

# Project Financing Tutorial

## Using

## Micromuni Sizing

From  
Financial Management Systems, Inc.

## **Disclaimer**

This sample project financing is in no way intended to illustrate all the methods and techniques available in Micromuni Sizing to size a bond issue. It is the purpose of this tutorial to familiarize the user with Micromuni Sizing and how to determine a bond solution for a project financing.

## ***How To Use This Tutorial***

### ***General Instructions***

Because each step of the tutorial depends on the previous step, it is important to complete the tutorial at one sitting. If it is necessary for you to stop before completing it, save all your data and exit the program. When you begin again, Load the Current Bond Issue and Micromuni Sizing will load all project information, and you can continue from where you left off.

### ***Details of Use***

Most of the pages you will see and the reports you will print are reproduced in the tutorial to help you orient yourself to where you are. They also serve as checkpoints so you can make sure you are performing the steps correctly.

#### ***Menu Items***

To select a menu item, move your mouse over any menu item, and a dropdown list of submenu items will appear. Select any submenu item by clicking your mouse.

#### ***Data Entry***

Data Entry Web Pages have a “Save” button. If you have entered data or modify existing data, you must click the Save button for the information to be saved. If not, the changes will be lost.

## ***Tutorial Purpose and Assumptions***

### ***Purpose of this Tutorial***

This tutorial leads you through the process of using Micromuni Sizing to determine a bond solution for a project financing.

### ***Tutorial Assumptions (Entering Data).***

The assumptions that define this tutorial's scenario are explained on the following pages.

#### ***General Bond Information***

Assume the new bond issue will have a “Dated Date” of January 1, 2018, and a “Delivery Date” of January 15, 2018.

The bonds will pay interest semi-annually commencing on July 1, 2018.

Principal will be repaid annually from July 1, 2020, through July 1, 2039, with the following coupons and prices.

<b>No.</b>	<b>Date</b>	<b>Bond Type</b>	<b>Coupon</b>	<b>Price</b>
1)	7/ 1/20	Standard	0.900000	100.000000
2)	7/ 1/21	Standard	1.000000	100.000000
3)	7/ 1/22	Standard	1.100000	100.000000
4)	7/ 1/23	Standard	1.200000	100.000000
5)	7/ 1/24	Standard	1.300000	100.000000
6)	7/ 1/25	Standard	1.400000	100.000000
7)	7/ 1/26	Standard	1.500000	100.000000
8)	7/ 1/27	Standard	1.600000	100.000000
9)	7/ 1/28	Standard	1.700000	100.000000
10)	7/ 1/29	Standard	1.800000	100.000000
10)	7/ 1/30	Standard	1.900000	100.000000
10)	7/ 1/31	Standard	2.000000	100.000000
10)	7/ 1/32	Standard	2.100000	100.000000
10)	7/ 1/33	Standard	2.200000	100.000000
10)	7/ 1/34	Standard	2.300000	100.000000
10)	7/ 1/35	Standard	2.400000	100.000000
10)	7/ 1/36	Standard	2.500000	100.000000
10)	7/ 1/37	Standard	2.600000	100.000000
10)	7/ 1/38	Standard	2.700000	100.000000
20)	7/ 1/39	Standard	2.800000	100.000000

We will assume an underwriter’s discount of 5.5 dollars per bond and bond insurance of .5% of the total debt service of the bond issue.

## General Bond Information (continued)

Using the “Input” menu item, select the “General Bond Information” submenu item.  
Enter the bond issue assumptions.

The “Bond Maturity Dates” tab of your page should look like this:

Save

Bond Maturity Dates

Info

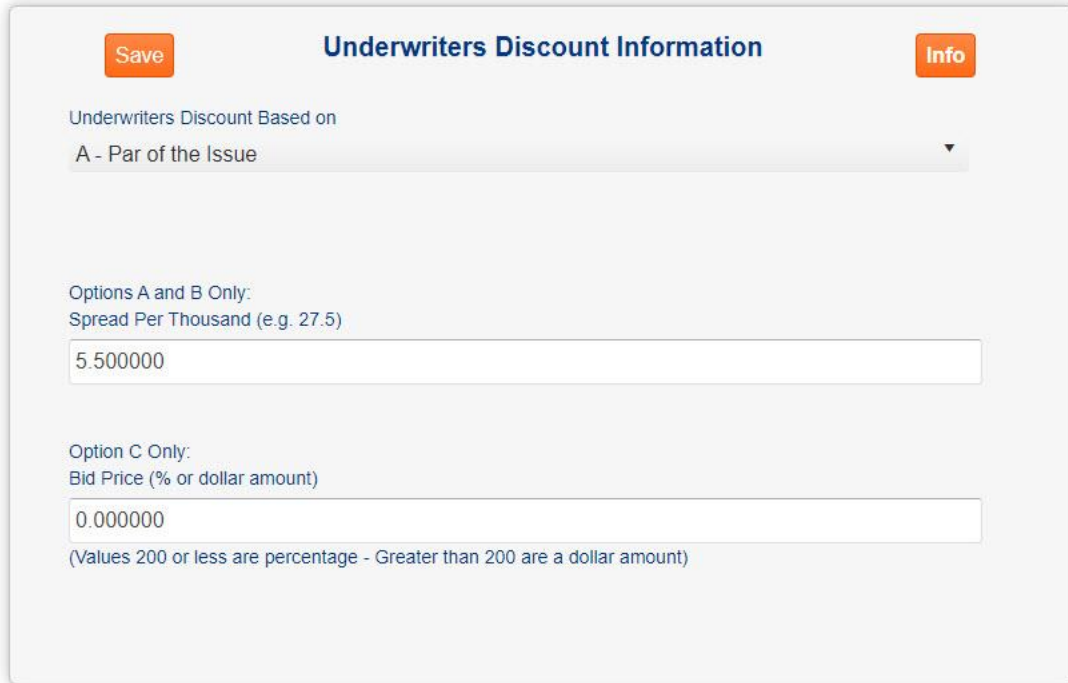
Par Amount	Denomination
<input type="text" value="\$0.00"/>	<input type="text" value="\$5,000.00"/>
Dated Date	Delivery Date
<input type="text" value="1/1/2018"/>	<input type="text" value="1/15/2018"/>
First Coupon	First Maturity Date
<input type="text" value="7/1/2018"/>	<input type="text" value="7/1/2020"/>
Fiscal Date	Last Maturity Date
<input type="text" value="07/01/2019"/>	<input type="text" value="7/1/2039"/>
Interest Frequency	Maturity Frequency
<input type="text" value="Semi-Annual"/>	<input type="text" value="Annual"/>
Year for Interest Calculations	Data Share
<input type="text" value="30/360"/>	<input type="text" value="No"/>
Project Name	
<input type="text" value="State and Local Governments"/>	
Bond Issue	
<input type="text" value="Municipal Financing Project"/>	
Report Titles	
1	
<input type="text" value="State and Local Governments"/>	
2	
<input type="text" value="Municipal Financing Project"/>	
3	
<input type="text"/>	

Be certain to press the **“SAVE”** button.

