

**Appendix A to Chapter 113-User Charge System  
Passed by Ordinance #842 on 12/17/18.**

Moscow Mills 2018 -Option #1  
Winter Averaging Rates / Additional SRF Debt/Retirement

This appendix presents the methodology to be used in calculating user charge rates and surcharges, illustrates the calculations followed in arriving at the first year's user charges and surcharges. The unit costs established in this appendix are based on estimates of expenses, including those associated with transporting and treating inflow and infiltration, and loadings. The actual expenses and loadings that occur may differ from these estimates and certainly they will change as time passes. Therefore, the unit cost must be reestablished whenever necessary to reflect actual expenses and loadings. Once the system is in use, the expenses and loadings can be determined from operating records and the unit costs can be adjusted based on these figures.

**1. Expenses:** The total annual expenses associated with the treatment works, as defined in Article II, Section 8, are estimated as follows:

<u>Item</u>	<u>Annual Expense</u>
Billing/Admin Labor	\$ 10,325.00
Insurance	\$ 15,725.00
Annual Audit	\$ 3,100.00
Total Annual Debt Service	\$ 206,900.00
New Debt (WWTP) \$2,610,199 @2% for 20 years	\$159,631.20
Operations Labor	\$ 176,263.05
Utilities	\$ 86,800.00
Equipment Purchase Expense	\$ 20,000.00
Replacement Costs (see Appendix C)	\$117,294.70
Misc Materials/Supplies	\$ 37,350.00
Permit Fee (DNR)	\$ 300.00
Maintenance	\$ 30,000.00
Contracted Services	\$ 9,155.00
Fuel & Mileage	\$ 9,500.00
Dues/Training	\$ 1,000.00
Engineering & Legal	\$ 12,000.00
Lab Testing	\$ 10,500.00
Total Expenses:	\$ 905,843.95

**Revenues Received from Other Sources**

Sewer Flows from Other Facilities	\$ -
Other Revenue (specify)	\$ -
Other Revenue (specify)	\$ -
Other Revenue (specify)	\$ -
Other Revenue (specify)	\$ -

Total Revenues from Other Sources: \$ -

Total Expenses to be Derived From User Charges: \$ 905,843.95

**2. Allocation of Expenses:** The total operation and maintenance, including replacement expenses, is allocated to the appropriate pollutants in the following manner.

Annual Dollars to Treat Annual Flow = XX% annual cost allocated to flow x (total annual O&M budget minus billing, collection, administration, and debt less dedicated debt revenue)

=  X \$ 905,843.95 - \$ 395,681.20

= \$ 204,065.10

Annual Dollars to Treat Annual BOD = XX% annual cost allocated to BOD x (total annual O&M budget minus billing, collection, administration, and debt less dedicated debt revenue)

=  X \$ 905,843.95 - \$ 395,681.20

= \$ 153,048.83

Annual Dollars to Treat Annual SS = XX% annual cost allocated to SS x (total annual O&M budget minus billing, collection, administration, and debt less dedicated debt revenue)

=  X \$ 905,843.95 - \$ 395,681.20

= \$ 153,048.83

Annual Dollars to Treat Annual Other = XX% annual cost allocated to Other Pollutant x (total annual O&M budget minus billing, collection, administration, and debt less dedicated debt revenue)

=  X \$ 905,843.95 - \$ 395,681.20

= \$ -

(Note: In this example, the billing, collection, administration, and debt expenses are deducted from the total O&M budget at this point because each user will pay the same for these expenses per billing period. See paragraph 5 for Minimum Charge calculation. In some situations other appropriate expenses may be handled in the same manner. Costs associated with debt can be collected as part of the unit/volume charge or as a combination of the Minimum Charge and Unit Charge. The ordinance writer should adjust the allocation of percentages to Flow, BOD, and SS to fit their specific type of treatment works.

**3. Loadings**

The number of system users is:	<input type="text" value="1,244"/> Customers
The initial hydraulic loading (less I/I) is estimated to be:	<input type="text" value="58,000,000"/> Gallons/year
The initial BOD loading is estimated to be:	<input type="text" value="22,000"/> Pounds/year
The initial SS loading is estimated to be:	<input type="text" value="35,000"/> Pounds/year
The initial <i>Other Pollutant (specify)</i> loading is estimated to be:	<input type="text" value="-"/> Pounds/year

(Note: If the loading estimates for BOD, SS, and Other Pollutant(s), are based on historical data from the Treatment Works and the concentration is different from the definition of Normal Domestic Wastewater, please see note in paragraph 6 before completing the Residential Unit Charge Calculation.)

