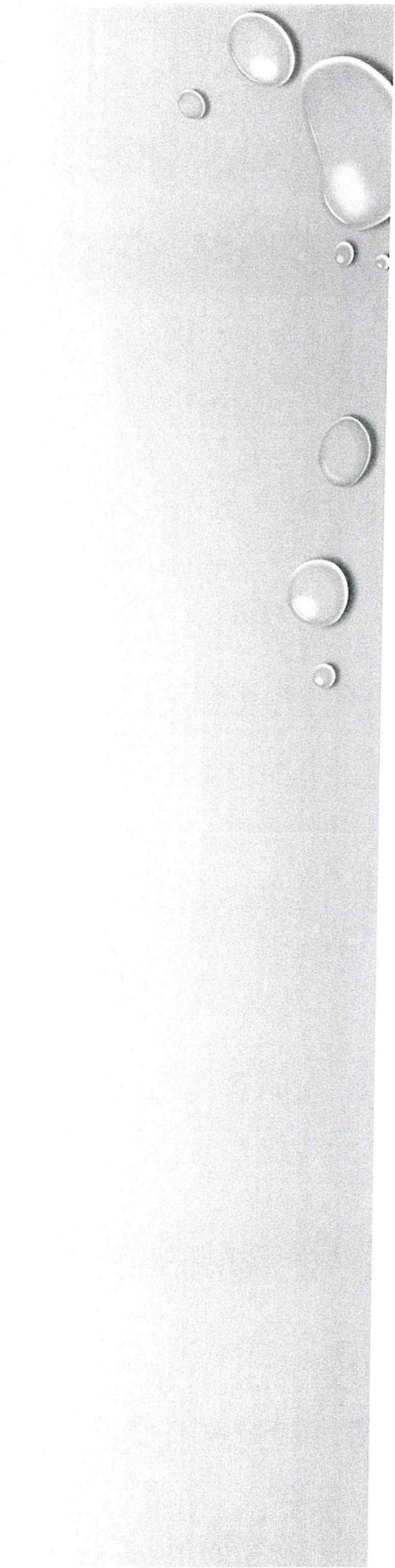
## FUNDING OPTIONS

- DETERMINE AMOUNT TO FUND THROUGH DEBT AND AMOUNT TO FUND THROUGH REVENUE  
(IE SALES TAX AND ADDITIONAL RATE REVENUE)
  - REVENUE BONDS
  - STATE REVOLVING LOAN FUND
- RATES (PAY AS WE GO)
- STATUS QUO (NO MAJOR IMPROVEMENTS)



# RATE

- CURRENT BUDGET REVENUES AND EXPENSES
  - O & M EXPENSES HISTORY CHART
  - SALES TAX REVENUE HISTORY
  - WATER AND SEWER REVENUE HISTORY CHART



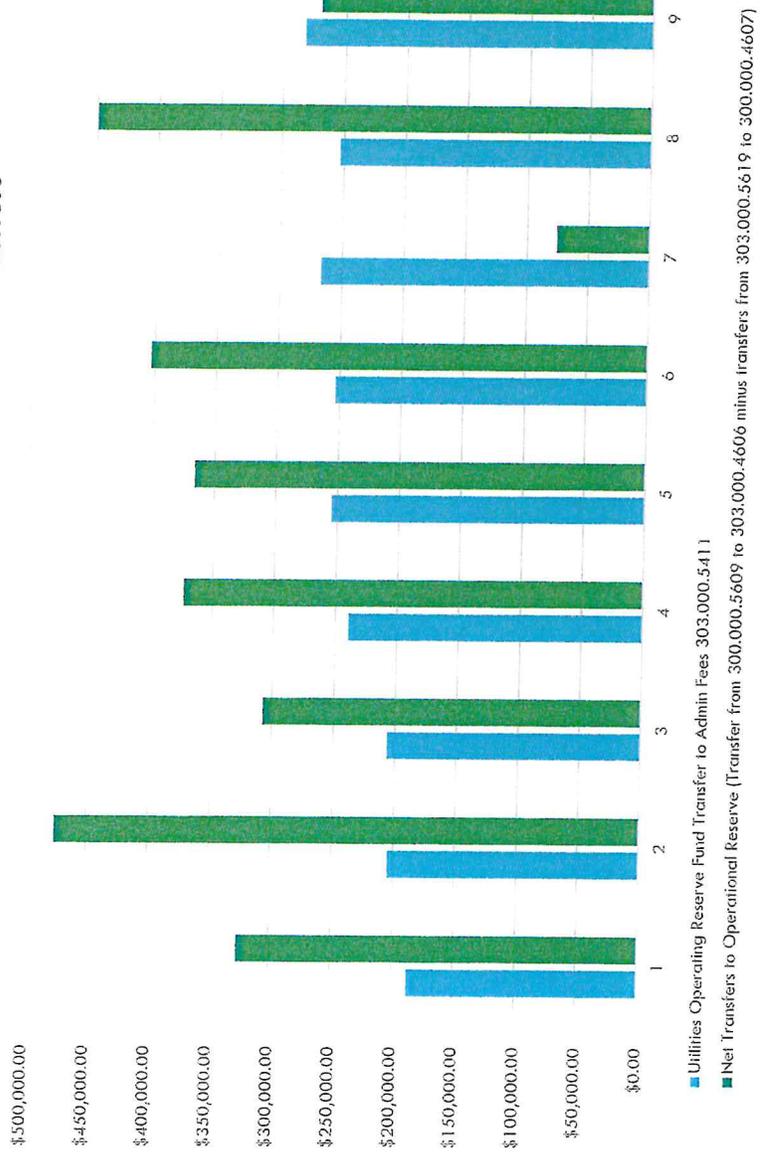
## REVENUE FOR UTILITY OPERATION

- UTILITY RATE CHARGED – TRANSFER TO GENERAL FUND = FUNDS LEFT TO PAY DEBT, OPERATE AND MAINTAIN THE SYSTEM, SET ASIDE MONEY FOR EQUIPMENT REPLACEMENT AND OPERATIONAL RESERVE
- CURRENT ADMINISTRATIVE FEE = 7% OF O & M COSTS + 5% OF CIP (TABLE 6) = \$283,182
- CAPITAL IMPROVEMENT SALES USE TAX TO GENERAL FUND = \$104,569
- TOTAL TRANSFER TO ADMIN = \$387,751 (2019 BUDGET).
- WATER = \$156,889 (\$0.06/100 GAL) SEWER = \$230,862 (\$0.09/100 GAL)

### Revenues, Expenses, O & M Totals



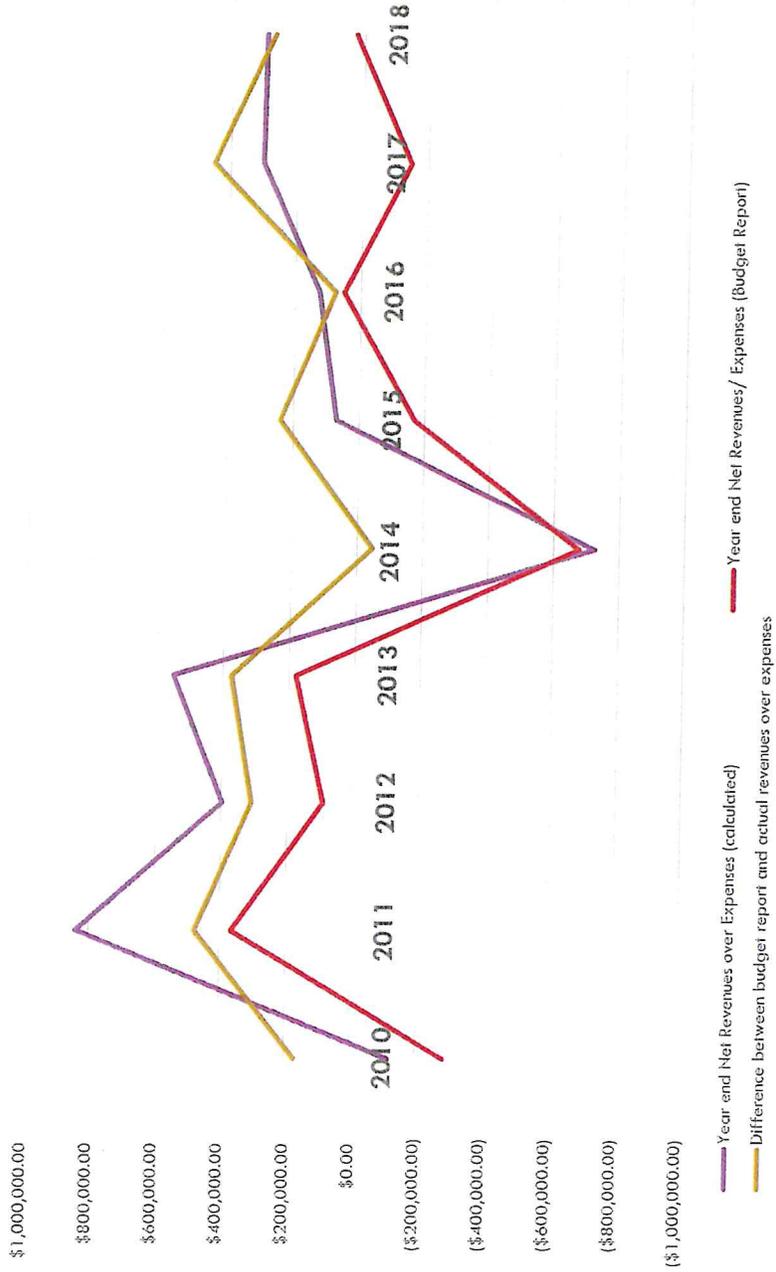
### Operating Reserve Account and Admin Fee Transfers



■ Utilities Operating Reserve Fund Transfer to Admin Fees 303.000.5411

■ Net Transfers to Operational Reserve (Transfer from 300.000.5609 to 303.000.4606 minus transfers from 303.000.5619 to 300.000.4607)

## Revenues over Expenses

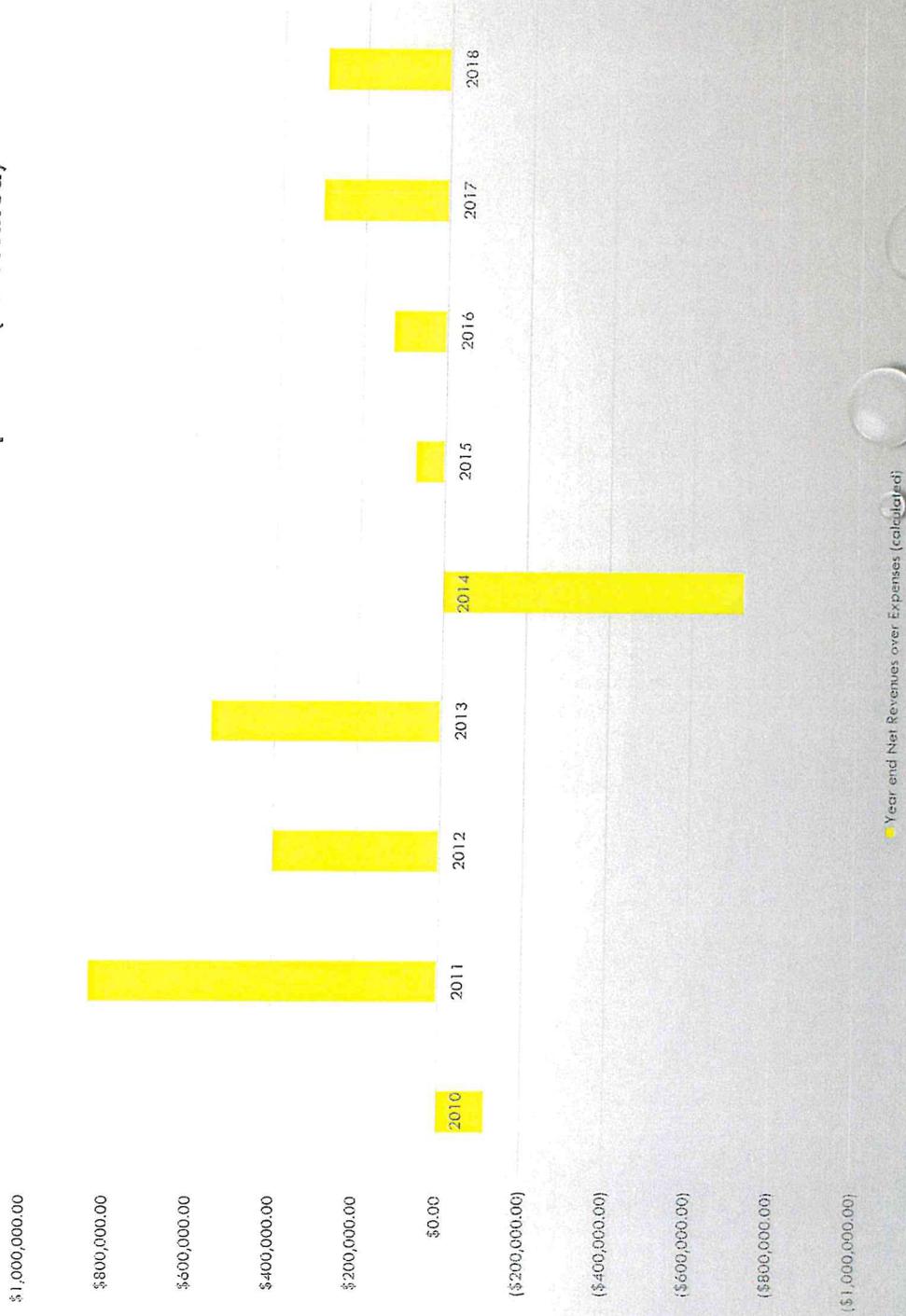


— Year end Net Revenues over Expenses (calculated)

— Year end Net Revenues/ Expenses (Budget Report)

— Difference between budget report and actual revenues over expenses

### Rates Revenues Year end Net Revenues over Expenses (calculated)

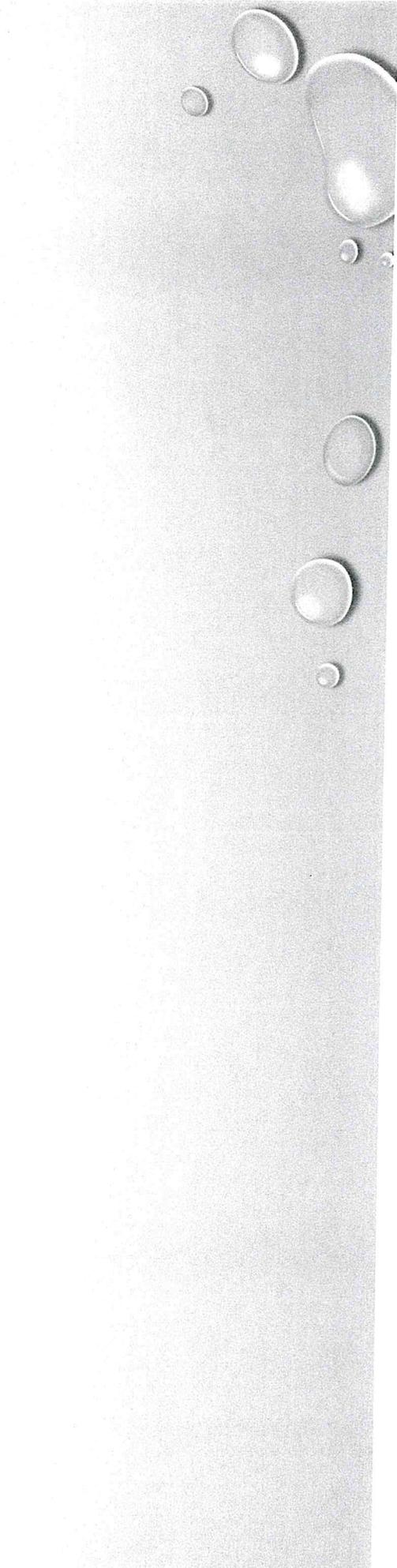


■ Year end Net Revenues over Expenses (calculated)

## PROPOSED RATE INCREASES

- 5% PER YEAR FOR WATER AND FOR SEWER THROUGH THE 2022 FISCAL YEAR (5 TOTAL AT 5% EACH), WITH ONE 5% INCREASE IMMEDIATELY, AND ANOTHER ONE EFFECTIVE JULY 1, 2019.
- ALTERNATIVE IS ONE 10% RATE INCREASE NOW, WITH THE NEXT 5% INCREASE EFFECTIVE JULY 1, 2020.
- PROPOSAL INCLUDES BONDING CAPITAL IMPROVEMENTS TO KEEP RATES AS LOW AS POSSIBLE WHILE CONTINUING TO OPERATE, MAINTAIN AND RENEW INFRASTRUCTURE
- THIS IS A CONTINUATION OF THE WORK BEGUN IN EARLY 2000S AND SHOULD ALLOW A LEVELING OF RATE INCREASES ONCE CURRENT BOND DEBT BEGINS TO RETIRE 2024-2028
- PROPOSAL ALSO INCLUDES EXTENDING THE 1/2¢ CAPITAL IMPROVEMENT SALES TAX FOR THE LENGTH OF THE NEW BOND DEBT

# QUESTIONS



# Major Points to Consider from 2001-2002

How much work needs to be done?

