

**Budget**

|                          | Water     | Sewer     | Combined  |
|--------------------------|-----------|-----------|-----------|
| FY19                     | \$345,137 | \$562,000 | \$907,137 |
| FY20                     | \$349,534 | \$608,603 | \$958,137 |
| Total Change FY19/FY20   | \$4,397   | \$46,603  | \$51,000  |
| Percent Change FY19/FY20 | 1.27%     | 8.29%     | 5.62%     |

**Revenue from Non-Core User Groups**

**Non-Core User Groups**

**Industry and Allocated Accounts Fixed Rate Calculator**

|   |          |
|---|----------|
| Industry fixed rate for Sewer is half the Commercial and Government plus 15%  | \$660.51 |
| Allocated Accounts fixed rate for Water is half the Commercial and Government | \$289.51 |
| Allocated Accounts fixed rate for Sewer is half the Commercial and Government | \$287.18 |

|                           | Water      |         |            |         |                     |                       | Sewer      |         |            |              |                     |                       |
|---------------------------|------------|---------|------------|---------|---------------------|-----------------------|------------|---------|------------|--------------|---------------------|-----------------------|
|                           | FY20       |         | FY19       |         | Change FY19 to FY20 |                       | FY20       |         | FY19       |              | Change FY19 to FY20 |                       |
|                           | Fixed Rate | Revenue | Fixed Rate | Revenue | Dollar Difference   | Percentage Difference | Fixed Rate | Revenue | Fixed Rate | FY19 Revenue | Dollar Difference   | Percentage Difference |
| <b>Industry</b>           |            |         |            |         |                     |                       |            |         |            |              |                     |                       |
| Fixed Rate                |            |         |            |         |                     |                       | \$660.15   | \$660   | \$235.00   | \$235        | \$425.15            | 180.91%               |
| Metered/Industry Usage    |            |         |            |         |                     |                       |            | \$1,840 |            | \$2,500      |                     |                       |
| Total Rev.                |            |         |            |         |                     |                       |            | \$2,500 |            | \$2,735      |                     |                       |
| <b>Allocated Accounts</b> |            |         |            |         |                     |                       |            |         |            |              |                     |                       |
| Fixed Rate                | \$289.51   | \$1,448 | \$238.00   | \$1,190 | \$51.51             | 21.64%                | \$287.18   | \$1,149 | \$276.00   | \$1,104      | \$11.18             | 4.05%                 |
| Total Rev.                |            | \$1,448 |            | \$1,190 |                     |                       |            | \$1,149 |            | \$1,104      |                     |                       |

**Non-User Group Revenue**

|                            | Water           |                 |  |  | Sewer            |                  |
|----------------------------|-----------------|-----------------|--|--|------------------|------------------|
|                            | FY20 Revenue    | FY19 Revenue    |  |  | FY20 Revenue     | FY19 Revenue     |
| Sale of Water              | \$1,500         | \$1,500         |  |  |                  |                  |
| Fire Protection/Tank Fee   | \$49,878        | \$45,637        |  |  |                  |                  |
| Septage Revenue            |                 |                 |  |  | \$190,000        | \$170,000        |
| Gateway Revenue            | \$0             | \$0             |  |  | \$0              | \$0              |
| Hook-on Fees               | \$500           | \$500           |  |  | \$1,000          | \$1,000          |
| Miscellaneous Fees         | \$0             | \$0             |  |  | \$0              | \$0              |
| Interest on Investments    | \$1,500         | \$0             |  |  | \$3,500          | \$0              |
| <b>Total Other Revenue</b> | <b>\$53,378</b> | <b>\$47,637</b> |  |  | <b>\$194,500</b> | <b>\$171,000</b> |

|   |           |           |           |           |
|---|-----------|-----------|-----------|-----------|
| <b>Total Revenue from Non-Core Users</b>                  | \$54,826  | \$48,827  | \$198,149 | \$174,839 |
| <b>Total Revenue remaining to be raised by core users</b> | \$294,708 | \$296,310 | \$410,454 | \$387,161 |

## Data Used to Build Rates for Core User Groups

### Percentage of use in past 4 quarters

|                         | Water  |                |                   |       | Sewer  |                |                   |       |
|-------------------------|--|----------------|-------------------|-------|--|----------------|-------------------|-------|
|                         | Future Use Adjustment as Percentage of Gallons |                |                   |       | Future Use Adjustment as Percentage of Gallons |                |                   |       |
|                         | Gallons  | Percentage     | 98%               | Users | Gallons  | Percentage     | 98%               | Users |
| Residential             | 9,292,000                                      | 56.52%         | 9,106,160         | 417   | 9,222,400                                      | 66.81%         | 9,037,952         | 414   |
| Commercial & Government | 6,141,700                                      | 37.35%         | 6,018,866         | 72    | 3,573,400                                      | 25.89%         | 3,501,932         | 74    |
| School                  | 1,007,900                                      | 6.13%          | 987,742           | 3     | 1,007,900                                      | 7.30%          | 987,742           | 3     |
| Industry                |  |                |                   | 0     |  |                |                   | 1     |
| Allocated Accounts      |  |                |                   | 5     |  |                |                   | 4     |
| <b>total</b>            | <b>16,441,600</b>                              | <b>100.00%</b> | <b>16,112,768</b> |       | <b>13,803,700</b>                              | <b>100.00%</b> | <b>13,527,626</b> |       |