Normal Domestic BOD based on above loadings:	46 mg/l
Normal Domestic SS based on above loadings:	72 mg/l
Normal Domestic Other Pollutant based on above loadings:	- mg/l

#### 4. Unit Costs:

Initial unit cost for flow in \$/gallon	=	<u>Annual \$ to treat annual flow</u> Estimated annual hydraulic loading - inflow & Infiltration
	=	\$ 204,065.10 58,000,000
	=	\$ 0.003519 per gallon
Initial unit cost for BOD in \$/pound	=	<u>Annual \$ to treat annual BOD</u> Estimated annual BOD loading
	=	\$ 153,048.83 22,000
	=	\$ 6.956765 per pound
Initial unit cost for SS in \$/pound	=	<u>Annual \$ to treat annual SS</u> Estimated annual SS loading
	=	\$ 153,048.83 35,000
	=	\$ 4.372824 per pound
Initial unit cost for <i>Other Pollutant(s)</i> in \$/po	=	<u>Annual \$ to treat annual <i>Other Pollutant(s)</i></u> Estimated annual <i>Other Pollutant(s)</i> loading
	=	\$ - -
	=	\$ - per pound

(Note: The unit costs for BOD, SS, and Other Pollutants are to be inserted in Article IV, Section 4 of the ordinance.)

#### 5. Minimum Charge:

Number of users: 1,244  
Billing Period: 12

Billing/Admin Labor	=	\$ 10,325.00
Insurance	=	\$ 15,725.00
Annual Audit	=	\$ 3,100.00
Annual Debt Service	=	\$ 366,531.20
Dedicated Sales Tax	=	\$ -
Total Annual Minimum Cost	=	\$ 395,681.20
Minimum Charge	=	Total Annual Minimum Cost/Billing Period/Number of Users
	=	\$ 37.25

(Note: Annual Debt Service collected through minimum charge is the Total Annual Debt Service less other dedicated revenues for debt retirement indicated in the budget. Dedicated sales tax must be in the base rate so O&M rates are proportional.)

(Note: The minimum charge, per user, per billing period is to be inserted in Article IV, Section 3 of the ordinance.)

**6. Residential User Unit Charge:**

The residential user unit charge is calculated as follows using the Normal Domestic pollutant concentrations as defined in Article II, Section 2 of this ordinance. **Note: If the estimated loadings in paragraph 3 result in pollutant concentrations that are different than those defined in Article II, Section 2 of this ordinance, then the definition must be revised or the contributors of extra strength wastewater must be identified (see paragraph 7).**

$$\text{Residential Unit Charge} = \text{unit flow charge} + [(\text{unit BOD charge}) \times (\text{BOD}_{\text{ND}}) \times (.00834)] + [(\text{unit SS charge}) \times (\text{SS}_{\text{ND}}) \times (.00834)] + [(\text{unit Other charge}) \times (\text{Other}) \times (.00834)]$$

Where:

- Residential unit charge is in \$/1,000 gallons;
- Unit BOD charge is in \$/pound of BOD from paragraph 4;
- Unit SS charge is in \$/pound of SS from paragraph 4;
- Unit other charge is in \$/pound of other pollutant from paragraph 4;
- BOD<sub>ND</sub> is the Normal Domestic BOD strength in milligrams per liter (mg/l) as defined in Article II, Section 2, of the ordinance;
- SS<sub>ND</sub> is the Normal Domestic SS strength in milligrams per liter (mg/l) as defined in Article II, Section 2, of the ordinance;
- Other is Normal Domestic strength of Other pollutants in milligrams per liter (mg/l) as defined in Article II, Section 2, of the ordinance, and .00843 is a unit conversion factor.

$$= (\$0.0035 \times 1000) + [(\$6.9568 \times 046 \text{ mg/l}) \times (0.00834)] + [(\$4.3728) \times (072 \text{ mg/l}) \times (0.00834)] + [(\$0.0000) \times 0 \text{ mg/l}) \times (0.00834)]$$

$$= \$ 6.05 \text{ per 1,000 gallons}$$

$$= \$ 4.53 \text{ per 100 cubic feet}$$

**(Note: The total residential unit charge is to be inserted in Article IV, Section 3, of the ordinance.)**

An example calculation of a monthly residential charge is as follows:

$$\begin{aligned} \text{Assumed flow} &= 5,000 \text{ gallons} \\ \$37.25 + [(5,000/1,000) \times \$6.05] &= \$67.50 \text{ per month} \end{aligned}$$