## General Bond Information (continued)

Now select the “Underwriters Discount” tab of the “General Bond Information” page and enter the Underwriters Discount of 5.5 dollars per bond, and make sure that the Underwriters Discount is based on the “Par of the Issue”.

The “Underwriters Discount” tab of your page should look like this:



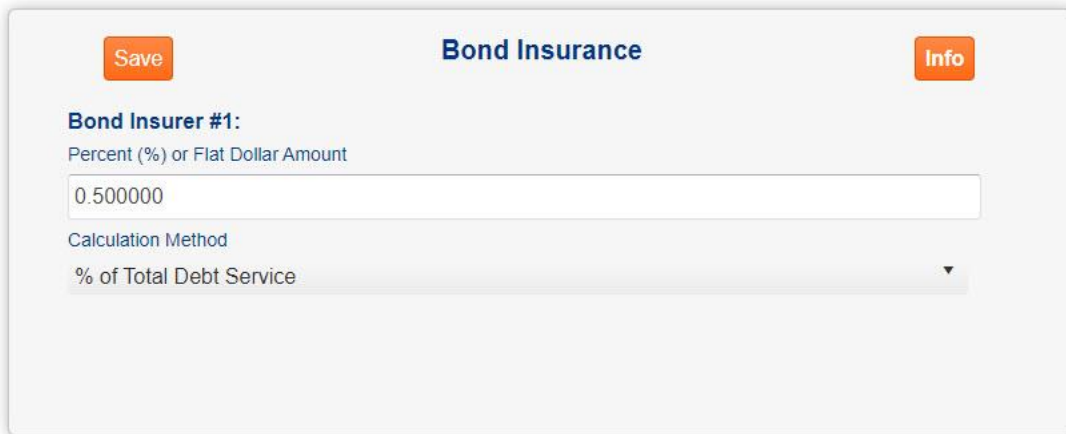
The screenshot shows a web form titled "Underwriters Discount Information". At the top left is an orange "Save" button, and at the top right is an orange "Info" button. Below the title, there is a dropdown menu labeled "Underwriters Discount Based on" with the selected option "A - Par of the Issue". Further down, under the heading "Options A and B Only:", there is a label "Spread Per Thousand (e.g. 27.5)" and a text input field containing the value "5.500000". Below that, under the heading "Option C Only:", there is a label "Bid Price (% or dollar amount)" and a text input field containing the value "0.000000". At the bottom of the form, a note states: "(Values 200 or less are percentage - Greater than 200 are a dollar amount)".

Be certain to press the “**SAVE**” button.

## General Bond Information (continued)

Now select the “Bond Insurance” tab of the “General Bond Information” page and enter the Bond Insurance of 0.5 for the percent of bond insurance. Make sure that the Bond Insurance is “Calculation Method” is set to “% of Total Debt Service”.

The “Bond Insurance” tab of your page should look like this:



The screenshot shows a web-based form titled "Bond Insurance". At the top left is an orange "Save" button, and at the top right is an orange "Info" button. Below the title, there is a section for "Bond Insurer #1:". Under this section, there is a label "Percent (%) or Flat Dollar Amount" followed by a text input field containing the value "0.500000". Below the input field is a label "Calculation Method" followed by a dropdown menu that currently displays "% of Total Debt Service".

Be certain to press the **“SAVE”** button.

## Bond Maturity Coupons and Prices

Using the “Input” menu item, select the “Amounts, Coupons, Yields, Prices” submenu item. Here we enter the bond maturity coupons and prices. From the General Bond Information page, Micromuni Sizing has generated all the bond maturity dates and set the default values. We will only enter the coupons for this tutorial.

First highlight the coupons that will be changed by clicking the first coupon to be changed with your mouse and sliding your mouse down to the last coupon to be changed and then releasing your mouse. The highlighted coupons will be changed soon.

Next enter a value of “.9” in the text box above the grid. This is the initial coupon value. Now enter an increasing value of “.1” for subsequent coupons, which will receive a value of 1.0, 1.1, 1.2, etc.

Your page should look like this:

Save Add Row Cancel Changes BOND MATURITIES

Change to  Increase by  Value  Change Selections Video(s)

Note: You must press the Save Button to complete changes, inserts and deletions.

Maturity Date	Amount	Bond Type	Coupon	Yield	Price
07/01/2020	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2021	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2022	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2023	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2024	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2025	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2026	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2027	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2028	\$0.00	Standard	0.000000	0.000000	100.000000
07/01/2029	\$0.00	Standard	0.000000	0.000000	100.000000

1 2

Lastly press the “Change Selections” button, which is highlighted in orange.

Your completed page should look like this:

Save Add Row Cancel Changes BOND MATURITIES

Change to  Increase by  Value  Change Selections Video(s)

Note: You must press the Save Button to complete changes, inserts and deletions.

Maturity Date	Amount	Bond Type	Coupon	Yield	Price
07/01/2020	\$0.00	Standard	0.900000	0.000000	100.000000
07/01/2021	\$0.00	Standard	1.000000	0.000000	100.000000
07/01/2022	\$0.00	Standard	1.100000	0.000000	100.000000
07/01/2023	\$0.00	Standard	1.200000	0.000000	100.000000
07/01/2024	\$0.00	Standard	1.300000	0.000000	100.000000
07/01/2025	\$0.00	Standard	1.400000	0.000000	100.000000
07/01/2026	\$0.00	Standard	1.500000	0.000000	100.000000
07/01/2027	\$0.00	Standard	1.600000	0.000000	100.000000
07/01/2028	\$0.00	Standard	1.700000	0.000000	100.000000
07/01/2029	\$0.00	Standard	1.800000	0.000000	100.000000

1 2

Be certain to press the “**SAVE**” button.