## 1. Water

- A. 17 miles of 2" & 4" water lines need to be replaced.
- ~~B. Water Plant needs to have sludge handling issues solved.~~
- ~~C. Water Plant intake structure~~
- ~~D. Pump replacement schedule - 9 pumps Water Plant~~
- E. Alternate or Supplemental Raw water supply
- ~~F. New drinking water regulation - lower turbidity required, lower DBPs required~~
- ~~G. Water tower maintenance~~
- H. Water main transmission lines replaced including Sparks Avenue, South Morley and others.
- I. ~~Filter media replacement.~~
- J. Chlorine gas- alternative disinfectant- safety issues. This was evaluated and not determined to be feasible at this time.
- ~~K. Security improvements~~
- L. Water lines looped to eliminate dead ends
- M. Fire protection issues - low flow in critical areas (ISO)
- N. Lists of lines that need to be replaced - it isn't normal to have 17 water mains breaks in 1 month.
- O. Treatment process upgrade - liquid alum & polymer, corrosiveness of water.
- P. Water loss ratio improved- currently at 7.25%
- Q. Raw water lines insituformed. This work was changed to include replacement of the oldest raw water transmission line.
- ~~R. Vulnerability Assessment~~

## 2. Wastewater

- A. Increase of Wastewater Plant capacity. This item involves maximizing treatment capacity within the footprint of the facility that is currently onsite until we experience substantial growth in demand for high strength of wastewater or for more flow (i.e. industrial development). We are currently working with Jacobs to determine what will need to be done, if anything in the interim.
- B. Ability to dewater sludge for storage & off-site land application. This item has changed to a plan to convert the existing farm ground into hay ground. This will be much cheaper long-term and we believe we can accomplish the work utilizing existing staff.
- ~~C. Lift Station repairs (C,B)~~
- D. Lift Station replacement (G,H,F) This replacement involves building the Northwest Regional Lift Station.
- E. Sewers downstream of lift station- issues include capacity, condition, combined sewer & odors. Many projects completed to separate stormwater from combined sewers and increased capacity of downstream sewers to reduce backups and overflows from manholes.
- F. Miles & miles of sewer that need increased capacity, repaired, lined, or replaced.

- G. Construction of interceptor sewers to carry wastewater instead of same diameter pipe for miles.
- H. CMOM - (Capacity, Management, Operation & Maintenance)- policy written, procedures instituted all documented.
- ~~I. NMC (Nine Minimum Controls) for combined sewers. Policy written, procedure instituted, all documents.~~
- ~~J. Long term control policy combined sewer remediation reduce to less than 3 or 4 events/ yrs.~~
- ~~K. Unsewered areas of Moberly: Sinnoek, Wabash Heights, Kroner Drive~~
- L. Minimally sewerred areas - sewers too shallow to allow further connection: Hwy 24 W, Hwy 63 outer road, Silva Lane, Robertson Road
- M. Sewers laid too flat to adequately remove solids (monthly jetting list)
- N. Accessibility to some sewers - need to cut trees down
- O. Manholes rehabilitation program
- P. Smoke testing program - downspouts & floor drains sump pumps.
- Q. SSO regulations - will make basement backups illegal
- R. I & I

3. Stormwater

- A. Mapping
- ~~B. 6 BMP's~~
- ~~C. Construction plan review~~
- ~~D. Post construction plan review~~
- ~~E. Compliance w/ construction controls verification~~
- F. Railroad
- G. Highway Department
- ~~H. Overlap of separate storm sewers outfalls & combined sewer outfalls~~
- ~~I. Permitting~~
- ~~J. Municipal Good Housekeeping Street Barn maintenance facility, salt & sand storage~~
- K. Unsewered area of Moberly!!!!
- L. Rothwell Lake, Waterworks Lake (currently do not meet WQS)
- M. Manhole overflows (sanitary sewer)

4. Staffing needs - all these items will mean more staff for paperwork, procedures & Maintenance

5. We need a master plan for the utilities, This would be a fair look at current condition of the system, priority list made, and a funding mechanism & time line. Integrated Managemant Plan Memorandum of Understanding signed with MDNR. This plan will develop over the next 5 years.

6. This should be developed in conjunction with a street master plan, City Comprehensive plan, & other development tools so we are not encouraging growth in areas that are problematic.

# Completed Water Main Replacement Projects 2011-2017

Street Name	Size of Pipe	Feet of pipe used	Engineer Estimate	Actual Cost	Completed By	Savings	Note
Ault St	6" class 150 C-900 PVC	2,000	\$ 349,000	\$ 58,000	City	\$ 291,000	Water Main Replacement
Bond Street	6" class 150 C-900 PVC	1,720	\$ 59,000	\$ 59,000	City	\$ -	
Epperson St	6" class 150 C-900 PVC	1,100	\$ 41,000	\$ 41,000	City	\$ -	
Farror St	6" class 150 C-900 PVC	4,700	\$ 673,000	\$ 673,000	Willis Bros	\$ -	
KWIX Rd	8" class 150 C-900 PVC	1,500	\$ 26,000	\$ 26,000	City	\$ -	
Logan-Epperson St	6" class 150 C-900 PVC	1,500	\$ 209,000	\$ 209,000	Willis Bros	\$ -	Water Main Loop
Maple Lan	6" class 150 C-900 PVC	2,000	\$ 47,000	\$ 47,000	City	\$ -	Water Main Loop
Moulton Street	6" class 150 C-900 PVC	1,700	\$ 32,000	\$ 32,000	City	\$ -	Water Main Loop
Myra St	6" class 150 C-900 PVC	1,700	\$ 65,000	\$ 65,000	City	\$ -	
Security Ln	6" class 150 C-900 PVC	2,200	\$ 262,000	\$ 20,770.65	City	\$ 241,229.35	Water Main Loop
Taylor St	6" class 150 C-900 PVC	2,500	\$ 475,000	\$ 475,000	Willis Bros	\$ -	Water Main Replacement

### Williams Street Storm Sewer Separation Project

Install storm sewer ranging in size from 12" to 36" to separate storm water from the existing combined system.

### Reed Street New Combined Sewer – Brick Arch Replacement

Install approximately 2,700 LF of new combined sewer ranging in size from 48" to 60" to replace sewer line subject to I/I and increase capacity.

### WWTP Improvements – UV Disinfection

Add UV disinfection to the WWTP.

### McKinsey and Darwood LS Replacement Project

Retrofit existing pump station wet wells using three submersible pumps and new valve vaults to replace existing pumps located in dry wells. Rehabilitate pipes and manholes upstream of the pump stations to reduce inflow and infiltration.

Table 4-1 City of Moberly Sewer System Capital Improvement Projects

Project Name	CSO Outfall Impacted	Construction Cost	Engineering Cost	Total Project Cost
Morley Pump Station Improvement Project	#002	\$ 444,500	\$ 110,500	\$ 555,000
Morley Force Main Project	#002	\$ 701,000	\$ 174,000	\$ 875,000
Sinnock Ave/ West Outer Rd. Sewer Improvement Project	#002	\$ 881,000	\$ 219,000	\$ 1,100,000
Taylor St. Sewer Improvement Project	#002	\$ 1,077,000	\$ 267,000	\$ 1,344,000
Seven Bridges and Rollins Pump Stations Improvement Project	#003 and #004	\$ 1,400,000	\$ 403,000	\$ 1,803,000
Meadowbrook Sanitary Sewer Improvements	#003	\$ 515,000	\$ 125,000	\$ 640,000
Fourth & Clark Sewer Separation Project	#002	\$ 792,000	\$ 125,000	\$ 917,000
Monroe St. Sewer Separation Project	#002	\$ 546,000	\$ 125,000	\$ 671,000
WWTP Improvement Project - Sludge Storage	None	\$ 2,117,000	\$ 238,000	\$ 2,355,000
Beuth Rd Combined Sewer Improvement Project	#004	\$ 345,000	\$ 125,000	\$ 470,000
Ault St. Sewer Separation Project	#002	\$ 518,000	\$ 125,000	\$ 643,000
Epperson St. Sewer Separation Project	#004	\$ 708,000	\$ 145,000	\$ 853,000
Ault Rollins Storm Sewer Separation Project	#002	\$ 898,000	\$ 145,000	\$ 1,043,000
Williams Street Storm Sewer Separation Project	#002	\$ 500,000	\$ 125,000	\$ 625,000
Reed Street New Combined Sewer - Brick Arch Replacement	#002	\$ 1,266,000	\$ 145,000	\$ 1,411,000
WWTP Improvements UV Disinfection	None	\$ 1,058,000	\$ 275,000	\$ 1,333,000
McKinsey and Darwood LS Replacement Project	#003	\$ 1,122,000	\$ 161,000	\$ 1,283,000
<b>Total Capital Improvement Project Costs</b>				<b>\$ 17,921,000</b>

**City of Moberly  
Capital Improvement Sales Tax History**

Account #	Description	FYE 6/30/2018	FYE 6/30/2017	FYE 6/30/2016	FYE 6/30/2015	FYE 6/30/2014
04.000.4100	Sales Tax	\$ 1,166,826.88	\$ 1,112,744.84	\$ 1,136,436.56	\$ 1,143,935.10	\$ 1,099,756.85
04.000.4115	Use Tax	\$ -	\$ -	\$ -	\$ 135,534.95	\$ 186,389.43
04.000.4606	Transfer From Utilities Collection Fund	\$ -	\$ -	\$ -	\$ 163,789.45	\$ -
04.000.4607	Transfer From Operating Reserve Fund	\$ -	\$ -	\$ -	\$ -	\$ 400,000.00
04.000.4619	Transfer From 2004C Bonds Fund	\$ -	\$ -	\$ -	\$ -	\$ 29,887.19
04.000.4625	Transfer From 2008A Construction Fund	\$ -	\$ -	\$ -	\$ 8,966.31	\$ -
04.000.4900	Miscellaneous	\$ 7,360.46	\$ 21.88	\$ -	\$ -	\$ -
04.000.4901	Interest Income	\$ 11,458.46	\$ 6,595.26	\$ 5,426.59	\$ 7,016.54	\$ 4,436.58
	<b>TOTAL REVENUES</b>	<b>\$ 1,185,645.80</b>	<b>\$ 1,119,361.98</b>	<b>\$ 1,141,863.15</b>	<b>\$ 1,459,242.35</b>	<b>\$ 1,720,470.05</b>
04.000.5403	Data Processing	\$ 5,035.00	\$ -	\$ -	\$ -	\$ -
04.000.5406	Contract Labor	\$ 85,979.58	\$ 61,408.60	\$ 14,134.50	\$ -	\$ -
04.000.5408	Design Engineering	\$ 194,629.32	\$ 243,983.29	\$ 67,716.01	\$ 292,655.62	\$ 107,127.51
04.000.5409	Construction	\$ -	\$ 103,763.91	\$ 1,379,928.29	\$ 3,952.97	\$ -
04.000.5410	Construction Inspection	\$ -	\$ 1,373.40	\$ 28,888.08	\$ 3,782.92	\$ -
04.000.5411	Administrative Fees	\$ 40,240.82	\$ -	\$ -	\$ -	\$ -
04.000.5413	Sewer Construction	\$ -	\$ -	\$ -	\$ 183,357.32	\$ 411,978.57
04.000.5415	Other Professional Services	\$ 14,841.50	\$ 25,986.89	\$ 933.55	\$ 28,312.18	\$ 418.00
04.000.5500	Principal & Interest	\$ 351,746.87	\$ 456,091.70	\$ 472,173.08	\$ 451,563.12	\$ 481,026.55
04.000.5502	Capital Improvement Plan	\$ 25,443.63	\$ -	\$ -	\$ 242,108.19	\$ 375,955.44
04.000.5506	Land Acquisition Costs	\$ 30,510.00	\$ -	\$ -	\$ 5,000.00	\$ -
04.000.5607	Transfer to Utilities Operations & Maintenance	\$ -	\$ -	\$ -	\$ -	\$ 178,492.23
04.000.5609	Transfer to Operating Reserve Fund	\$ -	\$ -	\$ -	\$ -	\$ 150,000.00
04.000.5619	Transfer to Utility Collection Fund	\$ -	\$ -	\$ -	\$ 163,789.45	\$ 234,514.81

**City of Moberly  
Capital Improvement Sales Tax History**

Account #	Description	FYE 6/30/2018	FYE 6/30/2017	FYE 6/30/2016	FYE 6/30/2015	FYE 6/30/2014
04.000.5629	Transfer to 2004C Bonds Debt Service	\$ 127,230.00	\$ -	\$ -	\$ -	\$ -
04.000.5630	Transfer to 2008A Bonds Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -
04.000.5700	Legal Fees	\$ -	\$ -	230.00	\$ -	\$ -
04.000.5806	Miscellaneous	\$ 170.32	\$ -	\$ -	233.00	\$ 11,183.84
04.162.5408	Design Engineering	\$ -	\$ -	\$ -	\$ -	2,632.13
04.176.5412	Water Construction	\$ -	\$ -	\$ -	\$ -	\$ -
04.176.5413	Sewer Construction	\$ 31,720.50	\$ -	\$ -	\$ -	\$ -
<b>TOTAL EXPENDITURES</b>		<b>\$ 907,547.54</b>	<b>\$ 892,607.79</b>	<b>\$ 1,964,003.51</b>	<b>\$ 1,374,754.77</b>	<b>\$ 1,953,329.08</b>
<b>NET INCOME (LOSS)</b>		<b>\$ 278,098.26</b>	<b>\$ 226,754.19</b>	<b>\$ (822,140.36)</b>	<b>\$ 84,487.58</b>	<b>\$ (232,859.03)</b>

## Moberly Sales Tax Fund Revenues Use Tax Actuals Comparison

Fiscal Year	Parks Use Tax Actual Receipts	Administrative Fee		Parks Sales Tax		Capital Improvement Sales Tax		Capital Improvement Use Tax		CIP Administrative Fee Transferred to General Fund	Net Loss of Use Tax Receipts plus Admin Fee Assessed
		Transferred to General Fund	Received	Received	Received	Received	Received				
2018	\$104,569.01	\$0.00	\$1,166,827.30	\$1,166,826.88	\$0.00	\$40,240.82	\$144,809.83				
2017	\$101,320.53	\$0.00	\$1,112,744.90	\$1,112,722.84	\$0.00	\$0.00	\$101,320.53				
2016	\$140,585.41	\$0.00	\$1,136,437.19	\$1,136,436.56	\$0.00	\$0.00	\$140,585.41				
2015	\$135,534.95	\$0.00	\$1,143,934.72	\$1,143,935.10	\$135,534.95	\$0.00	\$0.00				
2014	\$186,389.41	\$0.00	\$1,099,756.47	\$1,099,756.85	\$186,389.43	\$0.00	(\$0.02)				
2013	\$30,524.68	\$0.00	\$1,031,091.74	\$1,031,092.37	\$20,955.29	\$0.00	\$9,569.39				
2012			\$1,060,706.57	\$1,060,708.40	\$0.00	\$0.00	\$0.00				
<b>Total</b>	\$698,923.99	\$0.00	\$7,751,498.89	\$7,751,479.00	\$342,879.67	\$40,240.82	\$396,285.14				

## 4. Summary and System Improvement Recommendations

### 4.1 Summary

Jacobs has found that the recalibrated model of the City of Moberly’s hydraulic model is sufficient for assessing and evaluating the improvements that have been previously made to the City’s water distribution system, as well as the improvements that are still to come. In general, increasing the flow to the lower pressure areas of the water distribution system will help the system preform at an overall better level and help to accommodate for the City’s future demand.

The water main projects completed by the City since the original model was developed in 2011 have helped the system perform at a better level, as evidenced by the higher coefficients determined during the model calibration as described in Section 3.3. The next section contains an updated list of recommended improvements.

### 4.2 Improvement Recommendations

The 2011 Water System Study included a listing of proposed system improvements, divided into Year 2015 System Improvements, Year 2020 System Improvements, and Year 2025 System Improvements. The improvements from this list that have already been completed are listed in Section 2.5.

For this report, the capital costs of the improvements that have not yet been completed have been updated, and three additional improvements were added (Sturgeon Street 16-inch Water Main, Henry Street 6-inch Water Main, and Morley Street South 16-inch Water Main). Additional pipe replacements were added to Logan Street 8-inch and 6-inch Water Mains and the Reed Street 6-inch Water Main. The scopes of Russhaven Drive Water Main Loop, 5<sup>th</sup> Street 6-inch Water Main, Clark-Sturgeon Water Main Loop, Reed Street 6-inch Water Main were adjusted to account for parts of the scope that have already been constructed. An updated listing of projects and capital costs is shown in **Table 4-1** below. Projects are listed in order of priority. Priority was determined based on locations of water main breaks and discussions with the City. Cost estimate details are presented in **Appendix C**.