**7. Extra Strength Users:**

For users who contribute wastewater that has a greater strength than Normal Domestic wastewater, the user charge will be calculated as follows:

$$\text{Total Monthly Charge for Extra Strength User} = \text{Minimum Charge} + \text{Residential Unit Charge} + \text{surchage for BOD (if applicable)} + \text{surchage for SS (if applicable)} + \text{surchage for other pollutant(s) if applicable.}$$

$$\text{Total Monthly Charge for Extra Strength User} = \text{Minimum Charge} + \text{volume} * (\text{Residential Unit Charge}) + \text{volume} * (\text{unit BOD charge})(\text{BOD}_{\text{ES}} - \text{BOD}_{\text{ND}})(.00834) + \text{volume} * (\text{unit SS charge})(\text{SS}_{\text{ES}} - \text{SS}_{\text{ND}})(.00834) + \text{and so on for any other pollutant(s) if applicable.}$$

Where: Total monthly charge to extra strength user during the month;  
 Minimum charge is in dollars as calculated in paragraph 6  
 volume is the volume of wastewater in 1000 gallons discharged by the extra strength user during the month;  
 Residential unit charge is in \$/1000 gallons as calculated in paragraph 6  
 Unit BOD charge is in \$/pound  
 Unit SS charge is in \$/pound SS  
 $BOD_{ES}$  is the average BOD concentration in milligrams per liter (mg/l) contributed by the extra strength user during the month;  
 $SS_{ES}$  is the average SS concentration in milligrams per liter (mg/l) contributed by the extra strength user during the month;  
 $BOD_{ND}$  is the Normal Domestic BOD strength in mg/l as defined in Article II, Section 2, of the ordinance;  
 $SS_{ND}$  is the Normal Domestic SS strength in mg/l as defined in Article II, Section 2, of the ordinance; and,  
 .00834 is a unit conversion factor

An example user charge calculation for an extra strength user follows:

Assumed flow	=	2,000 gallons
Assumed $BOD_{ES}$	=	400 mg/l
Assumed $SS_{ES}$	=	500 mg/l
Assumed $Other_{ES}$	=	40 mg/l
Monthly Charge	=	$\$37.25 + [(2,000/1000)*(\$6.05)] + [(2,000/1000)*(\$6.96)*(400 - 046*(0.00834)) + [(2,000/1000)*(\$4.37)*(500 - 072)*(0.00834)] + [(2,000/1000)*(\$0.00)*(40 - 00)*(0.00834)]$
Monthly Charge	=	$\$37.25 + \$12.10 + \$41.08 + \$31.22 + \$0.00$
Monthly Charge	=	<b>\$121.65</b>

**Are rates sufficient?**

Annual revenues generated from Minimum Charge	=	Minimum Charge per billing period x Number of Billing Periods x Number of Customers
Annual revenues generated from Minimum Charge	=	$\$37.25 \times 12 \times 1,244$
Annual revenues generated from Minimum Charge	=	<b>\$ 556,068.00</b>
Annual revenues generated from Residential Unit Charge	=	Residential Unit Charge x Total Annual Flow in 1000 gallons
Annual revenues generated from Residential Unit Charge	=	$\$6.05 \times \text{Gallons/year}/1000$
Annual revenues generated from Residential Unit Charge	=	<b>\$ 350,900.00</b>
Total Annual Revenues	=	Annual revenues generated from Minimum Charge + Annual revenues generated from Residential Unit Charge
Total Annual Revenues	=	$\$556,068.00 + \$350,900.00$
Total Annual Revenues	=	<b>\$ 906,968.00</b>
Budget Surplus/(Deficit)	=	Total Annual Revenues - Total Expenses to be Derived From User Charges
Budget Surplus/(Deficit)	=	$\$906,968.00 - \$905,843.95$
Budget Surplus/(Deficit)	=	<b>\$1,124.05</b>

Debt Coverage Calculation:

$$\text{Beginning Balance} + \text{Revenues} - \text{Operating Expenses} = \text{Net Income}$$