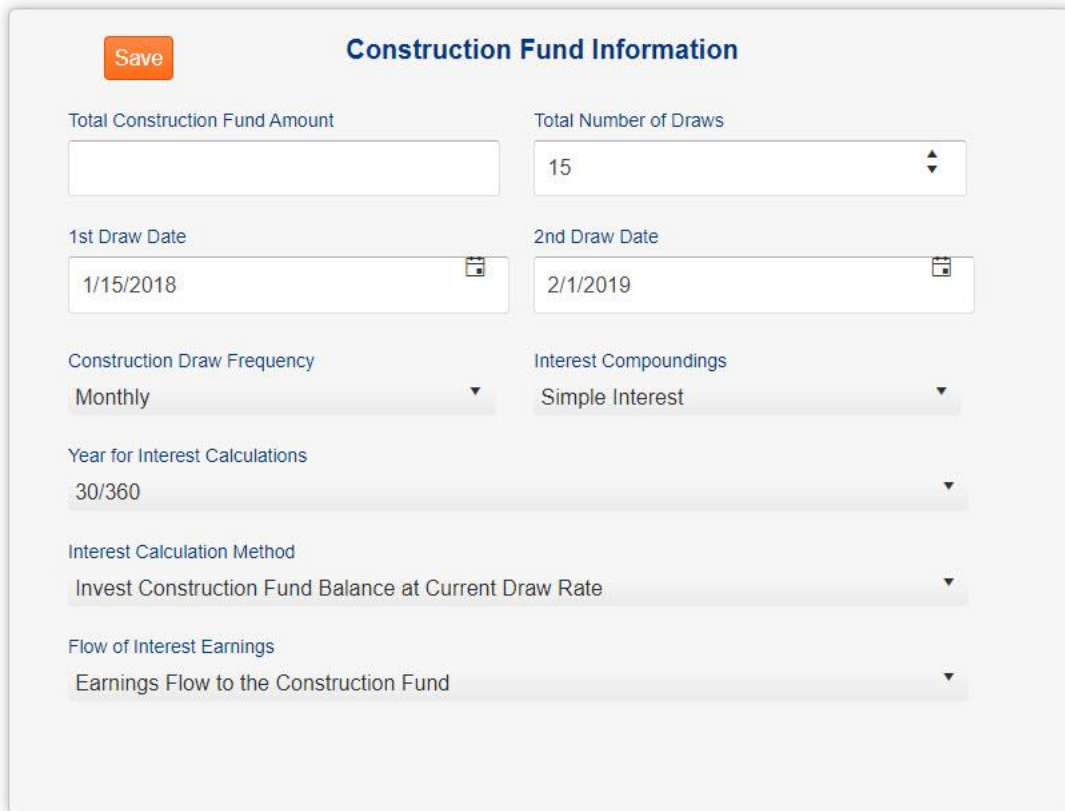
## Construction Fund

The “Construction Fund” has two different input pages (“Construction Fund Information” and the “Construction Fund Draws and Rates”).

### Construction Fund Information

Using the “Input” menu item, select the “Construction Fund Information” submenu item. Here we will enter the total construction fund amount needed (if available), the number of construction fund draws, the 1<sup>st</sup> draw date (which could be the same as the delivery date of the bonds), the second draw date which is used to generate the remaining draws on a periodic basis. We now enter the frequency of the draws (Monthly, Quarterly, Semi-Annual, Annual, or Irregular). By default, the draws are Monthly. Lastly, we enter the Interest compounding method, which by default is Simple Interest.

Your completed page should look like this:

The screenshot shows a web form titled "Construction Fund Information" with a "Save" button in the top left. The form contains several input fields and dropdown menus. The "Total Construction Fund Amount" is an empty text box. The "Total Number of Draws" is a dropdown menu set to "15". The "1st Draw Date" is a date picker set to "1/15/2018". The "2nd Draw Date" is a date picker set to "2/1/2019". The "Construction Draw Frequency" is a dropdown menu set to "Monthly". The "Interest Compoundings" is a dropdown menu set to "Simple Interest". The "Year for Interest Calculations" is a dropdown menu set to "30/360". The "Interest Calculation Method" is a dropdown menu set to "Invest Construction Fund Balance at Current Draw Rate". The "Flow of Interest Earnings" is a dropdown menu set to "Earnings Flow to the Construction Fund".

Construction Fund Information	
Total Construction Fund Amount	Total Number of Draws
<input type="text"/>	15
1st Draw Date	2nd Draw Date
1/15/2018	2/1/2019
Construction Draw Frequency	Interest Compoundings
Monthly	Simple Interest
Year for Interest Calculations	
30/360	
Interest Calculation Method	
Invest Construction Fund Balance at Current Draw Rate	
Flow of Interest Earnings	
Earnings Flow to the Construction Fund	

Be certain to press the “**SAVE**” button.

## Construction Fund (continued)

The “Construction Fund” has two different input pages (“Construction Fund Information” and the “Construction Fund Draws and Rates”).

### Construction Fund Draws and Rates

Using the “Input” menu item, select the “Construction Fund Draws and Rates” submenu item. Here we will enter draw amounts on each draw date. Micromuni Sizing has generated all the draws unless you entered a draw frequency of irregular.

Enter the draws and rates as like you did for the bond coupons.

<div> <input type="button" value="Save"/> <input type="button" value="Add Row"/> <input type="button" value="Cancel Changes"/> <b>Construction Fund Draws</b> </div>			
Change Selected Cells to <input type="text" value="1000000"/> Increased by <input type="text"/> Value <input type="button" value="Change Values"/>			
Draw Date	Draw Amount	Investment Rate	
01/15/2018	\$2,000,000.00	1.250000	
02/01/2019	\$0.00	1.250000	
03/01/2019	\$0.00	1.250000	
04/01/2019	\$0.00	1.250000	
05/01/2019	\$0.00	1.250000	
06/01/2019	\$0.00	1.250000	
07/01/2019	\$0.00	1.250000	
08/01/2019	\$0.00	1.250000	
09/01/2019	\$0.00	1.250000	
10/01/2019	\$0.00	1.250000	
11/01/2019	\$0.00	1.250000	
12/01/2019	\$0.00	1.250000	
01/01/2020	\$0.00	1.250000	
02/01/2020	\$0.00	1.250000	
03/01/2020	\$0.00	1.250000	

Be certain to press the **“SAVE”** button.