### Percentage of use Adjustments for Water Rates to offset for fire protection allocation to school

|                         | Water      |                |                |  |
|-------------------------|------------|----------------|----------------|--|
|                         | Adjustment | Adjusted FY20  | Adjusted FY19  |  |
| Residential             | -3.01%     | 53.50%         | 57.70%         |  |
| Commercial & Government | -1.99%     | 35.36%         | 30.55%         |  |
| School (approx. \$15K)  | 5.00%      | 11.13%         | 11.75%         |  |
| <b>Total</b>            |            | <b>100.00%</b> | <b>100.00%</b> |  |

### Formula for determining split of 5 percentage points between Residential and Commercial & Government Based on percent of water used by each

|                         | Gallons Used      | Percentage of Use |
|-------------------------|-------------------|-------------------|
| Residential             | 9,292,000         | 60.21%            |
| Commercial & Government | 6,141,700         | 39.79%            |
| <b>Total</b>            | <b>15,433,700</b> |                   |

### Budget Allocations Per Core User Group

|                                      | FY20         |              | FY19         |              |
|--------------------------------------|--------------|--------------|--------------|--------------|
|                                      | Water        | Sewer        | Water        | Sewer        |
| Revenue to be raised from Core Users | \$294,708    | \$410,454    | \$48,827     | \$174,839.00 |
| Residential                          | \$157,683.42 | \$274,228.81 | \$172,347.02 | \$257,191.11 |
| Commercial & Government              | \$104,223.44 | \$106,255.34 | \$89,069.45  | \$100,646.76 |
| School                               | \$32,801.59  | \$29,969.99  | \$34,823.82  | \$29,323.13  |

## Rates for Core User Groups

|                                    | Percent of Rev. | Water                                 |           |                                       |              |                     |                       | Sewer                                 |           |                                       |              |                     |                       |
|------------------------------------|-----------------|---------------------------------------|-----------|---------------------------------------|--------------|---------------------|-----------------------|---------------------------------------|-----------|---------------------------------------|--------------|---------------------|-----------------------|
|                                    |                 | FY20                                  |           | FY19                                  |              | Change FY19 to FY20 |                       | FY20                                  |           | FY19                                  |              | Change FY19 to FY20 |                       |
|                                    |                 | Fixed per unit. Metered per 1000 gal. | Revenue   | Fixed per unit. Metered per 1000 gal. | FY19 Revenue | Dollar Difference   | Percentage Difference | Fixed per unit. Metered per 1000 gal. | Revenue   | Fixed per unit. Metered per 1000 gal. | FY19 Revenue | Dollar Difference   | Percentage Difference |
| <b>Residential</b>                 |                 |                                       |           |                                       |              |                     |                       |                                       |           |                                       |              |                     |                       |
| Fixed Rate                         | 30%             | \$113.44                              | \$47,305  | \$141.20                              | \$58,598     | -\$27.76            | -19.7%                | \$198.72                              | \$82,269  | \$187.28                              | \$77,157     | \$11.44             | 6.1%                  |
| Metered                            | 70%             | \$12.12                               | \$110,378 | \$12.24                               | \$113,749    | -\$0.12             | -1.0%                 | \$21.24                               | \$191,960 | \$19.53                               | \$180,034    | \$1.71              | 8.8%                  |
| <b>Total Rev.</b>                  |                 |                                       | \$157,683 |                                       | \$172,347    |                     |                       | \$274,229                             |           | \$257,191                             |              |                     |                       |
| <b>Commercial &amp; Government</b> |                 |                                       |           |                                       |              |                     |                       |                                       |           |                                       |              |                     |                       |
| Fixed Rate                         | 40%             | \$579.02                              | \$41,689  | \$475.04                              | \$35,628     | \$103.98            | 21.9%                 | \$574.35                              | \$42,502  | \$551.49                              | \$40,259     | \$22.86             | 4.1%                  |
| Metered                            | 60%             | \$10.39                               | \$62,534  | \$10.23                               | \$53,442     | \$0.16              | 1.5%                  | \$18.21                               | \$63,753  | \$16.57                               | \$60,388     | \$1.63              | 9.8%                  |
| <b>Total Rev.</b>                  |                 |                                       | \$104,223 |                                       | \$89,069     |                     |                       | \$106,255                             |           | \$100,647                             |              |                     |                       |
| <b>School</b>                      |                 |                                       |           |                                       |              |                     |                       |                                       |           |                                       |              |                     |                       |
| Fixed Rate                         | 50%             | \$5,466.93                            | \$16,401  | \$5,803.97                            | \$17,412     | -\$337.04           | -5.8%                 | \$4,995.00                            | \$14,985  | \$4,887.19                            | \$14,662     | \$107.81            | 2.2%                  |
| Metered                            | 50%             | \$16.60                               | \$16,401  | \$16.56                               | \$17,412     | \$0.04              | 0.2%                  | \$15.17                               | \$14,985  | \$13.95                               | \$14,662     | \$1.22              | 8.8%                  |
| <b>Total Rev.</b>                  |                 |                                       | \$32,802  |                                       | \$34,824     |                     |                       | \$29,970                              |           | \$29,323                              |              |                     |                       |