\$ 842,655.25

$$\text{Coverage Ratio} = 2.3$$

**Sewer Repair & Replacement Schedule-Passed by Ordinance #842 on 12/17/18.**

**Appendix B to Chapter 113-User Charge System**

<b>Item</b>	<b>Amount</b>
sewer 2018 ½ computer-Maintenance Dept.	\$1,335.00
sewer 2018 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2018 ½ replace vactron	\$45,000.00
sewer 2018 lab equipment-in house testing	\$12,000.00
large lift station repair-reimburse from sewer for 500	
sewer 2018 HWY MM repairs	\$40,000.00
sewer 2018 replace blower/motor	\$15,000.00
sewer 2018 replace electric panels, starters, contactors etc	\$15,834.00
sewer 2018 replace grinder pump	\$16,000.00
sewer 2018 replace rake motor/gear box	\$8,000.00
sewer 2018 replace utility truck	\$50,000.00
sewer 2018 replace valves & plumbing	\$20,000.00
Total	\$224,419.00
sewer 2019 ½ computer-Maintenance Dept.	\$1,000.00
sewer 2019 ½ paint/repair building	\$12,500.00
sewer 2019 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2019 ½ replace furnace	\$4,000.00
sewer 2018 ½ replace vactron	\$0.00
sewer 2019 1/3 replace mower	\$5,000.00
sewer 2019 1/3 replace tractor	\$20,000.00
sewer 2019 flush sewer mains	\$40,000.00
sewer 2019 generator repairs	\$17,500.00
sewer 2018 lab equipment-in house testing	\$0.00
sewer 2019 large lift station repair	\$10,000.00
sewer 2019 replace blower/motor	\$15,000.00
sewer 2018 replace electric panels, starters, contactors etc	\$0.00
sewer 2018 replace grinder pump	\$0.00
sewer 2019 replace rake motor/gear box	\$8,000.00
sewer 2019 replace skimmer grinder pump	\$6,000.00
sewer 2018 replace utility truck	\$0.00
sewer 2019 replace UV	\$8,000.00
sewer 2018 replace valves & plumbing	\$0.00
sewer 2019 sludge removal-equipment	\$75,000.00
Total	\$223,250.00
sewer 2020 generator repairs	\$10,000.00
sewer 2020 large lift station repair	\$10,000.00
sewer 2020 muffin monster	\$85,000.00
sewer 2020 sludge removal-equipment	\$20,000.00
Total	\$125,000.00

Item	Amount
sewer 2021 1/3 replace back hoe	\$35,000.00
sewer 2021 add 3rd blower, motor, and piping	\$30,000.00
sewer 2021 generator repairs	\$10,000.00
sewer 2021 large lift station repair	\$10,000.00
sewer 2021 replace grinder pump	\$16,000.00
sewer 2021 replace rake motor/gear box	\$8,000.00
sewer 2021 sludge removal-equipment	\$20,000.00
Total	\$129,000.00
sewer 2022 1/2 computer-Maintenance Dept.	\$1,000.00
sewer 2022 1/2 replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2022 1/2 replace furnace	\$4,500.00
sewer 2022 1/2 replace locator	\$5,000.00
sewer 2022 1/3 1 ton dump truck	\$25,000.00
sewer 2022 flush sewer mains	\$40,000.00
sewer 2022 large lift station repair	\$10,000.00
sewer 2022 replace grinder pump	\$16,000.00
sewer 2022 replace manhole	\$10,000.00
sewer 2022 sludge removal equipment/repairs/services	\$10,000.00
Total	\$122,750.00
sewer 2023 1/3 replace mower	\$5,000.00
sewer 2023 large lift station repair	\$10,000.00
sewer 2023 replace blower/motor	\$15,000.00
sewer 2023 replace electric panels, starters, contactors etc	\$15,000.00
sewer 2023 sludge removal equipment/repairs/services	\$10,000.00
Total	\$55,000.00
sewer 2024 generator repairs	\$17,500.00
sewer 2024 large lift station repair	\$10,000.00
sewer 2024 replace blower/motor	\$15,000.00
sewer 2024 replace grinder pump	\$16,000.00
sewer 2024 replace rake motor/gear box	\$8,000.00
sewer 2024 replace skimmer grinder pump	\$6,000.00
sewer 2024 replace UV	\$8,000.00
sewer 2024 sludge removal equipment/repairs/services	\$10,000.00
sewer 2024 replace valves & plumbing	\$20,000.00
Total	\$110,500.00
sewer 2025 1/2 computer-Maintenance Dept.	\$1,000.00
sewer 2025 1/2 paint/repair building	\$12,500.00