## Construction Fund (continued)

### Construction Fund Draws and Rates

Your completed page should look like this:

Save
Add Row
Cancel Changes
Construction Fund Draws

Change Selected Cells to 
Increased by 
Value ▼
Change Values

Draw Date	Draw Amount	Investment Rate	
01/15/2018	\$2,000,000.00	1.250000	
02/01/2019	\$1,000,000.00	1.250000	
03/01/2019	\$1,000,000.00	1.250000	
04/01/2019	\$1,000,000.00	1.250000	
05/01/2019	\$1,000,000.00	1.250000	
06/01/2019	\$1,000,000.00	1.250000	
07/01/2019	\$750,000.00	1.250000	
08/01/2019	\$750,000.00	1.250000	
09/01/2019	\$750,000.00	1.250000	
10/01/2019	\$750,000.00	1.250000	
11/01/2019	\$750,000.00	1.250000	
12/01/2019	\$1,000,000.00	1.250000	
01/01/2020	\$1,000,000.00	1.250000	
02/01/2020	\$1,000,000.00	1.250000	
03/01/2020	\$1,000,000.00	1.250000	

Be certain to press the **“SAVE”** button.

## Capitalized Interest Fund

Using the “Input” menu item, select the “Capitalized Interest Fund” submenu item.

The “Capitalized Interest Fund” is often used for bond projects involving construction. The construction project needs to be completed to generate revenues to pay the bond debt service. We will capitalize interest until 7/1/2019

Enter a value of “7/1/2019” for the Final Capitalized Interest Cutoff Date. Now enter “1.0” for the Reinvestment Rate of Funds. Finally enter “100” for the percentage of the bond interest that will be capitalized. Interest earnings will flow back into the Capitalized Interest Fund, which is said to be “Net Funded”.

Your completed page should look like this:

Save

Capitalized Interest Fund

Amount (0 or blank to Solve)

\$0.00

Final Capitalized Interest Cutoff Date

7/1/2019

Reinvestment Rate of Funds

1.000000

Interest Compoundings

Semi-Annual

Year for Interest Compoundings

30/360

Percentage of Bonds Capitalized

100.000000

Flow of Capitalized Interest Earnings

To the Capitalized Interest Fund

Net or Gross Fund the Capitalized Interest Fund

Net Funded

Be certain to press the “**SAVE**” button.

## Capitalized Interest Fund (continued)

Now select the “Page 2” tab of the “Capitalized Interest Fund”. Here we decide to include the accrued interest in the fund.

Your completed page should look like this:

Save

Capitalized Interest Fund

Capitalized Interest Fund Utilization of Accrued Interest

Utilize All Accrued Interest ▼

Include LOC Fees in Capitalized Interest Fund

Yes ▼

NOTE:

The LOC fees will only be included in the Capitalized Interest Fund if the LOC fees fall on a Bond Interest Payment Date.

Be certain to press the “**SAVE**” button.

## Debt Service Reserve Fund

Using the “Input” menu item, select the “Debt Service Reserve Fund” submenu item. The “Debt Service Reserve Fund” is used for supporting bond debt service payments. Micromuni Sizing allows for two independent Debt Service Reserve Funds, but we use only one. The first page is the General Debt Service Reserve Fund Information (like the General Bond Information).

Note: You must create a bond issue before you can create this fund. Reason being, the Debt Service Reserve Fund is tied to the bond issue.

### Debt Service Reserve Fund #1

You must create a bond issue, before you can create this fund.

Debt Service Reserve Fund Amount	DSRF Interest Start Calculation Date
<input type="text"/>	<input type="text"/>
1st Interest Payment Date	DSRF Interest Frequency
<input type="text"/>	Semi-Annual
1st Investment Rate	DSRF Maturity Date
<input type="text"/>	<input type="text"/>
Year	DSRF Options
30/360	Fixed Dollar Amount
DSRF Net of Fixed Dollar Amount	% Factor to Apply to DSRF options
<input type="text"/>	100.000000
DSRF Based on	DSRF Interest Flows to
Current Bond Issue	To pay Bond Debt Service

The Debt Service Reserve Fund Amount does not have to be entered, unless you are entering “Fixed Dollar Amount” for the DSRF Options drop down option. Otherwise, Micromuni Sizing will determine the Debt Service Reserve Fund Amount (which is normally the case).

Enter the Start Calculation Date, which may be different than the Dated or Delivery Date of the Bonds, if you are acquiring a Treasury Security.

Enter the Investment Rate or the Interest Rate of a security.

Enter the Debt Service Reserve Fund Maturity Date.

Enter the Year Basis for interest calculations of the Debt Service Reserve Fund.

Enter the DSRF Option. There are 8 options to select from and often used options are “Maximum Bond Debt Service or a “% of the Total Bond Size (Par)”.

The last two option are default at this time and cannot be changed.

## *Debt Service Reserve Fund (continued)*

Page 2 allows for multiple investment rates for the DSRF amount calculated.

The most important item on Page 2 is the additional option to override the DSRF Option from Page 1 and determine the amount based on the minimum of three options.

We will not be using this option but want to wish to make reference here.

Save

Debt Service Reserve Fund #1

2nd Investment Rate

Effective Date

3rd Investment Rate

Effective Date

4th Investment Rate

Effective Date

5th Investment Rate

Effective Date

Override options for DSRF #1 set on Page 1

No

DSRF #1 Calculated on the Minimum of the following Options:  
10% of the Bond Size  
100% of the Maximum Annual Debt Service  
125% of the Average Annual Debt Service

We will not be using Page 2 for this tutorial.

## Debt Service Reserve Fund (continued)

Your completed page should look like this:

Save

Debt Service Reserve Fund #1

Debt Service Reserve Fund Amount	DSRF Interest Start Calculation Date
<input type="text"/>	1/1/2018
1st Interest Payment Date	DSRF Interest Frequency
7/1/2018	Semi-Annual
1st Investment Rate	DSRF Maturity Date
2.000000	7/1/2038
Year	DSRF Options
30/360	% of Total Bond Size (Par)
DSRF Net of Fixed Dollar Amount	% Factor to Apply to DSRF options
<input type="text"/>	10.000000
DSRF Based on	DSRF Interest Flows to
Current Bond Issue	To pay Bond Debt Service

Be certain to press the **“SAVE”** button.