Table 4-1: Proposed Improvements

Project No.	Proposed Improvements	Total Cost Est (Contracted)	Total Cost Est (City Installed)
1	Logan St 6&8-inch Water Main	\$3,247,000	
2	Reed St 6-inch Water Main	\$744,000	
3	Henry St 6-inch Water Main	\$405,000	
4	5th St 6-inch Water Main	\$906,000	
5	Union St 12&6-inch Water Main	\$752,000	
6	Franklin St 6-inch Water Main	\$412,000	
7	Sturgeon St 16-inch Water Main	\$677,000	
8	Morley Street South 16-inch Water Main	\$1,600,000	
9	Brierwood-Corinth Water Main Loop	\$215,000	
10	Hillcrest Lane Water Main Loop		\$27,000
11	Ridgemont Water Main Loop	\$107,000	

Project No.	Proposed Improvements	Total Cost Est (Contracted)	Total Cost Est (City Installed)
12	Clark-Sturgeon Water Main Loop		\$38,000
13	Lowery-Marmaduke Water Main Loop		\$20,000
14	Kennedy Lane Water Main Loop	\$396,000	
15	Gillian Road Water Main Loop		\$52,000
16	North Avenue Water Main Loop	\$499,000	
17	McKinsey Place Water Main Loop		\$20,000
18	Russhaven Drive Water Main Loop		\$75,000
19	Hulen Drive Water Main Replacement	\$336,000	
20	Cedar Lane Water Main Loop		\$17,000
21	HWY 24 (South) Water Main Loop		\$92,000
22	Rothwell Park 2-inch Water Main Replacement	\$367,000	
23	Oak Terrace Water Main Loop	\$234,000	
24	Johnson Street Water Main Loop		\$24,000
25	Sinnock Elevated Tank	\$1,401,000	
	Total	\$9,616,000	\$365,000
	<b>Total Cost for Proposed Improvements</b>	<b>\$9,981,000</b>	

**Table 1**  
**Moberly Municipal Utilities - Water**  
**Historical and Projected Accounts, Volume, & Revenue**

Line No.	Accounts	Historical			Budget	Projected			
		2015	2016	2017	2018	2019	2020	2021	2022
<b>Accounts</b>									
<u>Inside City</u>									
1	5/8" Meter	4,613	4,727	4,764	4,744	4,767	4,767	4,767	4,767
2	1" Meter	361	367	368	369	369	369	369	369
3	2" Meter	112	111	115	116	116	116	116	116
4	3" Meter	7	7	6	6	6	6	6	6
5	4" Meter	6	5	6	6	6	6	6	6
6	6" Meter	1	1	1	0	0	0	0	0
<u>Outside City</u>									
7	5/8" Meter	20	22	23	23	-	-	-	-
8	1" Meter	4	4	4	5	5	5	5	5
9	2" Meter	1	2	2	2	2	2	2	2
10	4" Meter	-	-	-	-	-	-	-	-
11	6" Meter	-	-	-	1	1	1	1	1
<u>City Facilities</u>									
12	Wholesale	-	-	-	-	-	-	1	1
13	City Accounts	25	30	27	21	21	21	21	21
14	<b>Total Accounts</b>	<b>5,151</b>	<b>5,275</b>	<b>5,317</b>	<b>5,291</b>	<b>5,293</b>	<b>5,293</b>	<b>5,294</b>	<b>5,294</b>
15	Percent Change in Accounts		2.41%	0.79%	-0.48%	0.03%	0.00%	0.02%	0.00%
<b>Billed Volume (Gallons)</b>									
<u>Inside City</u>									
16	5/8" Meter	157,153,652	158,941,575	158,830,432	159,452,445	160,222,700	160,222,700	160,222,700	160,222,700
17	1" Meter	28,985,990	27,507,760	27,213,720	27,635,162	27,635,200	27,635,200	27,635,200	27,635,200
18	2" Meter	45,160,216	44,351,920	45,261,229	49,007,326	49,007,300	49,007,300	49,007,300	49,007,300
19	3" Meter	7,911,410	8,603,460	7,651,753	7,363,550	7,913,100	7,913,100	7,913,100	7,913,100
20	4" Meter	14,546,940	15,147,540	15,114,570	13,480,487	14,706,000	14,706,000	14,706,000	14,706,000
21	6" Meter	1,494,450	1,285,340	781,590	82,190	-	-	-	-
<u>Outside City</u>									
22	5/8" Meter	896,630	721,940	649,590	616,660	-	-	-	-
23	1" Meter	243,040	139,450	157,160	235,990	228,400	228,400	228,400	228,400
24	2" Meter	11,010	77,560	45,160	38,120	39,800	39,800	39,800	39,800
25	4" Meter	-	-	-	-	-	-	-	-
26	6" Meter	-	-	-	708,330	772,700	772,700	772,700	772,700
<u>City Facilities</u>									
27	Wholesale	-	-	-	-	-	-	1,200,000	2,400,000
28	City Accounts	2,483,320	2,708,070	3,810,630	1,714,859	1,749,600	1,749,600	1,749,600	1,749,600
29	<b>Total Billed Volume</b>	<b>258,886,658</b>	<b>259,484,615</b>	<b>259,515,834</b>	<b>260,335,119</b>	<b>262,274,800</b>	<b>262,274,800</b>	<b>263,474,800</b>	<b>264,674,800</b>
30	Percent Change in Volume		0.23%	0.01%	0.32%	0.75%	0.00%	0.46%	0.46%
<b>User Charge Revenues under Existing Rates</b>									
<u>Inside City</u>									
31	5/8" Meter	\$ 1,338,921	\$ 1,379,769	\$ 1,407,005	\$ 1,444,625	\$ 1,451,600	\$ 1,451,600	\$ 1,451,600	\$ 1,451,600
32	1" Meter	206,753	203,902	210,410	218,293	218,300	218,300	218,300	218,300
33	2" Meter	277,185	277,583	294,692	323,669	323,700	323,700	323,700	323,700
34	3" Meter	32,731	51,681	43,584	47,070	50,600	50,600	50,600	50,600
35	4" Meter	88,370	90,861	93,002	86,135	94,000	94,000	94,000	94,000
36	6" Meter	10,470	9,469	6,847	685	-	-	-	-
<u>Outside City</u>									
37	5/8" Meter	\$ 8,602	\$ 9,141	\$ 8,740	\$ 8,915	\$ -	\$ -	\$ -	\$ -
38	1" Meter	2,803	2,016	2,280	3,184	3,100	3,100	3,100	3,100
39	2" Meter	437	1,454	1,312	1,231	1,300	1,300	1,300	1,300
40	4" Meter	-	-	-	-	-	-	-	-
41	6" Meter	-	-	-	9,179	10,000	10,000	10,000	10,000
<u>City Facilities</u>									
42	Wholesale	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,000	\$ 12,000
43	City Accounts	-	-	-	-	-	-	-	-
44	<b>Total UC Revenues</b>	<b>\$ 1,966,273</b>	<b>\$ 2,025,876</b>	<b>\$ 2,067,872</b>	<b>\$ 2,142,987</b>	<b>\$ 2,152,600</b>	<b>\$ 2,152,600</b>	<b>\$ 2,158,600</b>	<b>\$ 2,164,600</b>
45	Percent Revenue Growth		3.03%	2.07%	3.63%	0.45%	0.00%	0.28%	0.28%

Notes:  
1. Average annual growth in customers is 0.32%  
2. No growth in projected volume  
3. Projected revenues based on low growth in customers and no growth in volumes  
4. Any revenues assumed to be shared by water and sewer were split 50/50  
5. New development is adding roughly \$6,000 in overall revenues starting In 2021

**Table 2**  
**Moberly Municipal Utilities - Water**  
**Historical and Projected Other Revenues**

Line No.		Historical			Budget		Projected		
		2015	2016	2017	2018	2019	2020	2021	2022
	<b>Utilities Collection Fund</b>								
	<b>Miscellaneous</b>								
1	Miscellaneous (300.000.4900)	\$ 14,876	\$ 9,782	\$ 33,419	\$ 15,228	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2	Interest Income	3,134	-	-	-	-	-	-	-
3	Bad Debts Collected	2,735	1,500	1,611	14,280	1,000	1,000	1,000	1,000
4	Miscellaneous (300.000.5806)	-	-	-	-	200	-	-	-
5	Credit Card Transaction Fees	-	-	-	-	(13,000)	(13,000)	(13,000)	(13,000)
6	Cash Over & Under	-	-	-	-	-	-	-	-
7	<b>Total Miscellaneous</b>	<b>\$ 20,746</b>	<b>\$ 11,282</b>	<b>\$ 35,030</b>	<b>\$ 29,508</b>	<b>\$ (1,800)</b>	<b>\$ (2,000)</b>	<b>\$ (2,000)</b>	<b>\$ (2,000)</b>
	<b>Permits</b>								
8	Land Disturbance Permits	\$ -	\$ -	\$ -	\$ -	\$ 700	\$ -	\$ -	\$ -
9	<b>Total Permits</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>700</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Fees</b>								
10	Returned Check Fees	\$ 1,120	\$ 1,600	\$ 497	\$ 500	\$ 800	\$ 800	\$ 800	\$ 800
11	Water Tap Fees	2,125	4,475	2,500	2,375	2,500	2,500	2,500	2,500
12	Sewer Tap Fees	-	-	-	-	-	-	-	-
13	Service Charges	105,146	95,549	111,097	122,086	108,470	108,470	108,470	108,470
14	Stormwater Fees	-	-	-	-	-	-	-	-
15	<b>Total Fees</b>	<b>\$ 108,391</b>	<b>\$ 101,624</b>	<b>\$ 114,095</b>	<b>\$ 124,961</b>	<b>\$ 111,770</b>	<b>\$ 111,770</b>	<b>\$ 111,770</b>	<b>\$ 111,770</b>
	<b>Transfers (in)</b>								
16	Transfer From Operating Reserve Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Transfer From Capital Improvement Sales Tax Fund	81,895	-	-	-	-	-	-	-
18	<b>Total Transfers</b>	<b>\$ 81,895</b>	<b>\$ -</b>						
	<b>Grants</b>								
19	Miscellaneous Grant	\$ -	\$ -	\$ -	\$ -	\$ 40,000	\$ -	\$ -	\$ -
20	<b>Total Grants</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 40,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
21	<b>Capital Improvement Sales Tax Revenues</b>	<b>\$ 729,621</b>	<b>\$ 570,932</b>	<b>\$ 559,681</b>	<b>\$ 592,823</b>	<b>\$ 613,000</b>	<b>\$ 613,000</b>	<b>\$ 613,000</b>	<b>\$ 613,000</b>
21	<b>Total Other Revenues</b>	<b>\$ 940,653</b>	<b>\$ 683,838</b>	<b>\$ 708,806</b>	<b>\$ 747,292</b>	<b>\$ 763,670</b>	<b>\$ 722,770</b>	<b>\$ 722,770</b>	<b>\$ 722,770</b>
22	<b>Percentage Growth</b>		-27.30%	3.65%	5.43%	2.19%	-5.36%	0.00%	0.00%

**Notes:**

1. Actual historical numbers from City of Moberly Annual Reports
2. Budget and projected numbers from City of Moberly Annual Operating Budgets
3. Any revenues assumed to be shared by water and sewer were split 50/50

**Table 3**  
**Moberly Municipal Utilities - Water**  
**Historical and Projected Operation & Maintenance Expenses and Transfers Out**

Line No.	Historical			Budget		Projected			
	2015	2016	2017	2018	2019	2020	2021	2022	
<b>Operating &amp; Maintenance Expenses</b>									
1	Administration Department	\$ 90,423	\$ 161,974	\$ 229,492	\$ 246,959	\$ 251,465	\$ 215,700	\$ 221,600	\$ 227,600
2	Billing & Collection Department	140,468	-	-	-	-	-	-	-
3	Distribution & Collection Department	607,988	479,813	548,213	589,938	566,981	575,300	591,900	609,300
4	Water Treatment Department	715,335	776,188	857,092	922,325	964,555	993,200	1,022,500	1,052,700
5	<b>Total Operating &amp; Maintenance Expenses</b>	<b>1,554,214</b>	<b>1,417,975</b>	<b>1,634,797</b>	<b>1,759,222</b>	<b>1,783,002</b>	<b>1,784,200</b>	<b>1,836,000</b>	<b>1,889,600</b>
6	Capital Improvement Sales Tax Expenses	\$ 687,377	\$ 982,002	\$ 446,304	\$ 453,774	\$ 297,121	\$ 295,480	\$ 298,735	\$ 299,360
7	Percentage Growth		-8.77%	15.29%	7.61%	1.35%	0.07%	2.90%	2.92%
<b>Transfers (Out)</b>									
8	Transfer To Utilities Operation & Maintenance Fund	\$ 1,699,037	\$ 1,778,738	\$ 1,687,197	\$ 1,966,024	\$ 2,048,628	\$ 2,048,600	\$ 2,048,600	\$ 2,048,600
9	Transfer To Replacement Fund	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
10	Transfer To Operating Reserve Fund	308,054	275,312	329,021	231,958	206,654	206,700	206,700	206,700
11	Transfer To 2004B Bonds Debt Service Fund	-	-	-	-	-	-	-	-
12	Transfer To 2006A Bonds Debt Service Fund	495,828	492,803	483,728	474,135	444,465	444,500	444,500	444,500
13	Transfer To Capital Improvement Sales Tax Fund	81,895	-	-	-	-	-	-	-
14	<b>Total Transfers Out</b>	<b>\$ 2,602,814</b>	<b>\$ 2,564,852</b>	<b>\$ 2,517,945</b>	<b>\$ 2,690,117</b>	<b>\$ 2,717,747</b>	<b>\$ 2,717,800</b>	<b>\$ 2,717,800</b>	<b>\$ 2,717,800</b>

**Notes:**

1. Actual historical numbers from City of Moberly Annual Reports
2. Budget and projected numbers from City of Moberly Annual Operating Budgets
4. All costs increasing 3 percent per year.
5. Any expenses and transfers assumed to be shared by water and sewer were split 50/50
6. 2019-2022 Capital Improvement Sales Tax Expenses include \$63,000 in annual water construction expenses and 50% of the debt service payments for the 2004C and 2008A Bond Series

**Table 4**  
**Moberly Municipal Utilities - Water**  
**Capital Improvement Plan**

Line No.			Projected			Total
	2018	2019	2020	2021	2022	2020-2022
<b><u>Distribution &amp; Collection</u></b>						
1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	-	-	75,000	75,000	75,000	225,000
3	-	20,000	20,000	20,000	-	40,000
4	-	40,000	-	-	-	-
5	-	-	45,000	-	-	45,000
6	-	-	16,000	-	-	16,000
7	-	-	16,000	-	-	16,000
8	-	-	-	16,000	-	16,000
9	-	-	-	17,500	-	17,500
10	-	-	-	60,000	-	60,000
11	-	-	6,000	-	-	6,000
12	\$ -	\$ 60,000	\$ 178,000	\$ 188,500	\$ 75,000	\$ 441,500
<b><u>Water Treatment</u></b>						
13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14	5,000	5,000	5,000	5,000	5,000	15,000
15	-	25,000	-	-	-	-
16	-	-	20,000	-	-	20,000
17	-	65,000	-	-	-	-
18	-	200,000	-	-	-	-
19	-	-	-	-	-	-
20	-	-	-	-	-	-
21	-	-	75,000	-	-	75,000
22	-	250,000	250,000	-	-	250,000
23	-	-	-	-	-	-
24	\$ 5,000	\$ 545,000	\$ 350,000	\$ 5,000	\$ 5,000	\$ 360,000
<b><u>Water Mains</u></b>						
25	\$ -	\$ -	\$ 1,600,000	\$ -	\$ -	\$ 1,600,000
26	-	-	450,000	-	-	450,000
27	-	225,000	225,000	-	-	225,000
28	-	-	-	700,000	-	700,000
29	-	-	-	-	-	-
30	-	40,000	40,000	40,000	40,000	120,000
31	-	-	40,600	40,600	40,600	121,800
32	-	-	125,000	-	-	125,000
33	\$ -	\$ 265,000	\$ 2,480,600	\$ 780,600	\$ 80,600	\$ 3,341,800
<b><u>Miscellaneous - Water Split</u></b>						
34	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ 75,000
35	-	-	-	500,000	500,000	1,000,000
36	-	-	-	-	-	-
37	-	-	-	-	-	-
38	-	-	-	-	-	-
39	-	-	-	-	-	-
40	-	-	-	-	-	-
41	-	-	-	-	-	-
42	-	-	-	-	-	-
43	\$ -	\$ -	\$ 75,000	\$ 500,000	\$ 500,000	\$ 1,075,000
<b><u>Capital Improvement Sales Tax Trust</u></b>						
44	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 75,000
45	-	28,000	28,000	28,000	-	56,000
46	200,000	200,000	200,000	-	-	200,000
47	\$ 225,000	\$ 253,000	\$ 253,000	\$ 53,000	\$ 25,000	\$ 331,000
48	\$ 230,000	\$ 1,123,000	\$ 3,336,600	\$ 1,527,100	\$ 685,600	\$ 5,549,300
49	\$ 5,000	\$ 670,000	\$ 3,083,600	\$ 1,474,100	\$ 660,600	\$ 5,218,300
50	\$ 225,000	\$ 453,000	\$ 253,000	\$ 53,000	\$ 25,000	\$ 331,000
51						\$ 5,549,300

Notes:

1. Water Capital Improvement Plan provided by the City
2. Any projects assumed to be shared by water and sewer were split 50/50

**Table 5**  
**Moberly Municipal Utilities - Water**  
**Debt Service Obligations**

Line No.		Projected				
		<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
	<b><u>Outstanding Debt</u></b>					
1	Principal	280,000	285,000	290,000	300,000	305,000
2	Interest	132,850	118,150	103,188	89,413	75,163
3	Total Principal and Interest	412,850	403,150	393,188	389,413	380,163
	<b><u>Proposed Debt</u></b>					
4	Total Principal and Interest	-	-	96,000	192,000	192,000
5	<b>Total Debt Service</b>	<b>412,850</b>	<b>403,150</b>	<b>489,188</b>	<b>581,413</b>	<b>572,163</b>

Notes:

1. Projected debt based on an issuance of \$4,300,000 at a 2.0 percent interest rate for a 30-year term in FY 2020

Corrected

**Table 6**  
**Moberly Municipal Utilities - Water**  
**Operating and Capital Flow of Funds - Scenario 1**

Line No.		Projected				
		2018	2019	2020	2021	2022
<b>Water Utility Operating Flow of Funds (\$)</b>						
<b>Water Revenues</b>						
1	Revenue Under Existing Rates	2,142,987	2,152,600	2,152,600	2,158,600	2,164,600
<b>Proposed Revenue Adjustments</b>						
	<u>Year</u> <u>FY Month</u> <u>Increase</u>					
2	2018 1 0.00%	-	-	-	-	-
3	2019 5 5.00%		71,800	107,600	107,900	108,200
4	2020 1 5.00%			113,000	113,300	113,600
5	2021 1 5.00%				119,000	119,300
6	2022 1 5.00%					125,300
7	Total Proposed Additional Revenue	-	71,800	220,600	340,200	466,400
8	Total Water User Charge Revenue	2,142,987	2,224,400	2,373,200	2,498,800	2,631,000
<b>Other Water Revenues</b>						
9	Miscellaneous	29,508	(1,800)	(2,000)	(2,000)	(2,000)
10	Permits	-	700	-	-	-
11	Fees	124,961	111,770	111,770	111,770	111,770
12	Grants	-	40,000	-	-	-
13	CI Sales Tax Revenues	592,823	613,000	613,000	613,000	613,000
14	Transfers (In)	-	-	-	-	-
15	Total Other Revenues	747,292	763,670	722,770	722,770	722,770
16	<b>Grand Total Water Revenue</b>	<b>2,890,279</b>	<b>2,988,070</b>	<b>3,095,970</b>	<b>3,221,570</b>	<b>3,353,770</b>
<b>Revenue Requirements</b>						
17	Operation and Maintenance Expense	1,759,222	1,783,002	1,784,200	1,836,000	1,889,600
18	CI Sales Tax - 2004C & 2008A Series (50%)	390,774	234,121	232,480	235,735	236,360
19	CI Sales Tax Fund - Annual Water Construction	63,000	63,000	63,000	63,000	63,000
<b>Debt Service</b>						
20	Existing Debt	412,850	403,150	393,188	389,413	380,163
21	Proposed Debt	-	-	118,300	236,600	236,600
22	Total Debt Service	412,850	403,150	511,488	626,013	616,763
23	<b>Grand Total Revenue Requirements</b>	<b>2,625,846</b>	<b>2,483,273</b>	<b>2,591,168</b>	<b>2,760,747</b>	<b>2,805,722</b>
24	<b>Annual Operating Balance (Sources Less Uses)</b>	<b>264,433</b>	<b>504,797</b>	<b>504,802</b>	<b>460,823</b>	<b>548,048</b>
<b>Operating Fund Sources:</b>						
25	Beginning Balance (Operating portion) [1]	944,110	433,800	439,600	439,900	452,700
26	Annual Operating Balance	264,433	504,797	504,802	460,823	548,048
27	Total Operating Fund Sources	1,208,543	938,597	944,402	900,723	1,000,748
<b>Operating Fund Uses: [2]</b>						
28	Transfer to General Fund (7% of O&M)	123,146	124,810	124,894	128,520	132,272
29	Transfer to General Fund from CI Sales Tax Fund (5%)	6,952	15,794	15,876	15,713	15,682
30	Transfers to Capital	644,645	358,393	363,732	303,789	386,894
31	Total Operating Fund Uses	774,743	498,997	504,502	448,023	534,848
32	<b>Ending Operating Balance (Sources Less Uses)</b>	<b>433,800</b>	<b>439,600</b>	<b>439,900</b>	<b>452,700</b>	<b>465,900</b>
<b>Reserve Targets</b>						
33	Operating 90 days O&M	433,800	439,600	439,900	452,700	465,900
34	Operating Surplus/(Deficiency)	-	-	-	-	-
35	<b>Coverage Ratio</b>	<b>2.74</b>	<b>2.99</b>	<b>2.56</b>	<b>2.21</b>	<b>2.37</b>
<b>Water Utility Capital Flow of Funds (\$)</b>						
<b>Capital Fund Sources:</b>						
36	Beginning Balance (Capital Portion) [1]	400,000	1,044,645	280,037	2,580,669	1,357,359
37	Transfer from Operations	644,645	358,393	363,732	303,789	386,894
38	Debt Issuance	-	-	5,300,000	-	-
39	Total Capital Sources	1,044,645	1,403,037	5,943,769	2,884,459	1,744,252
<b>Capital Fund Uses:</b>						
40	CIP - Cash or Debt Funded	-	670,000	3,083,600	1,474,100	660,600
41	CIP - CIP Sales Tax Funded	-	453,000	253,000	53,000	25,000
42	Bond Issuance Expense	-	-	26,500	-	-
43	Total Capital Uses	-	1,123,000	3,363,100	1,527,100	685,600
44	<b>Ending Capital Balance (Sources Less Uses)</b>	<b>\$ 1,044,645</b>	<b>\$ 280,037</b>	<b>\$ 2,580,669</b>	<b>\$ 1,357,359</b>	<b>\$ 1,058,652</b>