## Revenue Analysis

|   | Water            | Sewer            |
|---|------------------|------------------|
| Revenue Through Fixed Fees (Water: rates, fire, hook-on, int. Sewer: rates, 50% septage, hook-on, int.) | \$158,721        | \$241,065        |
| Revenue Through Variable Fees (Water: rates, sale of water Sewer: rates, 50% septage)                   | \$190,813        | \$367,538        |
| <b>Total</b>  | <b>\$349,534</b> | <b>\$608,603</b> |
| Capital Budget  | \$193,866        | \$171,010        |
| Percent Fixed Fees above or below capital budget  | -18.13%          | 40.97%           |

## Sample Rate Changes

|                                    | FY20        |            | FY19        |            |
|------------------------------------|-------------|------------|-------------|------------|
|                                    | Water       | Sewer      | Water       | Sewer      |
| <b>Residential</b>                 |             |            |             |            |
| Metered                            | \$264.70    | \$463.67   | \$274.09    | \$436.98   |
| Fixed                              | \$113.44    | \$198.72   | \$141.20    | \$187.28   |
| Total                              | \$378.14    | \$662.39   | \$415.29    | \$624.25   |
| Total Combined                     | \$1,040.53  |            | \$1,039.54  |            |
| Total Combined Dollar Change       | \$0.98      |            |             |            |
| Total Combined Percentage Change   | 0.09%       |            |             |            |
| <b>Commercial &amp; Government</b> |             |            |             |            |
| Metered                            | \$868.53    | \$861.53   | \$712.56    | \$827.23   |
| Fixed                              | \$579.02    | \$574.35   | \$475.04    | \$551.49   |
| Total                              | \$1,447.55  | \$1,435.88 | \$1,187.59  | \$1,378.72 |
| Total Combined                     | \$2,883.43  |            | \$2,566.32  |            |
| Total Combined Dollar Change       | \$317.12    |            |             |            |
| Total Combined Percentage Change   | 12.36%      |            |             |            |
| <b>School</b>                      |             |            |             |            |
| Metered                            | \$5,466.93  | \$4,995.00 | \$5,803.97  | \$4,887.19 |
| Fixed                              | \$5,466.93  | \$4,995.00 | \$5,803.97  | \$4,887.19 |
| Total                              | \$10,933.86 | \$9,990.00 | \$11,607.94 | \$9,774.38 |
| Total Combined                     | \$20,923.86 |            | \$21,382.31 |            |
| Total Combined Dollar Change       | -\$458.46   |            |             |            |
| Total Combined Percentage Change   | -2.14%      |            |             |            |

**FINAL REAL FY19**  
 Richmond Water and Sewer Commission  
 Rate Structure and Estimated Budget Revenue  
**2018 approved June 4, 2018**  
 Billable by class

**FY2019 Final Rate**  
**Billed 4/1/18 - 3/31/19**

|        | % use in past 4 quarters |         | 98% future use adjustment |         | W     | WW        | TOTAL     |           |
|--------|--------------------------|---------|---------------------------|---------|-------|-----------|-----------|-----------|
|        | W                        | WW      | W                         | WW      |       |           |           |           |
| res    | 9,483,200                | 59.70%  | 9,407,700                 | 66.26%  | 17-18 | \$327,104 | \$583,270 | \$910,374 |
| G+C    | 5,328,700                | 33.55%  | 3,718,100                 | 26.19%  | 18-19 | \$345,137 | \$562,000 | \$907,137 |
| school | 1,072,600                | 6.75%   | 1,072,600                 | 7.55%   | \$ +  | \$18,033  | -\$21,270 | -\$3,237  |
| total  | 15,884,500               | 100.00% | 14,198,400                | 100.00% | % +   | 5.51%     | -3.65%    | -0.36%    |