## Sources of Funds

Using the “Input” menu item, select the “Sources of Funds” submenu item.

Micromuni Sizing allows you to enter additional sources of funds for the project sizing. Additional sources of funds help to reduce the amount of bonds that must be issued to cover all expenses associated with the uses of funds.

Micromuni Sizing “Sources of Funds” has two pages and allows for up to 10 additional sources of funds. The bond proceeds will be the primary source of funds, plus accrued interest. They will appear in the final “Sources and Uses of Funds” report.

The sources of funds can be a dollar amount or a percentage of the bond size.

Your completed page should look like this:

Description	Dollar Amount	Percent
Issuers Contribution	\$500,000.00	

Be certain to press the **“SAVE”** button.

## Uses of Funds

Using the “Input” menu item, select the “Uses of Funds” submenu item.

Micromuni Sizing allows you to enter additional uses of funds for the project sizing. Additional uses of may include costs not associated with any of the pages that you have already entered.

Micromuni Sizing “Uses of Funds” has two pages and allows for up to 10 additional uses of funds. The pages we have already completed do not have to be entered here. They will appear in the final “Sources and Uses of Funds” report.

The uses of funds can be a dollar amount or a percentage of the bond size.

Your completed page should look like this:

The screenshot shows a web form titled "Uses of Funds" with a "Save" button in the top left. The form contains a table with three columns: "Description", "Dollar Amount", and "Percent". The first row of the table is populated with "Cost of Issuance" in the Description column, "\$150,000.00" in the Dollar Amount column, and an empty field in the Percent column. Below this, there are four more identical empty rows for data entry.

Description	Dollar Amount	Percent
Cost of Issuance	\$150,000.00	

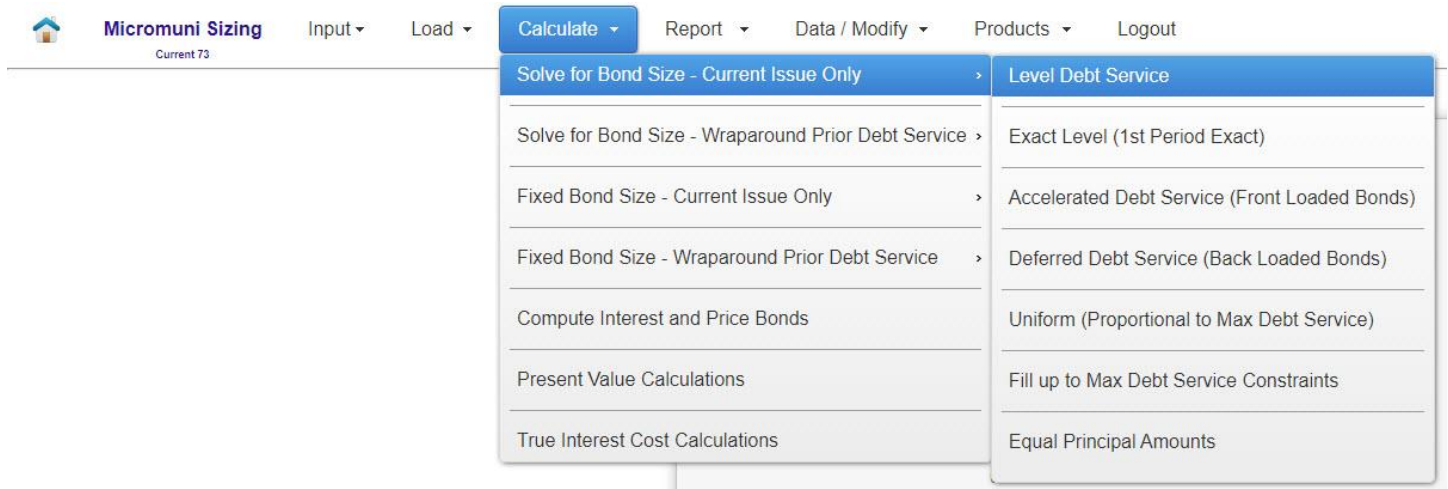
Be certain to press the “**SAVE**” button.

## Solving for the Projects Bond Size and Calculating the Funds.

### Solve

Using the “Calculate” menu item, highlight the “Solve for Bond Size” submenu item, then select the “Level Debt Service” next submenu item. Micromuni will determine the project bond size, fund all the accounts, and solve for level debt service as well.

The menu selection will look like this:



Once you have selected “Level Debt Service”, Micromuni Sizing will proceed to iterate until the correct bond size is determined. The following “Sources and Uses of Funds” report is displayed.

State and Local Governments  
Municipal Financing Project  
Delivery: 01/15/2018

#### Sources of Funds

Par Amount of Bonds	\$16,275,000.00
+Premium / -Discount	0.00
Accrued Interest	12,086.47
Issuers Contribution	500,000.00
<hr/>	
Total Sources of Funds	\$16,787,086.47

#### Uses of Funds

Construction Fund	14,501,560.55
Capitalized Interest Fund	401,301.84
Debt Service Reserve Fund	1,627,500.00
BondInsurance	103,673.79
Cost of Issuance	150,000.00
Contingency	3,050.29
<hr/>	
Total Uses of Funds	\$16,787,086.47

<b>State and Local Governments</b>	
<b>Municipal Financing Project</b>	
Sources of Funds	
Par Amount	16,275,000.00
+Premium / -Discount	0.00
Accrued Interest	12,086.47
Issuers Contribution	500,000.00
	<u>\$16,787,086.47</u>
Uses of Funds	
Capitalized Interest Fund	401,301.84
Construction Fund	14,501,560.55
Bond Insurer	103,673.79
Debt Service Reserve Fund	1,627,500.00
Underwriters Discount	0.00
Cost of Issuance	150,000.00
Contingency	3,050.29
	<u>\$16,787,086.47</u>

## *Solve (continued)*

There are several different “Calculate” submenu items for solving for the bond amounts and one to simply “Compute the Interest and Price Bonds”.

I will describe the “Calculate” submenu items (and Level Debt Service bond solution type).