Notes:

1. Beginning Operating Balance from 2018 Budget page 57. 1/2 of Net Revenue / Expenses (Other 1/2 goes to Sewer)
2. Transfers In & Out to Reserve Funds are expected to continue but are not modeled in this cash flow per discussion with City of Moberly

**Table 1**  
**Moberly Municipal Utilities - Sewer**  
**Historical and Projected Accounts, Volume, & Revenue**

Line No.	Accounts	Historical			Budget	Projected			
		2015	2016	2017	2018	2019	2020	2021	2022
<b>Inside City</b>									
1	5/8" Meter	4,557	4,677	4,716	4,710	4,747	4,761	4,800	4,839
2	1" Meter	341	338	335	334	336	338	340	342
3	2" Meter	96	97	101	101	101	101	101	101
4	3" Meter	6	6	5	4	4	4	4	4
5	4" Meter	5	4	5	5	5	5	5	5
6	6" Meter	-	-	-	-	-	-	-	-
<b>Outside City</b>									
7	5/8" Meter	-	-	-	-	-	-	-	-
8	1" Meter	1	1	1	2	2	2	2	2
9	2" Meter	15	16	21	23	-	-	-	-
10	4" Meter	-	-	-	-	-	-	-	-
11	6" Meter	-	-	-	1	1	1	1	1
<b>City Facilities</b>									
12	Wholesale	-	-	-	-	-	-	1	1
13	City of Moberly	27	28	26	26	26	26	26	26
14	<b>Total Accounts</b>	<b>5,047</b>	<b>5,166</b>	<b>5,210</b>	<b>5,206</b>	<b>5,222</b>	<b>5,238</b>	<b>5,280</b>	<b>5,321</b>
15	Percent Change in Accounts		2.36%	0.84%	-0.08%	0.31%	0.31%	0.80%	0.78%
<b>Billed Volume (Gallons)</b>									
<b>Inside City</b>									
16	5/8" Meter	154,645,782	158,096,715	158,033,289	158,482,513	159,058,000	159,527,100	160,833,900	162,140,700
17	1" Meter	25,428,800	25,583,150	24,607,213	23,635,947	24,656,100	24,802,900	24,949,700	25,096,400
18	2" Meter	41,295,926	40,126,830	41,844,782	43,184,937	42,053,000	42,053,000	42,053,000	42,053,000
19	3" Meter	7,863,580	8,603,460	6,959,180	5,893,990	5,219,400	5,219,400	5,219,400	5,219,400
20	4" Meter	10,990,000	10,362,100	9,442,760	8,697,076	9,939,700	9,939,700	9,939,700	9,939,700
21	6" Meter	-	-	-	-	-	-	-	-
<b>Outside City</b>									
22	5/8" Meter	-	-	-	-	-	-	-	-
23	1" Meter	27,980	4,290	7,210	74,384	74,400	74,400	74,400	74,400
24	2" Meter	791,610	662,906	1,074,235	1,795,403	-	-	-	-
25	4" Meter	-	-	-	-	-	-	-	-
26	6" Meter	-	-	-	676,470	676,500	676,500	676,500	676,500
<b>City Facilities</b>									
27	Wholesale	-	-	-	-	-	-	62,050,000	62,050,000
28	City of Moberly	5,899,900	4,758,990	4,689,730	4,011,990	4,090,700	4,090,700	4,090,700	4,090,700
29	<b>Total Billed Volume</b>	<b>246,943,578</b>	<b>248,198,441</b>	<b>246,658,399</b>	<b>246,452,710</b>	<b>245,767,800</b>	<b>246,383,700</b>	<b>309,887,300</b>	<b>311,340,800</b>
30	Percent Change in Volume		0.51%	-0.62%	-0.08%	-0.28%	0.25%	25.77%	0.47%
<b>User Charge Revenues under Existing Rates</b>									
<b>Inside City</b>									
31	5/8" Meter	\$ 1,703,302	\$ 1,776,405	\$ 1,820,854	\$ 1,879,536	\$ 1,886,400	\$ 1,891,900	\$ 1,907,400	\$ 1,922,900
32	1" Meter	247,945	256,022	258,225	251,874	262,700	264,300	265,900	267,400
33	2" Meter	354,411	354,479	380,120	405,696	395,100	395,100	395,100	395,100
34	3" Meter	45,180	73,783	61,518	53,828	47,700	47,700	47,700	47,700
35	4" Meter	88,956	88,733	84,830	82,594	94,400	94,400	94,400	94,400
36	6" Meter	-	-	-	-	-	-	-	-
<b>Outside City</b>									
37	5/8" Meter	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
38	1" Meter	528	217	237	1,719	1,700	1,800	1,800	1,800
39	2" Meter	9,304	10,208	15,418	17,846	-	-	-	-
40	4" Meter	-	-	-	-	-	-	-	-
41	6" Meter	-	-	-	10,009	10,000	10,000	10,000	10,000
<b>City Facilities</b>									
42	Wholesale	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 110,000	\$ 110,000
43	City of Moberly	-	-	-	-	-	-	-	-
44	<b>Total UC Revenues</b>	<b>\$ 2,449,627</b>	<b>\$ 2,559,847</b>	<b>\$ 2,621,202</b>	<b>\$ 2,703,102</b>	<b>\$ 2,698,000</b>	<b>\$ 2,705,200</b>	<b>\$ 2,832,300</b>	<b>\$ 2,849,300</b>
45	Percent Revenue Growth		4.50%	2.40%	3.12%	-0.19%	0.27%	4.70%	0.50%

- Notes:
1. Average annual growth in customers is 0.36%
  2. No growth in projected volume
  3. Projected revenues based on low growth in customers and no growth in volumes
  4. Any revenues assumed to be shared by water and sewer were split 50/50
  5. New development is adding roughly \$10,000 in overall revenues starting in 2021
  6. Additional wholesale revenue annually is from the addition of Huntsville

**Table 2**  
**Moberly Municipal Utilities - Sewer**  
**Historical and Projected Other Revenues**

Line No.	Historical			Budget	Projected				
	2015	2016	2017	2018	2019	2020	2021	2022	
<b>Utilities Collection Fund</b>									
<b>Miscellaneous</b>									
1	Miscellaneous (300.000.4900)	\$ 14,876	\$ 8,198	\$ 33,419	\$ 15,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2	Interest Income	3,134	-	-	-	-	-	-	-
3	Bad Debts Collected	915	20	431	12,500	1,000	1,000	1,000	1,000
4	Miscellaneous (300.000.5806)	-	-	-	-	200	-	-	-
5	Credit Card Transaction Fees	-	-	-	-	(13,000)	(13,000)	(13,000)	(13,000)
6	Cash Over & Under	-	-	-	-	-	-	-	-
7	<b>Total Miscellaneous</b>	<b>\$ 18,926</b>	<b>\$ 8,218</b>	<b>\$ 33,850</b>	<b>\$ 27,500</b>	<b>\$ (1,800)</b>	<b>\$ (2,000)</b>	<b>\$ (2,000)</b>	<b>\$ (2,000)</b>
<b>Permits</b>									
8	Land Disturbance Permits	\$ -	\$ -	\$ -	\$ -	\$ 800	\$ -	\$ -	\$ -
9	<b>Total Permits</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>800</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Fees</b>									
10	Returned Check Fees	\$ -	\$ -	\$ -	\$ -	\$ 700	\$ 700	\$ 700	\$ 700
11	Water Tap Fees	2,125	2,238	2,500	2,375	2,500	2,500	2,500	2,500
12	Sewer Tap Fees	860	1,350	750	1,000	1,000	1,000	1,000	1,000
13	Service Charges	52,299	46,799	29,167	43,382	42,912	42,912	42,912	42,912
14	Sewer District Assessments	-	-	20,970	-	2,500	2,500	2,500	2,500
15	Stormwater Fees	-	-	-	-	-	-	-	-
16	<b>Total Fees</b>	<b>\$ 55,284</b>	<b>\$ 50,387</b>	<b>\$ 53,388</b>	<b>\$ 46,757</b>	<b>\$ 49,612</b>	<b>\$ 49,612</b>	<b>\$ 49,612</b>	<b>\$ 49,612</b>
<b>Transfers (In)</b>									
17	Transfer From Operating Reserve Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Transfer From Capital Improvement Sales Tax Fund	81,895	-	-	-	-	-	-	-
19	<b>Total Transfers</b>	<b>\$ 81,895</b>	<b>\$ -</b>						
<b>Grants</b>									
20	Miscellaneous Grant	\$ -	\$ -	\$ -	\$ -	\$ 40,000	\$ -	\$ -	\$ -
21	<b>Total Grants</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 40,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
22	<b>Capital Improvement Sales Tax Revenues</b>	<b>\$ 729,621</b>	<b>\$ 570,932</b>	<b>\$ 559,681</b>	<b>\$ 592,823</b>	<b>\$ 613,000</b>	<b>\$ 613,000</b>	<b>\$ 613,000</b>	<b>\$ 613,000</b>
22	<b>Total Other Revenues</b>	<b>\$ 885,725</b>	<b>\$ 629,536</b>	<b>\$ 646,919</b>	<b>\$ 667,080</b>	<b>\$ 701,612</b>	<b>\$ 660,612</b>	<b>\$ 660,612</b>	<b>\$ 660,612</b>
23	<b>Percentage Growth</b>		-28.92%	2.76%	3.12%	5.18%	-5.84%	0.00%	0.00%

**Notes:**

1. Actual historical numbers from City of Moberly Annual Reports
2. Budget and projected numbers from City of Moberly Annual Operating Budgets
3. Any revenues assumed to be shared by water and sewer were split 50/50

**Table 3**  
**Moberly Municipal Utilities - Sewer**  
**Historical and Projected Operation & Maintenance Expenses and Transfers Out**

Line No.	Historical			Budget		Projected		
	2015	2016	2017	2018	2019	2020	2021	2022
<b>Operating &amp; Maintenance Expenses</b>								
1	\$ 90,423	\$ 161,974	\$ 229,492	\$ 243,309	\$ 251,465	\$ 252,700	\$ 259,700	\$ 266,800
2	140,468	-	-	-	-	-	-	-
3	449,586	455,618	450,244	477,351	525,397	536,200	551,700	567,900
4	852,942	1,052,421	960,846	1,018,693	989,339	1,019,500	1,050,200	1,081,700
5	81,852	79,331	73,432	77,853	119,468	123,300	126,800	130,300
6	36,617	-	-	-	-	-	-	-
7	<b>\$ 1,651,887</b>	<b>\$ 1,749,345</b>	<b>\$ 1,714,013</b>	<b>\$ 1,817,206</b>	<b>\$ 1,885,670</b>	<b>\$ 1,931,700</b>	<b>\$ 1,988,400</b>	<b>\$ 2,046,700</b>
8	<b>\$ 687,377</b>	<b>\$ 982,002</b>	<b>\$ 446,304</b>	<b>\$ 453,774</b>	<b>\$ 234,121</b>	<b>\$ 232,480</b>	<b>\$ 235,735</b>	<b>\$ 236,360</b>
9	Percentage Growth	5.90%	-2.02%	6.02%	3.77%	2.44%	2.94%	2.93%
<b>Transfers (Out)</b>								
10	\$ 1,699,037	\$ 1,778,738	\$ 1,687,197	\$ 1,966,024	\$ 2,048,628	\$ 1,851,400	\$ 1,851,400	\$ 1,851,400
11	18,000	18,000	18,000	18,000	18,000	18,500	18,500	18,500
12	308,054	275,312	329,021	231,958	206,654	255,600	255,600	255,600
13	545,763	536,358	537,829	529,053	526,029	516,600	516,600	516,600
14	-	-	-	-	-	-	-	-
15	81,895	-	-	-	-	-	-	-
16	<b>\$ 2,652,749</b>	<b>\$ 2,608,407</b>	<b>\$ 2,572,046</b>	<b>\$ 2,745,034</b>	<b>\$ 2,799,310</b>	<b>\$ 2,642,100</b>	<b>\$ 2,642,100</b>	<b>\$ 2,642,100</b>

**Notes:**

1. Actual historical numbers from City of Moberly Annual Reports
2. Budget and projected numbers from City of Moberly Annual Operating Budgets
4. All costs increasing 3 percent per year
5. Any expenses and transfers assumed to be shared by water and sewer were split 50/50
6. 2019-2022 Capital Improvement Sales Tax Expenses include 50% of the debt service payments for the 2004C and 2008A Bond Series

**Table 4**  
**Moberly Municipal Utilities - Sewer**  
**Capital Improvement Plan**

Line No.			Projected			Total
	2018	2019	2020	2021	2022	2020-2022
<b><u>Distribution &amp; Collection</u></b>						
1	\$ -	\$ -	\$ 80,000	\$ 80,000	\$ 80,000	\$ 240,000
2	15,000	-	-	-	-	-
3	-	20,000	20,000	20,000	-	40,000
4	-	40,000	-	-	-	-
5	-	-	45,000	-	-	45,000
6	-	-	16,000	-	-	16,000
7	-	-	16,000	-	-	16,000
8	-	-	-	16,000	-	16,000
9	-	-	-	17,500	-	17,500
10	-	-	-	-	75,000	75,000
11	-	-	-	60,000	-	60,000
12	-	-	6,000	-	-	6,000
13	-	46,000	-	-	-	-
14	\$ 15,000	\$ 106,000	\$ 183,000	\$ 193,500	\$ 155,000	\$ 531,500
<b><u>Wastewater Treatment</u></b>						
15	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ -
16	-	10,000	-	-	-	-
17	-	250,000	-	-	-	-
18	-	-	1,840,000	-	-	1,840,000
19	-	-	-	150,000	-	150,000
20	-	-	-	150,000	150,000	300,000
21	-	-	50,000	-	-	50,000
22	-	-	50,000	-	-	50,000
23	-	-	150,000	-	-	150,000
24	\$ -	\$ 335,000	\$ 2,090,000	\$ 300,000	\$ 150,000	\$ 2,540,000
<b><u>Sewer Mains</u></b>						
25	\$ -	\$ -	\$ -	\$ -	\$ 2,700,000	\$ 2,700,000
26	-	-	500,000	-	-	500,000
27	-	-	-	350,000	-	350,000
28	-	150,000	150,000	-	-	150,000
29	-	50,000	50,000	-	-	50,000
30	-	-	-	750,000	750,000	1,500,000
31	-	-	-	250,000	250,000	500,000
32	-	30,000	30,000	30,000	30,000	90,000
33	-	-	40,000	-	-	40,000
34	\$ -	\$ 230,000	\$ 770,000	\$ 1,380,000	\$ 3,730,000	\$ 5,880,000
<b><u>Miscellaneous - Sewer Split</u></b>						
35	\$ -	\$ -	\$ 75,000	\$ -	\$ -	\$ 75,000
36	-	-	-	500,000	500,000	1,000,000
37	\$ -	\$ -	\$ 75,000	\$ 500,000	\$ 500,000	\$ 1,075,000
<b><u>Capital Improvement Sales Tax Trust</u></b>						
38	\$ -	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 75,000
39	-	52,000	52,000	52,000	-	104,000
40	-	125,000	-	-	-	-
41	-	325,000	-	-	-	-
42	\$ -	\$ 527,000	\$ 77,000	\$ 77,000	\$ 25,000	\$ 179,000
43	-	-	-	-	-	-
44	15,000	1,198,000	3,195,000	2,450,500	4,560,000	10,205,500
45	15,000	521,000	2,968,000	2,373,500	1,835,000	7,176,500
46	-	677,000	227,000	77,000	2,725,000	3,029,000
47						\$ 10,205,500

Notes:

1. Water Capital Improvement Plan provided by the City
2. Any projects assumed to be shared by water and sewer were split 50/50