<b>Item</b>	<b>Amount</b>
sewer 2025 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2025 1/3 replace Bobcat	\$20,000.00
sewer 2025 generator repairs	\$10,000.00
sewer 2025 large lift station repair	\$10,000.00
sewer 2025 replace manhole	\$10,000.00
sewer 2025 sludge removal equipment/repairs/services	\$10,000.00
Total	\$74,750.00

sewer 2026 ½ replace furnace	\$4,000.00
sewer 2026 flush sewer mains	\$40,000.00
sewer 2026 generator repairs	\$10,000.00
sewer 2026 large lift station repair	\$10,000.00
sewer 2026 replace grinder pump	\$16,000.00
sewer 2026 sludge removal equipment/repairs/services	\$10,000.00
Total	\$90,000.00

sewer 2027 ½ replace locator	\$5,000.00
sewer 2027 1/3 replace mower	\$5,000.00
sewer 2027 large lift station repair	\$10,000.00
sewer 2027 replace rake motor/gear box	\$8,000.00
sewer 2027 replace utility truck	\$50,000.00
sewer 2027 sludge removal equipment/repairs/services	\$10,000.00
Total	\$88,000.00

sewer 2028 ½ computer-Maintenance Dept.	\$1,000.00
sewer 2028 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2028 ½ replace vactron	\$45,000.00
sewer 2028 large lift station repair	\$10,000.00
sewer 2028 replace blower/motor	\$15,000.00
sewer 2028 replace electric panels, starters, contactors etc	\$15,000.00
sewer 2028 replace manhole	\$10,000.00
sewer 2028 sludge removal equipment/repairs/services	\$10,000.00
Total	\$107,250.00

sewer 2029 generator repairs	\$17,500.00
sewer 2029 large lift station repair	\$10,000.00
sewer 2029 replace blower/motor	\$15,000.00
sewer 2029 replace skimmer grinder pump	\$6,000.00
sewer 2029 replace UV	\$8,000.00
sewer 2029 sludge removal equipment/repairs/services	\$10,000.00
Total	\$66,500.00

Item	Amount
sewer 2030 ½ replace furnace	\$4,000.00
sewer 2030 flush sewer mains	\$40,000.00
sewer 2030 generator repairs	\$10,000.00
sewer 2030 lab equipment-in house testing	\$12,000.00
sewer 2030 large lift station repair	\$10,000.00
sewer 2030 replace grinder pump	\$16,000.00
sewer 2030 replace rake motor/gear box	\$8,000.00
sewer 2030 sludge removal equipment/repairs/services	\$10,000.00
sewer 2030 replace valves & plumbing	\$20,000.00
Total	<u>\$130,000.00</u>

sewer 2031 ½ computer-Maintenance Dept.	\$1,000.00
sewer 2031 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2031 1/3 replace mower	\$5,000.00
sewer 2031 1/3 replace tractor	\$20,000.00
sewer 2031 generator repairs	\$10,000.00
sewer 2031 large lift station repair	\$10,000.00
sewer 2031 muffin monster	\$85,000.00
sewer 2031 replace manhole	\$10,000.00
sewer 2031 sludge removal equipment/repairs/services	\$10,000.00
Total	<u>\$152,250.00</u>

sewer 2032 ½ replace locator	\$5,000.00
sewer 2032 1/3 replace back hoe	\$35,000.00
sewer 2032 large lift station repair	\$10,000.00
sewer 2032 sludge removal equipment/repairs/services	\$10,000.00
Total	<u>\$60,000.00</u>

sewer 2033 large lift station repair	\$10,000.00
sewer 2033 replace blower/motor	\$15,000.00
sewer 2033 replace electric panels, starters, contactors etc	\$15,000.00
sewer 2033 replace rake motor/gear box	\$8,000.00
sewer 2033 sludge removal equipment/repairs/services	\$10,000.00
Total	<u>\$58,000.00</u>

sewer 2034 ½ computer-Maintenance Dept.	\$1,000.00
sewer 2034 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2034 ½ replace furnace	\$4,000.00
sewer 2034 flush sewer mains	\$40,000.00
sewer 2034 generator repairs	\$17,500.00
sewer 2034 large lift station repair	\$10,000.00
sewer 2034 replace blower/motor	\$15,000.00
sewer 2034 replace grinder pump	\$16,000.00