- **Solve for Bond Size - Current Issue Only**  
Selecting the submenu solution type “Level”, Micromuni Sizing will determine the bond maturity amounts by considering the “Current Bond Issue” and the “Prior Debt Service”. The result is the combined debt service is level.
- **Solve for Bond Size - Wraparound Prior Debt Service**  
Selecting the submenu solution type “Level”, Micromuni Sizing will determine the bond maturity amounts by considering the “Current Bond Issue” and the “Prior Debt Service”. The result is the combined debt service is level.
- **Fixed Bond Size - Current Issue Only**  
Micromuni Sizing will perform the same bond solution as “Solve for Bond Size – Current Issue Only” but will not iterate for the correct bond size. Rather Micromuni Sizing will use the bond size that was entered in the “General Bond Information” page and will perform only one iteration.
- **Fixed Bond Size - Wraparound Prior Debt Service**  
Micromuni Sizing will perform the same bond solution as “Solve for Bond Size – Wraparound Prior Debt Service” but will not iterate for the correct bond size. Rather Micromuni Sizing will use the bond size that was entered in the “General Bond Information” page and will perform only one iteration.
- **Compute Interest and Price Bonds**  
Micromuni Sizing will compute the bond interest based on information entered in the “General Bond Information” and the “Bond Amounts, Coupons, Yields, Prices” pages. All funds will be computed based on the information entered and the “Sources and Uses of Funds” report will be displayed. The contingency amount may not be less than one bond.

For additional information regarding the type of bond solutions, refer to the online documentation for the “Calculate” menu item and “Solve” submenu item.

## Reports

### Bonds - Current Bond Issue

#### State and Local Governments Municipal Financing Project

Dated Date Monday, January 1, 2018  
Delivery Date Monday, January 15, 2018

#### Debt Service Schedule

Date	Principal	Bond Type	Coupon	Interest	Debt Service	Fiscal Total	Bond Balance
7/1/2018				155,397.50	155,397.50	155,397.50	16,275,000.00
1/1/2019				155,397.50	155,397.50		16,275,000.00
7/1/2019				155,397.50	155,397.50	310,795.00	16,275,000.00
1/1/2020				155,397.50	155,397.50		16,275,000.00
7/1/2020	705,000.00	Standard	0.900000	155,397.50	860,397.50	1,015,795.00	15,570,000.00
1/1/2021				152,225.00	152,225.00		
7/1/2021	710,000.00	Standard	1.000000	152,225.00	862,225.00	1,014,450.00	14,860,000.00
1/1/2022				148,675.00	148,675.00		
7/1/2022	715,000.00	Standard	1.100000	148,675.00	863,675.00	1,012,350.00	14,145,000.00
1/1/2023				144,742.50	144,742.50		
7/1/2023	725,000.00	Standard	1.200000	144,742.50	869,742.50	1,014,485.00	13,420,000.00
1/1/2024				140,392.50	140,392.50		
7/1/2024	735,000.00	Standard	1.300000	140,392.50	875,392.50	1,015,785.00	12,685,000.00
1/1/2025				135,615.00	135,615.00		
7/1/2025	740,000.00	Standard	1.400000	135,615.00	875,615.00	1,011,230.00	11,945,000.00
1/1/2026				130,435.00	130,435.00		
7/1/2026	750,000.00	Standard	1.500000	130,435.00	880,435.00	1,010,870.00	11,195,000.00
1/1/2027				124,810.00	124,810.00		
7/1/2027	765,000.00	Standard	1.600000	124,810.00	889,810.00	1,014,620.00	10,430,000.00
1/1/2028				118,690.00	118,690.00		
7/1/2028	775,000.00	Standard	1.700000	118,690.00	893,690.00	1,012,380.00	9,655,000.00
1/1/2029				112,102.50	112,102.50		
7/1/2029	790,000.00	Standard	1.800000	112,102.50	902,102.50	1,014,205.00	8,865,000.00

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## Reports

### Bonds - Current Bond Issue (continued)

#### State and Local Governments Municipal Financing Project

Dated Date Monday, January 1, 2018  
Delivery Date Monday, January 15, 2018

#### Debt Service Schedule

Date	Principal	Bond Type	Coupon	Interest	Debt Service	Fiscal Total	Bond Balance
1/1/2030				104,992.50	104,992.50		
7/1/2030	805,000.00	Standard	1.900000	104,992.50	909,992.50	1,014,985.00	8,060,000.00
1/1/2031				97,345.00	97,345.00		
7/1/2031	820,000.00	Standard	2.000000	97,345.00	917,345.00	1,014,690.00	7,240,000.00
1/1/2032				89,145.00	89,145.00		
7/1/2032	835,000.00	Standard	2.100000	89,145.00	924,145.00	1,013,290.00	6,405,000.00
1/1/2033				80,377.50	80,377.50		
7/1/2033	850,000.00	Standard	2.200000	80,377.50	930,377.50	1,010,755.00	5,555,000.00
1/1/2034				71,027.50	71,027.50		
7/1/2034	870,000.00	Standard	2.300000	71,027.50	941,027.50	1,012,055.00	4,685,000.00
1/1/2035				61,022.50	61,022.50		
7/1/2035	890,000.00	Standard	2.400000	61,022.50	951,022.50	1,012,045.00	3,795,000.00
1/1/2036				50,342.50	50,342.50		
7/1/2036	915,000.00	Standard	2.500000	50,342.50	965,342.50	1,015,685.00	2,880,000.00
1/1/2037				38,905.00	38,905.00		
7/1/2037	935,000.00	Standard	2.600000	38,905.00	973,905.00	1,012,810.00	1,945,000.00
1/1/2038				26,750.00	26,750.00		
7/1/2038	960,000.00	Standard	2.700000	26,750.00	986,750.00	1,013,500.00	985,000.00
1/1/2039				13,790.00	13,790.00		
7/1/2039	985,000.00	Standard	2.800000	13,790.00	998,790.00	1,012,580.00	
	16,275,000.00			4,459,757.50	20,734,757.50		
			Accrued	12,086.47	12,086.47		
	16,275,000.00			4,447,671.03	20,722,671.03		