**Table 5**  
**Moberly Municipal Utilities - Sewer**  
**Debt Service Obligations**

Line No.		Projected				
		<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
	<b><u>Outstanding Debt</u></b>					
1	Principal	400,000	410,000	420,000	425,000	435,000
2	Interest	62,775	53,663	44,325	34,819	25,144
3	Total Principal and Interest	462,775	463,663	464,325	459,819	460,144
	<b><u>Proposed Debt</u></b>					
5	Total Principal and Interest	-	-	89,300	178,600	250,050
6	<b>Total Debt Service</b>	<b>462,775</b>	<b>463,663</b>	<b>553,625</b>	<b>638,419</b>	<b>710,194</b>

Notes:

1. Projected debt based on issuance of \$4,000,000 at a 2.0 percent interest rate for a 30-year term in FY 2020, and an issuance of \$3,200,000 at a 2.0 percent interest rate for a 30 year term in FY 2022

**Table 6**  
**Moberly Municipal Utilities - Sewer**  
**Operating and Capital Flow of Funds**

Line No.		Projected				
		2018	2019	2020	2021	2022
<b>Sewer Utility Operating Flow of Funds (\$)</b>						
<b>Sewer Revenues</b>						
1	Revenue Under Existing Rates	2,703,102	2,698,000	2,705,200	2,832,300	2,849,300
<u>Proposed Revenue Adjustments</u>						
	<u>Year</u> <u>FY Month</u> <u>Increase</u>					
2	2018 1 0.00%	-	-	-	-	-
3	2019 5 5.00%	-	89,900	135,300	141,600	142,500
4	2020 1 5.00%	-	-	142,000	148,700	149,600
5	2021 1 5.00%	-	-	-	156,100	157,100
6	2022 1 5.00%	-	-	-	-	164,900
7	Total Proposed Additional Revenue	-	89,900	277,300	446,400	614,100
8	Total Sewer User Charge Revenue	2,703,102	2,787,900	2,982,500	3,278,700	3,463,400
<u>Other Sewer Revenues</u>						
9	Miscellaneous	27,500	(1,800)	(2,000)	(2,000)	(2,000)
10	Permits	-	800	-	-	-
11	Fees	46,757	49,612	49,612	49,612	49,612
12	Grants	-	40,000	-	-	-
13	CI Sales Tax Revenue	592,823	613,000	613,000	613,000	613,000
14	Transfers (In)	-	-	-	-	-
15	Total Other Sewer Revenues	667,080	701,612	660,612	660,612	660,612
16	<b>Grand Total Sewer Revenue</b>	<b>3,370,182</b>	<b>3,489,512</b>	<b>3,643,112</b>	<b>3,939,312</b>	<b>4,124,012</b>
<u>Revenue Requirements</u>						
17	Operation and Maintenance Expense	1,739,353	1,766,201	1,808,400	1,861,600	1,916,400
18	CI Sales Tax - 2004C & 2008A Series (50%)	453,774	234,121	232,480	235,735	236,360
<u>Debt Service</u>						
19	Existing Debt	462,775	463,663	464,325	459,819	460,144
20	Proposed Debt	-	-	89,300	178,600	250,050
21	Total Debt Service	462,775	463,663	553,625	638,419	710,194
22	<b>Grand Total Revenue Requirements</b>	<b>2,655,902</b>	<b>2,463,985</b>	<b>2,594,505</b>	<b>2,735,753</b>	<b>2,862,954</b>
23	<b>Annual Operating Balance</b>	<b>714,281</b>	<b>1,025,527</b>	<b>1,048,607</b>	<b>1,203,558</b>	<b>1,261,058</b>
<u>Operating Fund Sources:</u>						
24	Beginning Balance (Operating Portion) [1]	944,110	428,900	435,500	445,900	459,000
25	Annual Operating Balance	714,281	1,025,527	1,048,607	1,203,558	1,261,058
26	Total Operating Fund Sources	1,658,390	1,454,427	1,484,107	1,649,458	1,720,058
<u>Operating Fund Uses: [2]</u>						
27	Transfer to General Fund (7% of O&M)	121,755	123,634	126,588	130,312	134,148
28	Transfer to General Fund from CI Sales Tax (5%)	6,952	18,944	19,026	18,863	18,832
29	Transfers to Capital	1,100,783	876,349	892,593	1,041,283	1,094,578
30	Total Operating Fund Uses	1,229,490	1,018,927	1,038,207	1,190,458	1,247,558
31	<b>Ending Operating Balance (Sources Less Uses)</b>	<b>428,900</b>	<b>435,500</b>	<b>445,900</b>	<b>459,000</b>	<b>472,500</b>
<u>Reserve Targets</u>						
32	Operating 90 days O&M	428,900	435,500	445,900	459,000	472,500
33	Operating Surplus/(Deficiency)	-	-	-	-	-
34	<b>Coverage Ratio</b>	<b>3.52</b>	<b>3.72</b>	<b>3.31</b>	<b>3.25</b>	<b>3.11</b>
<b>Sewer Utility Capital Flow of Funds (\$)</b>						
<u>Capital Fund Sources:</u>						
35	Beginning Balance (Capital Portion) [1]	400,000	1,500,783	1,179,132	2,856,724	1,447,507
36	Transfer from Operations	1,100,783	876,349	892,593	1,041,283	1,094,578
37	Debt Issuance	-	-	4,000,000	-	3,200,000
38	Total Capital Sources	1,500,783	2,377,132	6,071,724	3,898,007	5,742,086
<u>Capital Fund Uses:</u>						
39	CIP - Cash or Debt Funded	-	521,000	2,968,000	2,373,500	1,835,000
40	CIP - CIP Sales Tax Funded	-	677,000	227,000	77,000	2,725,000
41	Bond Issuance Expense	-	-	20,000	-	16,000
42	Total Capital Uses	-	1,198,000	3,215,000	2,450,500	4,576,000
43	<b>Ending Capital Balance (Sources Less Uses)</b>	<b>1,500,783</b>	<b>1,179,132</b>	<b>2,856,724</b>	<b>1,447,507</b>	<b>1,166,086</b>

Notes:

1. Beginning Operating Balance from 2018 Budget page 57. 1/2 of Net Revenue / Expenses (Other 1/2 goes to Sewer)

2. Transfers In & Out to Reserve Funds are expected to continue but are not modeled in this cash flow per discussion with City of Moberly

Water Rates		BASE FEES		Water Cost per CCF	water Cost Converted to \$/100 gal	Sewer Cost per CCF	sewer Cost Converted to \$/100 gal	Combined Rate Water + Sewer	2000 gpm	4000 gpm
1996	Water	\$ 1.50	0-500 gallons CCF	\$2.25	\$0.30	\$0.38	0.05	\$0.35		
	Sewer	\$ 1.50	500-3000 CCF	\$1.95	\$0.26	\$0.38	0.05	\$0.31		
1999	Water	\$ 1.50	0-500 gallons CCF	\$2.45	\$0.33	\$1.00	0.13	\$0.46		
	Sewer	\$ 3.50	500-3000 gallons CCF	\$2.15	\$0.29	\$1.00	0.13	\$0.42		
2002	Water	\$ 5.00	\$2.54/100 CCF	\$2.54	\$0.34			\$0.89		
	Sewer	\$ 5.00	\$4.12/100 CCF			\$4.12	0.55			
2005	Water	\$ 6.00	\$2.75/100 CCF	\$2.75	\$0.37			\$0.94		
	Sewer	\$ 6.00	\$4.27/100 CCF			\$4.27	0.57			
2006	Water	\$ 6.00	\$2.97/100 CCF	\$2.97	\$0.40			\$0.99		
	Sewer	\$ 6.00	\$4.42/100 CCF			\$4.42	0.59			
2008	Water	\$ 6.00	\$3.15/100 CCF	\$3.15	\$0.42			\$1.05		
	Sewer	\$ 6.00	\$4.69/100 CCF			\$4.69	0.63			
2010	Water	\$ 6.00	.46/100 gallons		\$0.46			\$1.15		
	Sewer	\$ 6.00	.69/100 gallons				0.69			
2011	Water	\$ 7.00	.49/100 gallons		\$0.49			\$1.22		
	Sewer	\$ 7.00	.73/100 gallons				0.73			
2012	Water	\$ 8.00	.52/100 gallons		\$0.52			\$1.29		
	Sewer	\$ 8.00	.77/100 gallons				0.77			
2013	Water	\$ 9.00	.54/100 gallons		\$0.54			\$1.33		
	Sewer	\$ 9.00	.79/100 gallons				0.79			
2015	Water	\$ 9.00	.569/100 gallons		\$0.57			\$1.41		
	Sewer	\$ 9.00	.838/100 gallons				0.84			
2017	Water	\$ 9.00	.59/100 gallons		\$0.59			\$1.46		
	Sewer	\$ 9.00	.87/100 gallons				0.87			

**Declining block rate for high volume water use**

2018	Water	\$9.00	.61/100 gallons		\$0.61			\$1.51	\$49.20	\$79.40
	Sewer	\$10.00	.90/100 gallons				0.90			
2019 Proposed 5% (April 2019)	Water	\$ 9.00	.6405/100 gallons		\$0.64050			\$1.59	\$50.71	\$82.42
	Sewer	\$ 10.00	.945/100 gallons				\$0.94500			
2019 Proposed 5% Eff 7/1/2019)	Water	\$ 9.00	.672525/100 gallons		\$0.67253			\$1.66	\$52.30	\$85.59
	Sewer	\$ 10.00	.99225/100 gallons				\$0.99225			
2019 Alt 10% (April 2019)	Water	\$ 9.00	.671/100 gallons		\$0.67100			\$1.66	\$52.27	\$85.53
	Sewer	\$ 10.00	.99/100 gallons				\$0.99225			
2020 5%	Water	\$ 9.00	.7062/100 gallons	\$0.70455	\$0.70616			\$1.75	\$53.96	\$88.92
	Sewer	\$ 10.00	1.0419/100 gallons			\$1.03950	\$1.04186	\$1.74	\$53.88	\$88.76
2021 5%	Water	\$ 9.00	.74151/100 gallons	\$0.73980	\$0.74147			\$1.84	\$55.71	\$92.42
	Sewer	\$ 10.00	1.094/100 gallons			\$1.09150	\$1.09395	\$1.83	\$55.63	\$92.25
2022 5%	Water	\$ 9.00	.7786/100 gallons	\$0.77680	\$0.77854			\$1.93	\$57.54	\$96.09
	Sewer	\$ 10.00	1.1487/100 gallons			\$1.14608	\$1.14865	\$1.92	\$57.46	\$95.92

**Rates if 10% initial rate increase alternative is chosen**

## Mary West

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**From:** Courtney, Matthew  
**Sent:** Friday, February 1, 2019 2:34 PM  
**To:** mwc@cityofmoberly.com  
**Cc:** Goffoy, Todd  
**Subject:** SRF vs COP Numbers  
**Attachments:** WATER Debt Service Comparison.pdf; SEWER Preliminary Series 2020 SRF Numbers - \$4 Million 30 Years.pdf; SEWER Preliminary Series 2022 COP Numbers - \$3 Million 30 Years.pdf; SEWER Preliminary Series 2020 COP Numbers - \$4 Million 30 Years.pdf; WATER Preliminary Series 2020 SRF Numbers - \$5 Million 30 Years.pdf; WATER Preliminary Series 2020 COP Numbers - \$5 Million 30 Years.pdf; SEWER Aggregate Debt Service Comparison.pdf; SEWER Preliminary Series 2022 SRF Numbers - \$3 Million 30 Years.pdf

Hello Mary,

Please see attached debt service schedules for the Scenarios we discussed.

- SEWER Aggregate Debt Service Comparison – this file compares total combined debt service of the \$4 million 2020 and \$3 million 2022 SRF Bonds for sewer projects against the total combined debt service of the \$4 million 2020 and \$3 million 2022 Certificates of Participation for sewer projects
- WATER Debt Service Comparison – this file compares the debt service of the \$5 million 2020 SRF Bonds for water projects against the debt service of the \$5 million Certificates of Participation for water projects
- The remaining files are the backing detailed schedules for each potential issue – 2020 SRF Bonds for water, 2020 COPS for water, 2020 SRF Bonds for sewer, 2022 SRF Bonds for sewer, 2020 COPS for sewer, and 2022 COPS for sewer.

Under our estimates, the total debt service paid using COPS is significantly higher than the total debt service paid using voted revenue bonds through the SRF program – about \$5.16 million more on the sewer side (2020 and 2022 issues combined), and nearly \$3 million on the water side.

Please call if you have any questions.

Thanks,

Matt

### Matthew Courtney

*Vice President  
Public Finance Investment Banking*

**Piper Jaffray & Co.**  
11635 Rosewood Street  
Leawood, Kansas 66211

D: 913 345-3355  
F: 913 345-3393  
matthew.t.courtney@pjc.com

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[www.piperjaffray.com/do\\_not\\_email](http://www.piperjaffray.com/do_not_email) to review the details and submit your request to be added to the Piper Jaffray "Do Not E-mail Registry." For additional disclosure information see [www.piperjaffray.com/disclosures](http://www.piperjaffray.com/disclosures)

City of Moberly, Missouri  
 Water Project Debt Service - SRF vs Certificates of Participation  
 Preliminary, Subject to Change

February 1, 2019

Revenue Bonds through SRF		Certificates of Participation		Net Debt Service Difference
Fiscal Year	Series 2020 Debt Service	Fiscal Year	Series 2020 Net Debt Service	
6/30/2021	90,510	6/30/2021	110,500	19,990
6/30/2022	180,520	6/30/2022	284,375	103,855
6/30/2023	180,490	6/30/2023	286,000	105,510
6/30/2024	180,420	6/30/2024	282,500	102,080
6/30/2025	180,310	6/30/2025	283,875	103,565
6/30/2026	180,160	6/30/2026	285,000	104,840
6/30/2027	179,970	6/30/2027	285,875	105,905
6/30/2028	179,740	6/30/2028	286,500	106,760
6/30/2029	180,460	6/30/2029	286,875	106,415
6/30/2030	180,130	6/30/2030	282,125	101,995
6/30/2031	179,760	6/30/2031	282,250	102,490
6/30/2032	180,350	6/30/2032	282,125	101,775
6/30/2033	179,880	6/30/2033	286,625	106,745
6/30/2034	180,360	6/30/2034	285,750	105,390
6/30/2035	180,790	6/30/2035	284,625	103,835
6/30/2036	180,160	6/30/2036	283,250	103,090
6/30/2037	179,490	6/30/2037	286,500	107,010
6/30/2038	180,770	6/30/2038	284,375	103,605
6/30/2039	179,980	6/30/2039	286,875	106,895
6/30/2040	180,140	6/30/2040	284,000	103,860
6/30/2041	180,250	6/30/2041	285,750	105,500
6/30/2042	180,290	6/30/2042	282,125	101,835
6/30/2043	180,280	6/30/2043	283,125	102,845
6/30/2044	180,200	6/30/2044	283,625	103,425
6/30/2045	180,070	6/30/2045	283,625	103,555
6/30/2046	180,870	6/30/2046	283,125	102,255
6/30/2047	179,600	6/30/2047	282,125	102,525
6/30/2048	180,280	6/30/2048	285,500	105,220
6/30/2049	180,880	6/30/2049	283,250	102,370
6/30/2050	179,410	6/30/2050	285,375	105,965
6/30/2051	89,890	6/30/2051	(5,000)	(94,890)
<b>Totals</b>	<b>5,406,410</b>	<b>Totals</b>	<b>8,352,625</b>	<b>2,946,215</b>

Assumptions

\$5 Million project dollars funded in 2020

SRF Bond Scenario assumes a 2% interest rate

Certificates of Participation assume a 5% interest rate, with Bond Funded Debt Service Reserve Fund. Reserve Fund assumed to stay in place and make last payment.