<b>Item</b>	<b>Amount</b>
sewer 2034 replace manhole	\$10,000.00
sewer 2034 replace skimmer grinder pump	\$6,000.00
sewer 2034 replace UV	\$8,000.00
sewer 2034 sludge removal equipment/repairs/services	\$10,000.00
Total	<u>\$138,750.00</u>

sewer 2035 1/3 1 ton dump truck	\$25,000.00
sewer 2035 1/3 replace mower	\$5,000.00
sewer 2035 generator repairs	\$10,000.00
sewer 2035 large lift station repair	\$10,000.00
sewer 2035 sludge removal equipment/repairs/services	\$10,000.00
Total	<u>\$60,000.00</u>

sewer 2036 generator repairs	\$10,000.00
sewer 2036 large lift station repair	\$10,000.00
sewer 2036 replace rake motor/gear box	\$8,000.00
sewer 2036 replace utility truck	\$50,000.00
sewer 2036 sludge removal equipment/repairs/services	\$10,000.00
sewer 2036 replace valves & plumbing	\$20,000.00
Total	<u>\$108,000.00</u>

sewer 2037 ½ computer-Maintenance Dept.	\$1,000.00
sewer 2037 ½ replace computer/printer/monitor-City Hall	\$1,250.00
sewer 2037 ½ replace locator	\$5,000.00
sewer 2037 large lift station repair	\$10,000.00
sewer 2037 replace manhole	\$10,000.00
sewer 2037 sludge removal equipment/repairs/services	\$10,000.00
Total	<u>\$37,250.00</u>

Grand Total    \$2,160,669.00

**Appendix C to Chapter 113-User Charge System  
Passed by Ordinance #842 on 12/17/18**

**REPLACEMENT FUND ANNUAL ANNUITY**

(A separate sheet showing what items are to be replaced, what year, and estimated replacement cost, should also be attached.)

**Inflation**            **3.00%**  
**Interest**            **0.25%**  
**Initial Balance**    **#####**

<u>Year</u>	<u>Estimated Replacement Costs</u>	X	<u>3.00% Compound Amount Factor (F/P)</u>	=	<u>Future Worth</u>	X	<u>0.25% Present Worth Factor (P/F)</u>	=	<u>Adjusted Present Worth</u>	<u>Interest on Fund Balance</u>	<u>Net Fund Balance</u>
	<i>Initial Balance</i>										<i>\$507,074.86</i>
1	\$224,419.00		\$1.03		\$231,151.57		\$1.00		\$230,575.13	\$1,267.69	\$394,485.68
2	\$223,250.00		1.060900		236,845.93		0.995019		\$235,666.12	986.21	\$275,920.67
3	\$125,000.00		1.092727		136,590.88		0.992537		\$135,571.54	689.80	\$257,314.30
4	\$129,000.00		1.125509		145,190.64		0.990062		\$143,747.76	643.29	\$230,061.65
5	\$122,750.00		1.159274		142,300.89		0.987593		\$140,535.39	575.15	\$205,630.61
6	\$55,000.00		1.194052		65,672.88		0.985130		\$64,696.35	514.08	\$257,766.51
7	\$110,500.00		1.229874		135,901.06		0.982674		\$133,546.40	644.42	\$239,804.57
8	\$74,750.00		1.266770		94,691.06		0.980223		\$92,818.37	599.51	\$263,007.72
9	\$90,000.00		1.304773		117,429.59		0.977779		\$114,820.15	657.52	\$263,530.35
10	\$88,000.00		1.343916		118,264.64		0.975340		\$115,348.28	658.83	\$263,219.24
11	\$107,250.00		1.384234		148,459.08		0.972908		\$144,437.04	658.05	\$232,712.91
12	\$66,500.00		1.425761		94,813.10		0.970482		\$92,014.39	581.78	\$255,776.29
13	\$130,000.00		1.468534		190,909.38		0.968062		\$184,812.06	639.44	\$182,801.05
14	\$152,250.00		1.512590		230,291.79		0.965648		\$222,380.71	457.00	\$70,260.96
15	\$60,000.00		1.557967		93,478.04		0.963239		\$90,041.74	175.65	\$94,253.27
16	\$58,000.00		1.604706		93,072.97		0.960837		\$89,427.99	235.63	\$118,710.63
17	\$138,750.00		1.652848		229,332.61		0.958441		\$219,801.84	296.78	\$6,969.50
18	\$60,000.00		1.702433		102,145.98		0.956051		\$97,656.79	17.42	\$22,135.64
19	\$108,000.00		1.753506		189,378.65		0.953667		\$180,604.17	55.34	(\$49,892.97)
20	\$37,250.00		1.806111		67,277.64		0.951289		\$64,000.47	(124.73)	(\$0.64)
	\$2,160,669.00								<b>\$ 2,792,503.00</b>		
					Less Initial Deposit				(\$507,074.86)		
									\$ 2,285,428.14		
					Capital Recovery Factor	X	0.051323				
					Annual Annuity				<b>\$117,294.70</b>		