#### State and Local Governments Municipal Financing Project

Dated Date Monday, January 1, 2018  
Delivery Date Monday, January 15, 2018

#### Debt Service Schedule

Date	Principal	Bond Type	Coupon	Interest	Debt Service	Fiscal Total	Bond Balance
		Bond Years	205,007.500				
		Average Coupon	2.1754119				
		Average Life	12.5964670				
		N I C %	2.2696456	using	98.8129875		
		T I C %	2.2617204		from Delivery Date		
		Weighted N I C %	2.269646				
		Weighted Bond Years	205,007.500				
		Weighted Average Life	12.596467				
		Bond Insurance					
		0.500000 % of Total Debt Service =	\$103673.79				

## Reports

### Bonds - Net Debt Service

State and Local Governments  
Municipal Financing Project  
Delivery: 1/15/2018

#### Net Debt Service Requirements

Period Ending	Principal	Coupon	Interest	Total Debt Service	Construction Earnings	DSRF + Cap Int.	Net Debt Service	Funds Remaining
7/1/2018			155,397.50	155,397.50		431,569.49		276,171.99
1/1/2019			155,397.50	155,397.50		293,827.85		138,430.35
7/1/2019			155,397.50	155,397.50		155,397.50		
1/1/2020			155,397.50	155,397.50		16,275.00	139,122.50	
7/1/2020	705,000.00	0.90	155,397.50	860,397.50		16,275.00	844,122.50	
1/1/2021			152,225.00	152,225.00		16,275.00	135,950.00	
7/1/2021	710,000.00	1.00	152,225.00	862,225.00		16,275.00	845,950.00	
1/1/2022			148,675.00	148,675.00		16,275.00	132,400.00	
7/1/2022	715,000.00	1.10	148,675.00	863,675.00		16,275.00	847,400.00	
1/1/2023			144,742.50	144,742.50		16,275.00	128,467.50	
7/1/2023	725,000.00	1.20	144,742.50	869,742.50		16,275.00	853,467.50	
1/1/2024			140,392.50	140,392.50		16,275.00	124,117.50	
7/1/2024	735,000.00	1.30	140,392.50	875,392.50		16,275.00	859,117.50	
1/1/2025			135,615.00	135,615.00		16,275.00	119,340.00	
7/1/2025	740,000.00	1.40	135,615.00	875,615.00		16,275.00	859,340.00	
1/1/2026			130,435.00	130,435.00		16,275.00	114,160.00	
7/1/2026	750,000.00	1.50	130,435.00	880,435.00		16,275.00	864,160.00	
1/1/2027			124,810.00	124,810.00		16,275.00	108,535.00	
7/1/2027	765,000.00	1.60	124,810.00	889,810.00		16,275.00	873,535.00	
1/1/2028			118,690.00	118,690.00		16,275.00	102,415.00	
7/1/2028	775,000.00	1.70	118,690.00	893,690.00		16,275.00	877,415.00	
1/1/2029			112,102.50	112,102.50		16,275.00	95,827.50	
7/1/2029	790,000.00	1.80	112,102.50	902,102.50		16,275.00	885,827.50	
1/1/2030			104,992.50	104,992.50		16,275.00	88,717.50	
7/1/2030	805,000.00	1.90	104,992.50	909,992.50		16,275.00	893,717.50	
1/1/2031			97,345.00	97,345.00		16,275.00	81,070.00	
7/1/2031	820,000.00	2.00	97,345.00	917,345.00		16,275.00	901,070.00	
1/1/2032			89,145.00	89,145.00		16,275.00	72,870.00	
7/1/2032	835,000.00	2.10	89,145.00	924,145.00		16,275.00	907,870.00	
1/1/2033			80,377.50	80,377.50		16,275.00	64,102.50	
7/1/2033	850,000.00	2.20	80,377.50	930,377.50		16,275.00	914,102.50	
1/1/2034			71,027.50	71,027.50		16,275.00	54,752.50	
7/1/2034	870,000.00	2.30	71,027.50	941,027.50		16,275.00	924,752.50	
1/1/2035			61,022.50	61,022.50		16,275.00	44,747.50	
7/1/2035	890,000.00	2.40	61,022.50	951,022.50		16,275.00	934,747.50	
1/1/2036			50,342.50	50,342.50		16,275.00	34,067.50	
7/1/2036	915,000.00	2.50	50,342.50	965,342.50		16,275.00	949,067.50	
1/1/2037			38,905.00	38,905.00		16,275.00	22,630.00	
7/1/2037	935,000.00	2.60	38,905.00	973,905.00		16,275.00	957,630.00	
1/1/2038			26,750.00	26,750.00		16,275.00	10,475.00	
7/1/2038	960,000.00	2.70	26,750.00	986,750.00		1,643,775.00		657,025.00
1/1/2039			13,790.00	13,790.00				643,235.00
7/1/2039	985,000.00	2.80	13,790.00	998,790.00			355,555.00	
	16,275,000.00		4,459,757.50	20,734,757.50			16,722,355.00	

Dated: 01/1/2018 and Delivery: 01/15/2018

Bond Years	205,007.500
Average Coupon	2.17541188
Average Life	12.596467
N I C %	2.269646
T I C %	2.261720
Weighted N I C %	2.269646
Weighted Bond Years	205,007.500
Weighted Average Life	12.596467

Bond Insurance  
0.500000 % of (Total Debt Service) = \$103,673.79



## Reports

### Bonds – Bond Production

#### State and Local Governments Municipal Financing Project

Dated January 01, 2018  
Delivery January 15, 2018

#### Bond Production Details Report

Date	Principal	Bond Type	Bond Years	Coupon	Yield	YTM	PTM	Call Option	YTC	PTC	Production
7/1/2020	705,000.00	Standard	1,762.500	0.900	0.900	0.900	100.000				705,000.00
7/1/2021	710,000.00	Standard	2,485.000	1.000	1.000	1.000	100.000				710,000.00
7/1/2022	715,000.00	Standard	3,217.500	1.100	1.100	1.100	100.000				715,000.00
7/1/2023	725,000.00	Standard	3,987.500	1.200	1.200	1.200	100.000				725,000.00
7/1/2024	735,000.00	Standard	4,777.500	1.300	1.300	1.300	100.000				735,000.00
7/1/2025	740,000.00	Standard	5,550.000	1.400	1.400	1.400	100.000				740,000.00
7/1/2026	750,000.00	Standard	6,375.000	1.500	1.500	1.500	100.000				750,000.00
7/1/2027	765,000.00	Standard	7,267.500	1.600	1.600	1.600	100.000				765,000.00
7/1/2028	775,000.00	Standard	8,137.500	1.700	1.700	1.700	100.000				775,000.00
7/1/2029	790,000.00	Standard	9,085.000	1.800	1.800	1.800	100.000				790,000.00
7/1/2030	805,000.00	Standard	10,062.500	1.900	1.900	1.900	100.000				805,000.00
7/1/2031	820,000.00	Standard	11,070.000	2.000	2.000	2.000	100.000				820,000.00
7/1/2032	835,000.00	Standard	12,107.500	2.100	2.100	2.100	100.000				835,000.00
7/1/2033	850,000.00	Standard	13,175.000	2.200	2.200	2.200	100.000				850,000.00
7/1/2034	870,000.00	Standard	14,355.000	2.300	2.300	2.300	100.000				870,000.00
7/1/2035	890,000.00	Standard	15,575.000	2.400	2.400	2.400	100.000				890,000.00
7/1/2036	915,000.00	Standard	16,927.500	2.500	2.500	2.500	100.000				915,000.00
7/1/2037	935,000.00	Standard	18,232.500	2.600	2.600	2.600	100.000				935,000.00