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**SOURCES AND USES OF FUNDS**

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Dated Date                    07/01/2020  
 Delivery Date                07/01/2020

Sources:

<hr/>	
Bond Proceeds:	
Par Amount	5,525,000.00
<hr/>	
	5,525,000.00
<hr/>	

Uses:

<hr/>	
Project Fund Deposits:	
Project Fund	5,000,000.00
Other Fund Deposits:	
Debt Service Reserve Fund	358,125.00
Cost of Issuance:	
(\$30 / 1000)	165,750.00
Other Uses of Funds:	
Additional Proceeds	1,125.00
<hr/>	
	5,525,000.00
<hr/>	

**BOND DEBT SERVICE**  
 City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Period Ending	Dated Date		Delivery Date		Annual Debt Service
	Principal	Coupon	Interest	Debt Service	
01/01/2021			138,125	138,125	
06/30/2021					138,125
07/01/2021	80,000	5.000%	138,125	216,125	
01/01/2022			138,125	136,125	
06/30/2022					354,250
07/01/2022	85,000	5.000%	136,125	221,125	
01/01/2023			134,000	134,000	
06/30/2023					355,125
07/01/2023	90,000	5.000%	134,000	224,000	
01/01/2024			131,750	131,750	
06/30/2024					355,750
07/01/2024	95,000	5.000%	131,750	226,750	
01/01/2025			129,375	129,375	
06/30/2025					356,125
07/01/2025	100,000	5.000%	129,375	229,375	
01/01/2026			126,875	126,875	
06/30/2026					358,250
07/01/2026	105,000	5.000%	126,875	231,875	
01/01/2027			124,250	124,250	
06/30/2027					358,125
07/01/2027	110,000	5.000%	124,250	234,250	
01/01/2028			121,500	121,500	
06/30/2028					355,750
07/01/2028	115,000	5.000%	121,500	236,500	
01/01/2029			118,625	118,625	
06/30/2029					355,125
07/01/2029	120,000	5.000%	118,625	238,625	
01/01/2030			115,625	115,625	
06/30/2030					354,250
07/01/2030	130,000	5.000%	115,625	245,625	
01/01/2031			112,375	112,375	
06/30/2031					358,000
07/01/2031	135,000	5.000%	112,375	247,375	
01/01/2032			109,000	109,000	
06/30/2032					358,375
07/01/2032	140,000	5.000%	109,000	249,000	
01/01/2033			105,500	105,500	
06/30/2033					354,500
07/01/2033	150,000	5.000%	105,500	255,500	
01/01/2034			101,750	101,750	
06/30/2034					357,250
07/01/2034	155,000	5.000%	101,750	256,750	
01/01/2035			97,875	97,875	
06/30/2035					354,625
07/01/2035	165,000	5.000%	97,875	262,875	
01/01/2036			93,750	93,750	
06/30/2036					356,625
07/01/2036	175,000	5.000%	93,750	268,750	
01/01/2037			89,375	89,375	
06/30/2037					358,125
07/01/2037	180,000	5.000%	89,375	269,375	
01/01/2038			84,875	84,875	
06/30/2038					354,250
07/01/2038	190,000	5.000%	84,875	274,875	
01/01/2039			80,125	80,125	
06/30/2039					355,000
07/01/2039	200,000	5.000%	80,125	280,125	
01/01/2040			75,125	75,125	
06/30/2040					355,250
07/01/2040	210,000	5.000%	75,125	285,125	
01/01/2041			69,875	69,875	
06/30/2041					355,000
07/01/2041	220,000	5.000%	69,875	289,875	
01/01/2042			64,375	64,375	
06/30/2042					354,250
07/01/2042	230,000	5.000%	64,375	294,375	
01/01/2043			58,625	58,625	
06/30/2043					353,000
07/01/2043	245,000	5.000%	58,625	303,625	
01/01/2044			52,500	52,500	
06/30/2044					356,125
07/01/2044	255,000	5.000%	52,500	307,500	
01/01/2045			46,125	46,125	
06/30/2045					353,625
07/01/2045	270,000	5.000%	46,125	316,125	
01/01/2046			39,375	39,375	
06/30/2046					355,500
07/01/2046	285,000	5.000%	39,375	324,375	
01/01/2047			32,250	32,250	
06/30/2047					356,625
07/01/2047	300,000	5.000%	32,250	332,250	
01/01/2048			24,750	24,750	
06/30/2048					357,000
07/01/2048	315,000	5.000%	24,750	339,750	
01/01/2049			16,875	16,875	
06/30/2049					358,625
07/01/2049	330,000	5.000%	16,875	346,875	
01/01/2050			8,625	8,625	
06/30/2050					355,500
07/01/2050	345,000	5.000%	8,625	353,625	
06/30/2051					353,625
	5,525,000		5,278,750	10,803,750	10,803,750

## NET DEBT SERVICE

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Period Ending	Principal	Interest	Total Debt Service	Debt Service Reserve Fund	Net Debt Service
06/30/2021		138,125	138,125		138,125
06/30/2022	80,000	274,250	354,250		354,250
06/30/2023	85,000	270,125	355,125		355,125
06/30/2024	90,000	265,750	355,750		355,750
06/30/2025	95,000	261,125	356,125		356,125
06/30/2026	100,000	256,250	356,250		356,250
06/30/2027	105,000	251,125	356,125		356,125
06/30/2028	110,000	245,750	355,750		355,750
06/30/2029	115,000	240,125	355,125		355,125
06/30/2030	120,000	234,250	354,250		354,250
06/30/2031	130,000	228,000	358,000		358,000
06/30/2032	135,000	221,375	356,375		356,375
06/30/2033	140,000	214,500	354,500		354,500
06/30/2034	150,000	207,250	357,250		357,250
06/30/2035	155,000	199,625	354,625		354,625
06/30/2036	165,000	191,625	356,625		356,625
06/30/2037	175,000	183,125	358,125		358,125
06/30/2038	180,000	174,250	354,250		354,250
06/30/2039	190,000	165,000	355,000		355,000
06/30/2040	200,000	155,250	355,250		355,250
06/30/2041	210,000	145,000	355,000		355,000
06/30/2042	220,000	134,250	354,250		354,250
06/30/2043	230,000	123,000	353,000		353,000
06/30/2044	245,000	111,125	356,125		356,125
06/30/2045	255,000	98,625	353,625		353,625
06/30/2046	270,000	85,500	355,500		355,500
06/30/2047	285,000	71,625	356,625		356,625
06/30/2048	300,000	57,000	357,000		357,000
06/30/2049	315,000	41,625	356,625		356,625
06/30/2050	330,000	25,500	355,500		355,500
06/30/2051	345,000	8,625	353,625	-358,125	-4,500
	5,525,000	5,278,750	10,803,750	-358,125	10,445,625

BOND SUMMARY STATISTICS

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Dated Date	07/01/2020
Delivery Date	07/01/2020
First Coupon	01/01/2021
Last Maturity	07/01/2050
Arbitrage Yield	5.000000%
True Interest Cost (TIC)	5.000000%
Net Interest Cost (NIC)	5.000000%
All-In TIC	5.266714%
Average Coupon	5.000000%
Average Life (years)	19.109
Weighted Average Maturity (years)	19.109
Duration of Issue (years)	11.802
Par Amount	5,525,000.00
Bond Proceeds	5,525,000.00
Total Interest	5,278,750.00
Net Interest	5,278,750.00
Bond Years from Dated Date	105,575,000.00
Bond Years from Delivery Date	105,575,000.00
Total Debt Service	10,803,750.00
Maximum Annual Debt Service	358,125.00
Average Annual Debt Service	360,125.00
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Term Bond	5,525,000.00	100.000	5.000%	19.109	11.802	8,563.75
	5,525,000.00			19.109		8,563.75

	TIC	All-In TIC	Arbitrage Yield
Par Value	5,525,000.00	5,525,000.00	5,525,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-165,750.00	
- Other Amounts			
Target Value	5,525,000.00	5,359,250.00	5,525,000.00
Target Date	07/01/2020	07/01/2020	07/01/2020
Yield	5.000000%	5.266714%	5.000000%

BOND PRICING

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Bond Component	Maturity Date	Amount	Rate	Yield	Price
Term Bond:					
	07/01/2021	80,000	5.000%	5.000%	100.000
	07/01/2022	85,000	5.000%	5.000%	100.000
	07/01/2023	90,000	5.000%	5.000%	100.000
	07/01/2024	95,000	5.000%	5.000%	100.000
	07/01/2025	100,000	5.000%	5.000%	100.000
	07/01/2026	105,000	5.000%	5.000%	100.000
	07/01/2027	110,000	5.000%	5.000%	100.000
	07/01/2028	115,000	5.000%	5.000%	100.000
	07/01/2029	120,000	5.000%	5.000%	100.000
	07/01/2030	130,000	5.000%	5.000%	100.000
	07/01/2031	135,000	5.000%	5.000%	100.000
	07/01/2032	140,000	5.000%	5.000%	100.000
	07/01/2033	150,000	5.000%	5.000%	100.000
	07/01/2034	155,000	5.000%	5.000%	100.000
	07/01/2035	165,000	5.000%	5.000%	100.000
	07/01/2036	175,000	5.000%	5.000%	100.000
	07/01/2037	180,000	5.000%	5.000%	100.000
	07/01/2038	190,000	5.000%	5.000%	100.000
	07/01/2039	200,000	5.000%	5.000%	100.000
	07/01/2040	210,000	5.000%	5.000%	100.000
	07/01/2041	220,000	5.000%	5.000%	100.000
	07/01/2042	230,000	5.000%	5.000%	100.000
	07/01/2043	245,000	5.000%	5.000%	100.000
	07/01/2044	255,000	5.000%	5.000%	100.000
	07/01/2045	270,000	5.000%	5.000%	100.000
	07/01/2046	285,000	5.000%	5.000%	100.000
	07/01/2047	300,000	5.000%	5.000%	100.000
	07/01/2048	315,000	5.000%	5.000%	100.000
	07/01/2049	330,000	5.000%	5.000%	100.000
	07/01/2050	345,000	5.000%	5.000%	100.000
		5,525,000			

Dated Date	07/01/2020	
Delivery Date	07/01/2020	
First Coupon	01/01/2021	
Par Amount	5,525,000.00	
Original Issue Discount		
Production	5,525,000.00	100.000000%
Underwriter's Discount		
Purchase Price	5,525,000.00	100.000000%
Accrued Interest		
Net Proceeds	5,525,000.00	

SOURCES AND USES OF FUNDS

City of Moberly, Missouri  
Combined Waterworks and Sewerage System Revenue Bonds  
Series 2020 (SRF) - \$5 Million Water Projects  
-Preliminary, 30 Year Amortization-

Dated Date 07/01/2020  
Delivery Date 07/01/2020

Sources:

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Bond Proceeds:	
Par Amount	5,064,000.00
	<hr/>
	5,064,000.00

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Uses:

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Project Fund Deposits:	
Project Fund	5,000,000.00
Cost of Issuance:	
(\$12.50 / 1000)	63,300.00
Other Uses of Funds:	
Additional Proceeds	700.00
	<hr/>
	5,064,000.00

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## BOND DEBT SERVICE

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2020 (SRF) - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Dated Date            07/01/2020  
 Delivery Date        07/01/2020

Period Ending	Principal	Coupon	Interest	Debt Service
06/30/2021	62,000	2.000%	50,640	112,640
06/30/2022	126,000	2.000%	99,410	225,410
06/30/2023	129,000	2.000%	96,880	225,880
06/30/2024	131,000	2.000%	94,290	225,290
06/30/2025	133,000	2.000%	91,660	224,660
06/30/2026	137,000	2.000%	88,980	225,980
06/30/2027	139,000	2.000%	86,230	225,230
06/30/2028	142,000	2.000%	83,430	225,430
06/30/2029	145,000	2.000%	80,580	225,580
06/30/2030	147,000	2.000%	77,670	224,670
06/30/2031	151,000	2.000%	74,710	225,710
06/30/2032	153,000	2.000%	71,680	224,680
06/30/2033	157,000	2.000%	68,600	225,600
06/30/2034	160,000	2.000%	65,440	225,440
06/30/2035	163,000	2.000%	62,230	225,230
06/30/2036	167,000	2.000%	58,950	225,950
06/30/2037	169,000	2.000%	55,600	224,600
06/30/2038	173,000	2.000%	52,200	225,200
06/30/2039	177,000	2.000%	48,720	225,720
06/30/2040	181,000	2.000%	45,160	226,160
06/30/2041	183,000	2.000%	41,530	224,530
06/30/2042	187,000	2.000%	37,850	224,850
06/30/2043	191,000	2.000%	34,090	225,090
06/30/2044	195,000	2.000%	30,250	225,250
06/30/2045	199,000	2.000%	26,330	225,330
06/30/2046	203,000	2.000%	22,330	225,330
06/30/2047	207,000	2.000%	18,250	225,250
06/30/2048	211,000	2.000%	14,090	225,090
06/30/2049	215,000	2.000%	9,850	224,850
06/30/2050	219,000	2.000%	5,530	224,530
06/30/2051	112,000	2.000%	1,120	113,120
	5,064,000		1,694,280	6,758,280

BOND SUMMARY STATISTICS

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2020 (SRF) - \$5 Million Water Projects  
 -Preliminary, 30 Year Amortization-

Dated Date	07/01/2020
Delivery Date	07/01/2020
First Coupon	01/01/2021
Last Maturity	07/01/2050
Arbitrage Yield	2.000000%
True Interest Cost (TIC)	2.000000%
Net Interest Cost (NIC)	2.000000%
All-In TIC	2.092556%
Average Coupon	2.000000%
Average Life (years)	16.729
Weighted Average Maturity (years)	16.729
Duration of Issue (years)	13.763
Par Amount	5,064,000.00
Bond Proceeds	5,064,000.00
Total Interest	1,694,280.00
Net Interest	1,694,280.00
Bond Years from Dated Date	84,714,000.00
Bond Years from Delivery Date	84,714,000.00
Total Debt Service	6,758,280.00
Maximum Annual Debt Service	226,160.00
Average Annual Debt Service	225,276.00
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Term Bond	5,064,000.00	100.000	2.000%	16.729	13.763	11,394.00
	5,064,000.00			16.729		11,394.00

	TIC	All-In TIC	Arbitrage Yield
Par Value	5,064,000.00	5,064,000.00	5,064,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-63,300.00	
- Other Amounts			
Target Value	5,064,000.00	5,000,700.00	5,064,000.00
Target Date	07/01/2020	07/01/2020	07/01/2020
Yield	2.000000%	2.092556%	2.000000%

City of Moberly, Missouri  
 Sewer Project Debt Service - SRF vs Certificates of Participation  
 Preliminary, Subject to Change

February 1, 2019

Revenue Bonds through SRF				Certificates of Participation				Net Debt Service Difference
Fiscal Year	Series 2020 Debt Service	Series 2022 Debt Service	Total Debt Service	Fiscal Year	Series 2020 Net Debt Service	Series 2022 Net Debt Service	Total Net Debt Service	
6/30/2021	90,510		90,510	6/30/2021	110,500		110,500	19,990
6/30/2022	180,520		180,520	6/30/2022	284,375		284,375	103,855
6/30/2023	180,490	67,380	247,870	6/30/2023	286,000	82,875	368,875	121,005
6/30/2024	180,420	135,640	316,060	6/30/2024	282,500	214,500	497,000	180,940
6/30/2025	180,310	135,120	315,430	6/30/2025	283,875	212,000	495,875	180,445
6/30/2026	180,160	134,570	314,730	6/30/2026	285,000	214,375	499,375	184,645
6/30/2027	179,970	135,000	314,970	6/30/2027	285,875	211,625	497,500	182,530
6/30/2028	179,740	135,390	315,130	6/30/2028	286,500	213,750	500,250	185,120
6/30/2029	180,460	135,740	316,200	6/30/2029	286,875	210,750	497,625	181,425
6/30/2030	180,130	135,060	315,190	6/30/2030	282,125	212,625	494,750	179,560
6/30/2031	179,760	135,350	315,110	6/30/2031	282,250	214,250	496,500	181,390
6/30/2032	180,350	134,600	314,950	6/30/2032	282,125	210,750	492,875	177,925
6/30/2033	179,880	134,830	314,710	6/30/2033	286,625	212,125	498,750	184,040
6/30/2034	180,360	135,020	315,380	6/30/2034	285,750	213,250	499,000	183,620
6/30/2035	180,790	135,170	315,960	6/30/2035	284,625	214,125	498,750	182,790
6/30/2036	180,160	135,280	315,440	6/30/2036	283,250	214,750	498,000	182,560
6/30/2037	179,490	135,350	314,840	6/30/2037	286,500	215,125	501,625	186,785
6/30/2038	180,770	135,380	316,150	6/30/2038	284,375	215,250	499,625	183,475
6/30/2039	179,980	135,370	315,350	6/30/2039	286,875	215,125	502,000	186,650
6/30/2040	180,140	135,320	315,460	6/30/2040	284,000	214,750	498,750	183,290
6/30/2041	180,250	135,230	315,480	6/30/2041	285,750	214,125	499,875	184,395
6/30/2042	180,290	135,100	315,390	6/30/2042	282,125	213,250	495,375	179,985
6/30/2043	180,280	134,930	315,210	6/30/2043	283,125	212,125	495,250	180,040
6/30/2044	180,200	134,720	314,920	6/30/2044	283,625	210,750	494,375	179,455
6/30/2045	180,070	135,470	315,540	6/30/2045	283,625	214,000	497,625	182,085
6/30/2046	180,870	135,160	316,030	6/30/2046	283,125	211,875	495,000	178,970
6/30/2047	179,600	134,810	314,410	6/30/2047	282,125	214,375	496,500	182,090
6/30/2048	180,280	135,410	315,690	6/30/2048	285,500	211,500	497,000	181,310
6/30/2049	180,880	134,960	315,840	6/30/2049	283,250	213,250	496,500	180,660
6/30/2050	179,410	135,470	314,880	6/30/2050	285,375	214,500	499,875	184,995
6/30/2051	89,890	134,920	224,810	6/30/2051	(5,000)	215,250	210,250	(14,560)
6/30/2052	-	135,320	135,320	6/30/2052	-	215,500	215,500	80,180
6/30/2053	-	67,670	67,670	6/30/2053	-	(250)	(250)	(67,920)
<b>Totals</b>	<b>5,406,410</b>	<b>4,054,740</b>	<b>9,461,150</b>	<b>Totals</b>	<b>8,352,625</b>	<b>6,272,250</b>	<b>14,624,875</b>	<b>5,163,725</b>

Assumptions

\$4 Million project dollars funded in 2020, \$3 million project dollars funded in 2022

SRF Bond Scenario assumes a 2% interest rate

Certificates of Participation assume a 5% interest rate, with Bond Funded Debt Service Reserve Fund. Reserve Fund assumed to stay in place and make last payment.

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SOURCES AND USES OF FUNDS

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2020 (SRF) - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date                    07/01/2020  
 Delivery Date                07/01/2020

Sources:

Bond Proceeds:	
Par Amount	4,051,000.00
	4,051,000.00

Uses:

Project Fund Deposits:	
Project Fund	4,000,000.00
Cost of Issuance:	
(\$12.50 / 1000)	50,637.50
Other Uses of Funds:	
Additional Proceeds	362.50
	4,051,000.00

**BOND DEBT SERVICE**  
 City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2020 (SRF) - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Period Ending	Principal	Coupon	Dated Date		Annual Debt Service
			Delivery Date		
01/01/2021	50,000	2.000%	07/01/2020	07/01/2020	
06/30/2021					90,510
07/01/2021	50,000	2.000%	40,010	90,010	
01/01/2022	51,000	2.000%	39,510	90,510	
06/30/2022					180,520
07/01/2022	51,000	2.000%	39,000	90,000	
01/01/2023	52,000	2.000%	38,490	90,490	
06/30/2023					180,490
07/01/2023	52,000	2.000%	37,970	89,970	
01/01/2024	53,000	2.000%	37,450	90,450	
06/30/2024					180,420
07/01/2024	53,000	2.000%	36,920	89,920	
01/01/2025	54,000	2.000%	36,390	90,390	
06/30/2025					180,310
07/01/2025	54,000	2.000%	35,850	89,850	
01/01/2026	55,000	2.000%	35,310	90,310	
06/30/2026					180,160
07/01/2026	55,000	2.000%	34,760	89,760	
01/01/2027	56,000	2.000%	34,210	90,210	
06/30/2027					179,970
07/01/2027	56,000	2.000%	33,650	89,650	
01/01/2028	57,000	2.000%	33,090	90,090	
06/30/2028					179,740
07/01/2028	58,000	2.000%	32,520	90,520	
01/01/2029	58,000	2.000%	31,940	89,940	
06/30/2029					180,460
07/01/2029	59,000	2.000%	31,360	90,360	
01/01/2030	59,000	2.000%	30,770	89,770	
06/30/2030					180,130
07/01/2030	60,000	2.000%	30,180	90,180	
01/01/2031	60,000	2.000%	29,580	89,580	
06/30/2031					179,760
07/01/2031	61,000	2.000%	28,980	89,980	
01/01/2032	62,000	2.000%	28,370	90,370	
06/30/2032					180,350
07/01/2032	62,000	2.000%	27,750	89,750	
01/01/2033	63,000	2.000%	27,130	90,130	
06/30/2033					179,880
07/01/2033	64,000	2.000%	26,500	90,500	
01/01/2034	64,000	2.000%	25,860	89,860	
06/30/2034					180,360
07/01/2034	65,000	2.000%	25,220	90,220	
01/01/2035	66,000	2.000%	24,570	90,570	
06/30/2035					180,790
07/01/2035	66,000	2.000%	23,910	89,910	
01/01/2036	67,000	2.000%	23,250	90,250	
06/30/2036					180,160
07/01/2036	67,000	2.000%	22,580	89,580	
01/01/2037	68,000	2.000%	21,910	89,910	
06/30/2037					179,490
07/01/2037	69,000	2.000%	21,230	90,230	
01/01/2038	70,000	2.000%	20,540	90,540	
06/30/2038					180,770
07/01/2038	70,000	2.000%	19,840	89,840	
01/01/2039	71,000	2.000%	19,140	90,140	
06/30/2039					179,960
07/01/2039	72,000	2.000%	18,430	90,430	
01/01/2040	72,000	2.000%	17,710	89,710	
06/30/2040					180,140
07/01/2040	73,000	2.000%	16,990	89,990	
01/01/2041	74,000	2.000%	16,260	90,260	
06/30/2041					180,250
07/01/2041	75,000	2.000%	15,520	90,520	
01/01/2042	75,000	2.000%	14,770	89,770	
06/30/2042					180,290
07/01/2042	76,000	2.000%	14,020	90,020	
01/01/2043	77,000	2.000%	13,260	90,260	
06/30/2043					180,280
07/01/2043	78,000	2.000%	12,490	90,490	
01/01/2044	78,000	2.000%	11,710	89,710	
06/30/2044					180,200
07/01/2044	79,000	2.000%	10,930	89,930	
01/01/2045	80,000	2.000%	10,140	90,140	
06/30/2045					180,070
07/01/2045	81,000	2.000%	9,340	90,340	
01/01/2046	82,000	2.000%	8,530	90,530	
06/30/2046					180,870
07/01/2046	82,000	2.000%	7,710	89,710	
01/01/2047	83,000	2.000%	6,890	89,890	
06/30/2047					179,600
07/01/2047	84,000	2.000%	6,060	90,060	
01/01/2048	85,000	2.000%	5,220	90,220	
06/30/2048					180,280
07/01/2048	86,000	2.000%	4,370	90,370	
01/01/2049	87,000	2.000%	3,510	90,510	
06/30/2049					180,880
07/01/2049	87,000	2.000%	2,640	89,640	
01/01/2050	88,000	2.000%	1,770	89,770	
06/30/2050					179,410
07/01/2050	89,000	2.000%	890	89,890	
06/30/2051					89,890
	4,051,000		1,355,410	5,406,410	5,406,410

## BOND DEBT SERVICE

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2020 (SRF) - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date                    07/01/2020  
 Delivery Date                07/01/2020

Period Ending	Principal	Coupon	Interest	Debt Service
06/30/2021	50,000	2.000%	40,510	90,510
06/30/2022	101,000	2.000%	79,520	180,520
06/30/2023	103,000	2.000%	77,490	180,490
06/30/2024	105,000	2.000%	75,420	180,420
06/30/2025	107,000	2.000%	73,310	180,310
06/30/2026	109,000	2.000%	71,160	180,160
06/30/2027	111,000	2.000%	68,970	179,970
06/30/2028	113,000	2.000%	66,740	179,740
06/30/2029	116,000	2.000%	64,460	180,460
06/30/2030	118,000	2.000%	62,130	180,130
06/30/2031	120,000	2.000%	59,760	179,760
06/30/2032	123,000	2.000%	57,350	180,350
06/30/2033	125,000	2.000%	54,880	179,880
06/30/2034	128,000	2.000%	52,360	180,360
06/30/2035	131,000	2.000%	49,790	180,790
06/30/2036	133,000	2.000%	47,160	180,160
06/30/2037	135,000	2.000%	44,490	179,490
06/30/2038	139,000	2.000%	41,770	180,770
06/30/2039	141,000	2.000%	38,980	179,980
06/30/2040	144,000	2.000%	36,140	180,140
06/30/2041	147,000	2.000%	33,250	180,250
06/30/2042	150,000	2.000%	30,290	180,290
06/30/2043	153,000	2.000%	27,280	180,280
06/30/2044	156,000	2.000%	24,200	180,200
06/30/2045	159,000	2.000%	21,070	180,070
06/30/2046	163,000	2.000%	17,870	180,870
06/30/2047	165,000	2.000%	14,600	179,600
06/30/2048	169,000	2.000%	11,280	180,280
06/30/2049	173,000	2.000%	7,880	180,880
06/30/2050	175,000	2.000%	4,410	179,410
06/30/2051	89,000	2.000%	890	89,890
	4,051,000		1,355,410	5,406,410

BOND SUMMARY STATISTICS

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2020 (SRF) - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date	07/01/2020
Delivery Date	07/01/2020
First Coupon	01/01/2021
Last Maturity	07/01/2050
Arbitrage Yield	2.000000%
True Interest Cost (TIC)	2.000000%
Net Interest Cost (NIC)	2.000000%
All-In TIC	2.092554%
Average Coupon	2.000000%
Average Life (years)	16.729
Weighted Average Maturity (years)	16.729
Duration of Issue (years)	13.763
Par Amount	4,051,000.00
Bond Proceeds	4,051,000.00
Total Interest	1,355,410.00
Net Interest	1,355,410.00
Bond Years from Dated Date	67,770,500.00
Bond Years from Delivery Date	67,770,500.00
Total Debt Service	5,406,410.00
Maximum Annual Debt Service	180,880.00
Average Annual Debt Service	180,213.67
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Term Bond	4,051,000.00	100.000	2.000%	16.729	13.763	9,114.75
	4,051,000.00			16.729		9,114.75

	TIC	All-In TIC	Arbitrage Yield
Par Value	4,051,000.00	4,051,000.00	4,051,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-50,637.50	
- Other Amounts			
Target Value	4,051,000.00	4,000,362.50	4,051,000.00
Target Date	07/01/2020	07/01/2020	07/01/2020
Yield	2.000000%	2.092554%	2.000000%

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SOURCES AND USES OF FUNDS

City of Moberly, Missouri  
Certificates of Participation  
Series 2020 - \$4 Million Sewer Projects  
-Preliminary, 30 Year Amortization-

Dated Date                   07/01/2020  
Delivery Date               07/01/2020

Sources:

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Bond Proceeds:	
Par Amount	4,420,000.00
	<hr/>
	4,420,000.00

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Uses:

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Project Fund Deposits:	
Project Fund	4,000,000.00
Other Fund Deposits:	
Debt Service Reserve Fund	286,875.00
Cost of Issuance:	
(\$30 / 1000)	132,600.00
Other Uses of Funds:	
Additional Proceeds	525.00
	<hr/>
	4,420,000.00

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**BOND DEBT SERVICE**  
**City of Moberly, Missouri**  
**Certificates of Participation**  
**Series 2020 - \$4 Million Sewer Projects**  
**-Preliminary, 30 Year Amortization-**

Dated Date            07/01/2020  
 Delivery Date       07/01/2020

Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service
01/01/2021			110,500	110,500	
06/30/2021					110,500
07/01/2021	65,000	5.000%	110,500	175,500	
01/01/2022			108,875	108,875	
06/30/2022					284,375
07/01/2022	70,000	5.000%	108,875	178,875	
01/01/2023			107,125	107,125	
06/30/2023					286,000
07/01/2023	70,000	5.000%	107,125	177,125	
01/01/2024			105,375	105,375	
06/30/2024					282,500
07/01/2024	75,000	5.000%	105,375	180,375	
01/01/2025			103,500	103,500	
06/30/2025					283,875
07/01/2025	80,000	5.000%	103,500	183,500	
01/01/2026			101,500	101,500	
06/30/2026					285,000
07/01/2026	85,000	5.000%	101,500	186,500	
01/01/2027			99,375	99,375	
06/30/2027					285,875
07/01/2027	90,000	5.000%	99,375	189,375	
01/01/2028			97,125	97,125	
06/30/2028					286,500
07/01/2028	95,000	5.000%	97,125	192,125	
01/01/2029			94,750	94,750	
06/30/2029					286,875
07/01/2029	95,000	5.000%	94,750	189,750	
01/01/2030			92,375	92,375	
06/30/2030					282,125
07/01/2030	100,000	5.000%	92,375	192,375	
01/01/2031			89,875	89,875	
06/30/2031					282,250
07/01/2031	105,000	5.000%	89,875	194,875	
01/01/2032			87,250	87,250	
06/30/2032					282,125
07/01/2032	115,000	5.000%	87,250	202,250	
01/01/2033			84,375	84,375	
06/30/2033					286,625
07/01/2033	120,000	5.000%	84,375	204,375	
01/01/2034			81,375	81,375	
06/30/2034					285,750
07/01/2034	125,000	5.000%	81,375	206,375	
01/01/2035			78,250	78,250	
06/30/2035					284,625
07/01/2035	130,000	5.000%	78,250	208,250	
01/01/2036			75,000	75,000	
06/30/2036					283,250
07/01/2036	140,000	5.000%	75,000	215,000	
01/01/2037			71,500	71,500	
06/30/2037					286,500
07/01/2037	145,000	5.000%	71,500	216,500	
01/01/2038			67,875	67,875	
06/30/2038					284,375
07/01/2038	155,000	5.000%	67,875	222,875	
01/01/2039			64,000	64,000	
06/30/2039					286,875
07/01/2039	160,000	5.000%	64,000	224,000	
01/01/2040			60,000	60,000	
06/30/2040					284,000
07/01/2040	170,000	5.000%	60,000	230,000	
01/01/2041			55,750	55,750	
06/30/2041					285,750
07/01/2041	175,000	5.000%	55,750	230,750	
01/01/2042			51,375	51,375	
06/30/2042					282,125
07/01/2042	185,000	5.000%	51,375	238,375	
01/01/2043			46,750	46,750	
06/30/2043					283,125
07/01/2043	195,000	5.000%	46,750	241,750	
01/01/2044			41,875	41,875	
06/30/2044					283,625
07/01/2044	205,000	5.000%	41,875	246,875	
01/01/2045			36,750	36,750	
06/30/2045					283,625
07/01/2045	215,000	5.000%	36,750	251,750	
01/01/2046			31,375	31,375	
06/30/2046					283,125
07/01/2046	225,000	5.000%	31,375	256,375	
01/01/2047			25,750	25,750	
06/30/2047					282,125
07/01/2047	240,000	5.000%	25,750	265,750	
01/01/2048			19,750	19,750	
06/30/2048					285,500
07/01/2048	250,000	5.000%	19,750	269,750	
01/01/2049			13,500	13,500	
06/30/2049					283,250
07/01/2049	265,000	5.000%	13,500	278,500	
01/01/2050			6,875	6,875	
06/30/2050					285,375
07/01/2050	275,000	5.000%	6,875	281,875	
06/30/2051					281,875
	4,420,000		4,219,500	8,639,500	8,639,500

## NET DEBT SERVICE

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Period Ending	Principal	Interest	Total Debt Service	Debt Service Reserve Fund	Net Debt Service
06/30/2021		110,500	110,500		110,500
06/30/2022	65,000	219,375	284,375		284,375
06/30/2023	70,000	216,000	286,000		286,000
06/30/2024	70,000	212,500	282,500		282,500
06/30/2025	75,000	208,875	283,875		283,875
06/30/2026	80,000	205,000	285,000		285,000
06/30/2027	85,000	200,875	285,875		285,875
06/30/2028	90,000	196,500	286,500		286,500
06/30/2029	95,000	191,875	286,875		286,875
06/30/2030	95,000	187,125	282,125		282,125
06/30/2031	100,000	182,250	282,250		282,250
06/30/2032	105,000	177,125	282,125		282,125
06/30/2033	115,000	171,625	286,625		286,625
06/30/2034	120,000	165,750	285,750		285,750
06/30/2035	125,000	159,625	284,625		284,625
06/30/2036	130,000	153,250	283,250		283,250
06/30/2037	140,000	146,500	286,500		286,500
06/30/2038	145,000	139,375	284,375		284,375
06/30/2039	155,000	131,875	286,875		286,875
06/30/2040	160,000	124,000	284,000		284,000
06/30/2041	170,000	115,750	285,750		285,750
06/30/2042	175,000	107,125	282,125		282,125
06/30/2043	185,000	98,125	283,125		283,125
06/30/2044	195,000	88,625	283,625		283,625
06/30/2045	205,000	78,625	283,625		283,625
06/30/2046	215,000	68,125	283,125		283,125
06/30/2047	225,000	57,125	282,125		282,125
06/30/2048	240,000	45,500	285,500		285,500
06/30/2049	250,000	33,250	283,250		283,250
06/30/2050	265,000	20,375	285,375		285,375
06/30/2051	275,000	6,875	281,875	-286,875	-5,000
	4,420,000	4,219,500	8,639,500	-286,875	8,352,625

BOND SUMMARY STATISTICS

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date	07/01/2020
Delivery Date	07/01/2020
First Coupon	01/01/2021
Last Maturity	07/01/2050
Arbitrage Yield	5.000000%
True Interest Cost (TIC)	5.000000%
Net Interest Cost (NIC)	5.000000%
All-In TIC	5.266878%
Average Coupon	5.000000%
Average Life (years)	19.093
Weighted Average Maturity (years)	19.093
Duration of Issue (years)	11.795
Par Amount	4,420,000.00
Bond Proceeds	4,420,000.00
Total Interest	4,219,500.00
Net Interest	4,219,500.00
Bond Years from Dated Date	84,390,000.00
Bond Years from Delivery Date	84,390,000.00
Total Debt Service	8,639,500.00
Maximum Annual Debt Service	286,875.00
Average Annual Debt Service	287,983.33
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Term Bond	4,420,000.00	100.000	5.000%	19.093	11.795	6,851.00
	4,420,000.00			19.093		6,851.00

	TIC	All-In TIC	Arbitrage Yield
Par Value	4,420,000.00	4,420,000.00	4,420,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-132,600.00	
- Other Amounts			
Target Value	4,420,000.00	4,287,400.00	4,420,000.00
Target Date	07/01/2020	07/01/2020	07/01/2020
Yield	5.000000%	5.266878%	5.000000%

BOND PRICING

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2020 - \$4 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Bond Component	Maturity Date	Amount	Rate	Yield	Price
Term Bond:					
	07/01/2021	65,000	5.000%	5.000%	100.000
	07/01/2022	70,000	5.000%	5.000%	100.000
	07/01/2023	70,000	5.000%	5.000%	100.000
	07/01/2024	75,000	5.000%	5.000%	100.000
	07/01/2025	80,000	5.000%	5.000%	100.000
	07/01/2026	85,000	5.000%	5.000%	100.000
	07/01/2027	90,000	5.000%	5.000%	100.000
	07/01/2028	95,000	5.000%	5.000%	100.000
	07/01/2029	95,000	5.000%	5.000%	100.000
	07/01/2030	100,000	5.000%	5.000%	100.000
	07/01/2031	105,000	5.000%	5.000%	100.000
	07/01/2032	115,000	5.000%	5.000%	100.000
	07/01/2033	120,000	5.000%	5.000%	100.000
	07/01/2034	125,000	5.000%	5.000%	100.000
	07/01/2035	130,000	5.000%	5.000%	100.000
	07/01/2036	140,000	5.000%	5.000%	100.000
	07/01/2037	145,000	5.000%	5.000%	100.000
	07/01/2038	155,000	5.000%	5.000%	100.000
	07/01/2039	160,000	5.000%	5.000%	100.000
	07/01/2040	170,000	5.000%	5.000%	100.000
	07/01/2041	175,000	5.000%	5.000%	100.000
	07/01/2042	185,000	5.000%	5.000%	100.000
	07/01/2043	195,000	5.000%	5.000%	100.000
	07/01/2044	205,000	5.000%	5.000%	100.000
	07/01/2045	215,000	5.000%	5.000%	100.000
	07/01/2046	225,000	5.000%	5.000%	100.000
	07/01/2047	240,000	5.000%	5.000%	100.000
	07/01/2048	250,000	5.000%	5.000%	100.000
	07/01/2049	265,000	5.000%	5.000%	100.000
	07/01/2050	275,000	5.000%	5.000%	100.000
		4,420,000			

Dated Date	07/01/2020	
Delivery Date	07/01/2020	
First Coupon	01/01/2021	
Par Amount	4,420,000.00	
Original Issue Discount		
Production	4,420,000.00	100.000000%
Underwriter's Discount		
Purchase Price	4,420,000.00	100.000000%
Accrued Interest		
Net Proceeds	4,420,000.00	

SOURCES AND USES OF FUNDS

City of Moberly, Missouri  
Combined Waterworks and Sewerage System Revenue Bonds  
Series 2022 (SRF) - \$3 Million Sewer Projects  
-Preliminary, 30 Year Amortization-

Dated Date 07/01/2022  
Delivery Date 07/01/2022

Sources:

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Bond Proceeds:	
Par Amount	3,038,000.00
	<hr/>
	3,038,000.00

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Uses:

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Project Fund Deposits:	
Project Fund	3,000,000.00
Cost of Issuance:	
(\$12.50 / 1000)	37,975.00
Other Uses of Funds:	
Additional Proceeds	25.00
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	3,038,000.00

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**BOND DEBT SERVICE**  
 City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2022 (SRF) - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