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**Reports****Bonds – Bond Production (continued)**State and Local Governments  
Municipal Financing ProjectDated January 01, 2018  
Delivery January 15, 2018**Bond Production Details Report**

Date	Principal	Bond Type	Bond Years	Coupon	Yield	YTM	PTM	Call Option	YTC	PTC	Production
7/1/2038	960,000.00	Standard	19,680.000	2.700	2.700	2.700	100.000				960,000.00
7/1/2039	985,000.00	Standard	21,177.500	2.800	2.800	2.800	100.000				985,000.00
	<u>\$16,275,000.00</u>		<u>205,007.500</u>								<u>\$16,275,000.00</u>

Par Amount	\$16,275,000.00		
Production			
Gross Production	16,275,000.00		
Bond Insurance	103,673.79		
Underwriters Discount			
Bid	16,081,813.71	98.8129875	
Accrued	12,086.47		
Net to Issuer	16,093,900.18		
Gross Interest Cost	4,459,757.50		
- Premium / + Discount	193,186.29		
Net Interest Cost	4,652,943.79		
N I C %	2.2696456	using	98.8129875
T I C %	2.2617204	from	Delivery Date
Bond Years	205,007.500		
Average Coupon	2.175412		
Average Life	12.596467		
Weighted N I C %	2.269646		
Weighted Bond Years	205,007.500		

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**Reports****Construction Fund**State and Local Governments  
Municipal Financing Project

Delivery Date Monday, January 15, 2018

## Construction Fund

Draw Date	Beginning Balance	Draw Needed	Net Draw Amount	Investment Rate	Construction Earnings	DSR Fund	Cap.Int. Earnings	Ending Balance
1/15/2018	14,501,560.55	2,000,000.00	2,000,000.00	1.250000				12,501,560.55
2/1/2019	12,501,560.55	1,000,000.00	836,785.18	1.250000	163,214.82			11,664,775.37
3/1/2019	11,664,775.37	1,000,000.00	987,849.19	1.250000	12,150.81			10,676,926.18
4/1/2019	10,676,926.18	1,000,000.00	988,878.20	1.250000	11,121.80			9,688,047.98
5/1/2019	9,688,047.98	1,000,000.00	989,908.28	1.250000	10,091.72			8,698,139.69
6/1/2019	8,698,139.69	1,000,000.00	990,939.44	1.250000	9,060.56			7,707,200.25
7/1/2019	7,707,200.25	750,000.00	741,971.67	1.250000	8,028.33			6,965,228.59
8/1/2019	6,965,228.59	750,000.00	742,744.55	1.250000	7,255.45			6,222,484.03
9/1/2019	6,222,484.03	750,000.00	743,518.25	1.250000	6,481.75			5,478,965.79
10/1/2019	5,478,965.79	750,000.00	744,292.74	1.250000	5,707.26			4,734,673.04
11/1/2019	4,734,673.04	750,000.00	745,068.05	1.250000	4,931.95			3,989,605.00
12/1/2019	3,989,605.00	1,000,000.00	995,844.16	1.250000	4,155.84			2,993,760.83
1/1/2020	2,993,760.83	1,000,000.00	996,881.50	1.250000	3,118.50			1,996,879.33
2/1/2020	1,996,879.33	1,000,000.00	997,919.92	1.250000	2,080.08			998,959.42
3/1/2020	998,959.42	1,000,000.00	998,959.42	1.250000	1,040.58			
			\$14,501,560.55		\$248,439.45			

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## Reports

### Capitalized Interest Fund

State and Local Governments  
Municipal Financing Project

Delivery Date Monday, January 15, 2018

Capitalized Interest Fund

Period Ending	Beginning Balance	Accrued Interest	Construction Earnings	DSRF Funds	Cap Int. Earnings	Funds Available	Interest Capitalized	Ending Balance
7/1/2018	401,301.84	12,086.47		16,275.00	1,906.18	431,569.49	155,397.50	276,171.99
1/1/2019	276,171.99			16,275.00	1,380.86	293,827.85	155,397.50	138,430.35
7/1/2019	138,430.35			16,275.00	692.15	155,397.50	155,397.50	
		<u>\$12,086.47</u>		<u>\$48,825.00</u>	<u>\$3,979.19</u>		<u>\$466,192.50</u>	

## Reports

### Sources and Uses of Funds

State and Local Governments  
Municipal Financing Project

Sources of Funds

Par Amount	16,275,000.00
+Premium / -Discount	0.00
Accrued Interest	12,086.47
Issuers Contribution	500,000.00
	<hr/>
	\$16,787,086.47

Uses of Funds

Capitalized Interest Fund	401,301.84
Construction Fund	14,501,560.55
Bond Insurer	103,673.79
Debt Service Reserve Fund	1,627,500.00
Underwriters Discount	0.00
Cost of Issuance	150,000.00
Contingency	3,050.29
	<hr/>
	\$16,787,086.47

## **Summary**

### *Tutorial Completed*

Congratulations! You have successfully completed the Micromuni Sizing tutorial.

If you have any questions about this tutorial or of the use of Micromuni Sizing, please feel free to contact Financial Management Systems, Inc at:

Phone: (425) 881-8687

Email: [fms@micromuni.com](mailto:fms@micromuni.com)

Thank you for being a loyal Micromuni customer.