	Dated Date Delivery Date	07/01/2022 07/01/2022			
Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service
01/01/2023	37,000	2.000%	30,380	67,380	
06/30/2023					67,380
07/01/2023	38,000	2.000%	30,010	68,010	
01/01/2024	38,000	2.000%	29,630	67,630	
06/30/2024					135,640
07/01/2024	38,000	2.000%	29,250	67,250	
01/01/2025	39,000	2.000%	28,870	67,870	
06/30/2025					135,120
07/01/2025	39,000	2.000%	28,480	67,480	
01/01/2026	39,000	2.000%	28,090	67,090	
06/30/2026					134,570
07/01/2026	40,000	2.000%	27,700	67,700	
01/01/2027	40,000	2.000%	27,300	67,300	
06/30/2027					135,000
07/01/2027	41,000	2.000%	26,900	67,900	
01/01/2028	41,000	2.000%	26,490	67,490	
06/30/2028					135,390
07/01/2028	42,000	2.000%	26,080	68,080	
01/01/2029	42,000	2.000%	25,680	67,680	
06/30/2029					135,740
07/01/2029	42,000	2.000%	25,240	67,240	
01/01/2030	43,000	2.000%	24,820	67,820	
06/30/2030					135,060
07/01/2030	43,000	2.000%	24,390	67,390	
01/01/2031	44,000	2.000%	23,960	67,960	
06/30/2031					135,350
07/01/2031	44,000	2.000%	23,520	67,520	
01/01/2032	44,000	2.000%	23,080	67,080	
06/30/2032					134,800
07/01/2032	45,000	2.000%	22,640	67,640	
01/01/2033	45,000	2.000%	22,190	67,190	
06/30/2033					134,830
07/01/2033	46,000	2.000%	21,740	67,740	
01/01/2034	46,000	2.000%	21,280	67,280	
06/30/2034					135,020
07/01/2034	47,000	2.000%	20,820	67,820	
01/01/2035	47,000	2.000%	20,350	67,350	
06/30/2035					135,170
07/01/2035	48,000	2.000%	19,880	67,880	
01/01/2036	48,000	2.000%	19,400	67,400	
06/30/2036					135,280
07/01/2036	48,000	2.000%	18,920	67,920	
01/01/2037	49,000	2.000%	18,430	67,430	
06/30/2037					135,350
07/01/2037	50,000	2.000%	17,940	67,940	
01/01/2038	50,000	2.000%	17,440	67,440	
06/30/2038					135,380
07/01/2038	51,000	2.000%	16,940	67,940	
01/01/2039	51,000	2.000%	16,430	67,430	
06/30/2039					135,370
07/01/2039	52,000	2.000%	15,920	67,920	
01/01/2040	52,000	2.000%	15,400	67,400	
06/30/2040					135,320
07/01/2040	53,000	2.000%	14,880	67,880	
01/01/2041	53,000	2.000%	14,350	67,350	
06/30/2041					135,230
07/01/2041	54,000	2.000%	13,820	67,820	
01/01/2042	54,000	2.000%	13,280	67,280	
06/30/2042					135,100
07/01/2042	55,000	2.000%	12,740	67,740	
01/01/2043	55,000	2.000%	12,190	67,190	
06/30/2043					134,930
07/01/2043	56,000	2.000%	11,640	67,640	
01/01/2044	56,000	2.000%	11,080	67,080	
06/30/2044					134,720
07/01/2044	57,000	2.000%	10,520	67,520	
01/01/2045	58,000	2.000%	9,950	67,950	
06/30/2045					135,470
07/01/2045	58,000	2.000%	9,370	67,370	
01/01/2046	59,000	2.000%	8,780	67,790	
06/30/2046					135,160
07/01/2046	59,000	2.000%	8,200	67,200	
01/01/2047	60,000	2.000%	7,610	67,610	
06/30/2047					134,810
07/01/2047	61,000	2.000%	7,010	68,010	
01/01/2048	61,000	2.000%	6,400	67,400	
06/30/2048					135,410
07/01/2048	62,000	2.000%	5,790	67,790	
01/01/2049	62,000	2.000%	5,170	67,170	
06/30/2049					134,960
07/01/2049	63,000	2.000%	4,550	67,550	
01/01/2050	64,000	2.000%	3,920	67,920	
06/30/2050					135,470
07/01/2050	64,000	2.000%	3,280	67,280	
01/01/2051	65,000	2.000%	2,640	67,640	
06/30/2051					134,920
07/01/2051	66,000	2.000%	1,990	67,990	
01/01/2052	66,000	2.000%	1,330	67,330	
06/30/2052					135,320
07/01/2052	67,000	2.000%	670	67,670	
06/30/2053					67,670
	3,038,000		1,016,740	4,054,740	4,054,740

## BOND DEBT SERVICE

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2022 (SRF) - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date            07/01/2022  
 Delivery Date        07/01/2022

Period Ending	Principal	Coupon	Interest	Debt Service
06/30/2023	37,000	2.000%	30,380	67,380
06/30/2024	76,000	2.000%	59,640	135,640
06/30/2025	77,000	2.000%	58,120	135,120
06/30/2026	78,000	2.000%	56,570	134,570
06/30/2027	80,000	2.000%	55,000	135,000
06/30/2028	82,000	2.000%	53,390	135,390
06/30/2029	84,000	2.000%	51,740	135,740
06/30/2030	85,000	2.000%	50,060	135,060
06/30/2031	87,000	2.000%	48,350	135,350
06/30/2032	88,000	2.000%	46,600	134,600
06/30/2033	90,000	2.000%	44,830	134,830
06/30/2034	92,000	2.000%	43,020	135,020
06/30/2035	94,000	2.000%	41,170	135,170
06/30/2036	96,000	2.000%	39,280	135,280
06/30/2037	98,000	2.000%	37,350	135,350
06/30/2038	100,000	2.000%	35,380	135,380
06/30/2039	102,000	2.000%	33,370	135,370
06/30/2040	104,000	2.000%	31,320	135,320
06/30/2041	106,000	2.000%	29,230	135,230
06/30/2042	108,000	2.000%	27,100	135,100
06/30/2043	110,000	2.000%	24,930	134,930
06/30/2044	112,000	2.000%	22,720	134,720
06/30/2045	115,000	2.000%	20,470	135,470
06/30/2046	117,000	2.000%	18,160	135,160
06/30/2047	119,000	2.000%	15,810	134,810
06/30/2048	122,000	2.000%	13,410	135,410
06/30/2049	124,000	2.000%	10,960	134,960
06/30/2050	127,000	2.000%	8,470	135,470
06/30/2051	129,000	2.000%	5,920	134,920
06/30/2052	132,000	2.000%	3,320	135,320
06/30/2053	67,000	2.000%	670	67,670
	3,038,000		1,016,740	4,054,740

BOND SUMMARY STATISTICS

City of Moberly, Missouri  
 Combined Waterworks and Sewerage System Revenue Bonds  
 Series 2022 (SRF) - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date	07/01/2022
Delivery Date	07/01/2022
First Coupon	01/01/2023
Last Maturity	07/01/2052
Arbitrage Yield	2.000000%
True Interest Cost (TIC)	2.000000%
Net Interest Cost (NIC)	2.000000%
All-In TIC	2.092531%
Average Coupon	2.000000%
Average Life (years)	16.734
Weighted Average Maturity (years)	16.734
Duration of Issue (years)	13.767
Par Amount	3,038,000.00
Bond Proceeds	3,038,000.00
Total Interest	1,016,740.00
Net Interest	1,016,740.00
Bond Years from Dated Date	50,837,000.00
Bond Years from Delivery Date	50,837,000.00
Total Debt Service	4,054,740.00
Maximum Annual Debt Service	135,740.00
Average Annual Debt Service	135,158.00
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Term Bond	3,038,000.00	100.000	2.000%	16.734	13.767	6,835.50
	3,038,000.00			16.734		6,835.50

	TIC	All-In TIC	Arbitrage Yield
Par Value	3,038,000.00	3,038,000.00	3,038,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-37,975.00	
- Other Amounts			
Target Value	3,038,000.00	3,000,025.00	3,038,000.00
Target Date	07/01/2022	07/01/2022	07/01/2022
Yield	2.000000%	2.092531%	2.000000%

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**SOURCES AND USES OF FUNDS**

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2022 - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date                    07/01/2022  
 Delivery Date                07/01/2022

Sources:

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Bond Proceeds:	
Par Amount	3,315,000.00
<hr/>	
	3,315,000.00
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Uses:

<hr/>	
Project Fund Deposits:	
Project Fund	3,000,000.00
Other Fund Deposits:	
Debt Service Reserve Fund	215,500.00
Cost of Issuance:	
(\$30 / 1000)	99,450.00
Other Uses of Funds:	
Additional Proceeds	50.00
<hr/>	
	3,315,000.00
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**BOND DEBT SERVICE**  
 City of Moberly, Missouri  
 Certificates of Participation  
 Series 2022 - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date            07/01/2022  
 Delivery Date       07/01/2022

Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service
01/01/2023			82,875	82,875	
06/30/2023					82,875
07/01/2023	50,000	5.000%	82,875	132,875	
01/01/2024			81,825	81,825	
06/30/2024					214,500
07/01/2024	50,000	5.000%	81,825	131,825	
01/01/2025			80,375	80,375	
06/30/2025					212,000
07/01/2025	55,000	5.000%	80,375	135,375	
01/01/2026			79,000	79,000	
06/30/2026					214,375
07/01/2026	55,000	5.000%	79,000	134,000	
01/01/2027			77,825	77,825	
06/30/2027					211,825
07/01/2027	60,000	5.000%	77,825	137,825	
01/01/2028			76,125	76,125	
06/30/2028					213,750
07/01/2028	60,000	5.000%	76,125	136,125	
01/01/2029			74,825	74,825	
06/30/2029					210,750
07/01/2029	85,000	5.000%	74,825	139,625	
01/01/2030			73,000	73,000	
06/30/2030					212,825
07/01/2030	70,000	5.000%	73,000	143,000	
01/01/2031			71,250	71,250	
06/30/2031					214,250
07/01/2031	70,000	5.000%	71,250	141,250	
01/01/2032			69,500	69,500	
06/30/2032					210,750
07/01/2032	75,000	5.000%	69,500	144,500	
01/01/2033			67,825	67,825	
06/30/2033					212,125
07/01/2033	80,000	5.000%	67,825	147,825	
01/01/2034			65,825	65,825	
06/30/2034					213,250
07/01/2034	85,000	5.000%	65,825	150,825	
01/01/2035			63,500	63,500	
06/30/2035					214,125
07/01/2035	90,000	5.000%	63,500	153,500	
01/01/2036			61,250	61,250	
06/30/2036					214,750
07/01/2036	95,000	5.000%	61,250	156,250	
01/01/2037			58,875	58,875	
06/30/2037					215,125
07/01/2037	100,000	5.000%	58,875	158,875	
01/01/2038			56,375	56,375	
06/30/2038					215,250
07/01/2038	105,000	5.000%	56,375	161,375	
01/01/2039			53,750	53,750	
06/30/2039					215,125
07/01/2039	110,000	5.000%	53,750	163,750	
01/01/2040			51,000	51,000	
06/30/2040					214,750
07/01/2040	115,000	5.000%	51,000	166,000	
01/01/2041			48,125	48,125	
06/30/2041					214,125
07/01/2041	120,000	5.000%	48,125	168,125	
01/01/2042			45,125	45,125	
06/30/2042					213,250
07/01/2042	125,000	5.000%	45,125	170,125	
01/01/2043			42,000	42,000	
06/30/2043					212,125
07/01/2043	130,000	5.000%	42,000	172,000	
01/01/2044			38,750	38,750	
06/30/2044					210,750
07/01/2044	140,000	5.000%	38,750	178,750	
01/01/2045			35,250	35,250	
06/30/2045					214,000
07/01/2045	145,000	5.000%	35,250	180,250	
01/01/2046			31,825	31,825	
06/30/2046					211,875
07/01/2046	155,000	5.000%	31,825	186,825	
01/01/2047			27,750	27,750	
06/30/2047					214,375
07/01/2047	160,000	5.000%	27,750	187,750	
01/01/2048			23,750	23,750	
06/30/2048					211,500
07/01/2048	170,000	5.000%	23,750	193,750	
01/01/2049			19,500	19,500	
06/30/2049					213,250
07/01/2049	180,000	5.000%	19,500	199,500	
01/01/2050			15,000	15,000	
06/30/2050					214,500
07/01/2050	190,000	5.000%	15,000	205,000	
01/01/2051			10,250	10,250	
06/30/2051					215,250
07/01/2051	200,000	5.000%	10,250	210,250	
01/01/2052			5,250	5,250	
06/30/2052					215,500
07/01/2052	210,000	5.000%	5,250	215,250	
06/30/2053					215,250
	3,315,000		3,172,750	6,487,750	6,487,750

NET DEBT SERVICE

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2022 - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Period Ending	Principal	Interest	Total Debt Service	Debt Service Reserve Fund	Net Debt Service
06/30/2023		82,875	82,875		82,875
06/30/2024	50,000	164,500	214,500		214,500
06/30/2025	50,000	162,000	212,000		212,000
06/30/2026	55,000	159,375	214,375		214,375
06/30/2027	55,000	156,625	211,625		211,625
06/30/2028	60,000	153,750	213,750		213,750
06/30/2029	60,000	150,750	210,750		210,750
06/30/2030	65,000	147,625	212,625		212,625
06/30/2031	70,000	144,250	214,250		214,250
06/30/2032	70,000	140,750	210,750		210,750
06/30/2033	75,000	137,125	212,125		212,125
06/30/2034	80,000	133,250	213,250		213,250
06/30/2035	85,000	129,125	214,125		214,125
06/30/2036	90,000	124,750	214,750		214,750
06/30/2037	95,000	120,125	215,125		215,125
06/30/2038	100,000	115,250	215,250		215,250
06/30/2039	105,000	110,125	215,125		215,125
06/30/2040	110,000	104,750	214,750		214,750
06/30/2041	115,000	99,125	214,125		214,125
06/30/2042	120,000	93,250	213,250		213,250
06/30/2043	125,000	87,125	212,125		212,125
06/30/2044	130,000	80,750	210,750		210,750
06/30/2045	140,000	74,000	214,000		214,000
06/30/2046	145,000	66,875	211,875		211,875
06/30/2047	155,000	59,375	214,375		214,375
06/30/2048	160,000	51,500	211,500		211,500
06/30/2049	170,000	43,250	213,250		213,250
06/30/2050	180,000	34,500	214,500		214,500
06/30/2051	190,000	25,250	215,250		215,250
06/30/2052	200,000	15,500	215,500		215,500
06/30/2053	210,000	5,250	215,250	-215,500	-250
	3,315,000	3,172,750	6,487,750	-215,500	6,272,250

BOND SUMMARY STATISTICS

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2022 - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Dated Date	07/01/2022
Delivery Date	07/01/2022
First Coupon	01/01/2023
Last Maturity	07/01/2052
Arbitrage Yield	5.000000%
True Interest Cost (TIC)	5.000000%
Net Interest Cost (NIC)	5.000000%
All-In TIC	5.266389%
Average Coupon	5.000000%
Average Life (years)	19.142
Weighted Average Maturity (years)	19.142
Duration of Issue (years)	11.816
Par Amount	3,315,000.00
Bond Proceeds	3,315,000.00
Total Interest	3,172,750.00
Net Interest	3,172,750.00
Bond Years from Dated Date	63,455,000.00
Bond Years from Delivery Date	63,455,000.00
Total Debt Service	6,487,750.00
Maximum Annual Debt Service	215,500.00
Average Annual Debt Service	216,258.33
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	100.000000

Bond Component	Par Value	Price	Average Coupon	Average Life	Duration	PV of 1 bp change
Term Bond	3,315,000.00	100.000	5.000%	19.142	11.816	5,138.25
	3,315,000.00			19.142		5,138.25

	TIC	All-In TIC	Arbitrage Yield
Par Value	3,315,000.00	3,315,000.00	3,315,000.00
+ Accrued Interest			
+ Premium (Discount)			
- Underwriter's Discount			
- Cost of Issuance Expense		-99,450.00	
- Other Amounts			
Target Value	3,315,000.00	3,215,550.00	3,315,000.00
Target Date	07/01/2022	07/01/2022	07/01/2022
Yield	5.000000%	5.266389%	5.000000%

BOND PRICING

City of Moberly, Missouri  
 Certificates of Participation  
 Series 2022 - \$3 Million Sewer Projects  
 -Preliminary, 30 Year Amortization-

Bond Component	Maturity Date	Amount	Rate	Yield	Price
Term Bond:					
	07/01/2023	50,000	5.000%	5.000%	100.000
	07/01/2024	50,000	5.000%	5.000%	100.000
	07/01/2025	55,000	5.000%	5.000%	100.000
	07/01/2026	55,000	5.000%	5.000%	100.000
	07/01/2027	60,000	5.000%	5.000%	100.000
	07/01/2028	60,000	5.000%	5.000%	100.000
	07/01/2029	65,000	5.000%	5.000%	100.000
	07/01/2030	70,000	5.000%	5.000%	100.000
	07/01/2031	70,000	5.000%	5.000%	100.000
	07/01/2032	75,000	5.000%	5.000%	100.000
	07/01/2033	80,000	5.000%	5.000%	100.000
	07/01/2034	85,000	5.000%	5.000%	100.000
	07/01/2035	90,000	5.000%	5.000%	100.000
	07/01/2036	95,000	5.000%	5.000%	100.000
	07/01/2037	100,000	5.000%	5.000%	100.000
	07/01/2038	105,000	5.000%	5.000%	100.000
	07/01/2039	110,000	5.000%	5.000%	100.000
	07/01/2040	115,000	5.000%	5.000%	100.000
	07/01/2041	120,000	5.000%	5.000%	100.000
	07/01/2042	125,000	5.000%	5.000%	100.000
	07/01/2043	130,000	5.000%	5.000%	100.000
	07/01/2044	140,000	5.000%	5.000%	100.000
	07/01/2045	145,000	5.000%	5.000%	100.000
	07/01/2046	155,000	5.000%	5.000%	100.000
	07/01/2047	160,000	5.000%	5.000%	100.000
	07/01/2048	170,000	5.000%	5.000%	100.000
	07/01/2049	180,000	5.000%	5.000%	100.000
	07/01/2050	190,000	5.000%	5.000%	100.000
	07/01/2051	200,000	5.000%	5.000%	100.000
	07/01/2052	210,000	5.000%	5.000%	100.000
		3,315,000			

Dated Date	07/01/2022	
Delivery Date	07/01/2022	
First Coupon	01/01/2023	
Par Amount	3,315,000.00	
Original Issue Discount		
Production	3,315,000.00	100.000000%
Underwriter's Discount		
Purchase Price	3,315,000.00	100.000000%
Accrued Interest		
Net Proceeds	3,315,000.00	