|   | 100.00%  | Water                 |                                 | % of usage     | Wastewater                      |                   |
|---|--|-----------------------|---------------------------------|----------------|---------------------------------|-------------------|
|   | % of usage   | \$345,137 2019 budget |                                 | % of usage     | \$562,000 2019 budget           |                   |
| <b>Residential</b>  | actual water % minus 1.5% to offset school fire \$                             | <b>57.70%</b>         | <b>415</b> units                | <b>66.26%</b>  | <b>412</b> units                |                   |
| Base Rate account/year  |  | (FY18 56.77)          | <b>\$141.20</b>                 | (FY18 66.85)   | <b>\$187.28</b>                 |                   |
| Annual Fixed Revenue Generated                                      | app. 30% of class revenues   | \$172,347             | (FY18 \$139.92)                 | \$257,191      | (FY18 \$198.48)                 | \$77,157.33       |
| Total residential metered W/WW sold                                 | app. 70% of class revenues   | (FY18 166,671)        | <b>9,293,536</b> est. gallons   | (FY18 266,622) | <b>9,219,546</b> est. gallons   |                   |
| User rate per 1000 gallons  |  |                       | <b>\$12.24</b> (FY18 9,976,400) |                | <b>\$19.53</b> (FY18 9,782,164) |                   |
| Annual Res.usage revenue generated                                  |  | (FY18 \$11.03)        | \$113,749.03                    | (FY18 \$19.08) | \$180,033.78                    |                   |
|   |  |                       | -\$21.57 -\$8,952.98 -5%        |                | \$50.33 \$20,737.11 8.8%        | \$257,191.11      |
| <b>Commercial and Govt</b>  | actual water % minus 2.5% to offset school fire \$                             | <b>30.55%</b>         | <b>75</b> units                 | <b>26.19%</b>  | <b>73</b> units                 |                   |
| Base Rate account/year  |  | (FY18 32.38)          | <b>\$475.04</b>                 | (FY18 26.37)   | <b>\$551.49</b>                 |                   |
| Annual Fixed Revenue Generated                                      | app. 40% of class revenues   | \$89,069              | (FY18 \$469.81)                 | \$100,647      | (FY18 \$541.20)                 | \$40,258.71       |
| Total C.& G. metered W/WW sold                                      | app. 60% of class revenues   | (FY18 92,788)         | <b>5,222,126</b> est. gallons   | (FY18 104,182) | <b>3,643,738</b> est. gallons   |                   |
| User rate per 1000 gallons  |  |                       | <b>\$10.23</b> (FY18 6,004,852) |                | <b>\$16.57</b> (FY18 3,859,044) |                   |
| Annual C.& G. usage revenue generated                               |  | (FY18 \$9.27)         | \$53,441.67                     | (FY18 \$16.20) | \$60,388.06                     |                   |
|   |  |                       | \$139.27 \$10,445.45 13%        |                | -\$34.32 -\$2,505.24 -2.43%     | \$100,646.76      |
| <b>Schools</b>  | 5.85% actual plus 4% (app \$13k) added for fire protection \$ in lieu of taxes | <b>11.75%</b>         | <b>3</b> units                  | <b>7.55%</b>   | <b>3</b> units                  |                   |
| Base Rate account/year  | app. 50% of class revenues   | (FY18 10.85)          | <b>\$5,803.97</b>               | (FY18 6.78)    | <b>\$4,887.19</b>               |                   |
| Annual Fixed Revenue Generated                                      | app. 50% of class revenues   | \$34,824              | (FY18 \$5262.70)                | \$29,323       | (FY18 \$4510.13)                | \$14,661.56       |
| Total School metered W/WW sold                                      |  | (FY18 31,576)         | <b>1,051,148</b> est. gallons   | (FY18 27,061)  | <b>1,051,148</b> est. gallons   |                   |
| User rate per 1000 gallons  |  |                       | <b>\$16.56</b> (FY18 992,838)   |                | <b>\$13.95</b> (FY18 992,838)   |                   |
| Annual School usage revenue generated                               |  | (FY18 \$15.90)        | \$17,411.91                     | (FY18 \$13.63) | \$14,661.56                     |                   |
|   |  |                       | \$1,903.27 \$5,709.82 19.6%     |                | -\$2,961.62 -\$8,884.87 -23.3%  | \$29,323.13       |
| <b>Industry</b>   |  |                       |                                 |                | <b>1</b> unit                   |                   |
| Base Rate account/year  |  |                       |                                 |                | <b>\$235</b>                    |                   |
| Annual Fixed Revenue Generated                                      |  |                       |                                 |                | (FY18 \$225)                    | \$235.00          |
| Annual Industry usage revenue generated                             |  |                       |                                 |                | **separate bill estimate**      | <b>\$2,500.00</b> |
|   |  |                       |                                 |                |                                 | \$2,735.00        |
| <b>Allocated accounts</b>   |  |                       | <b>5</b> units                  |                | <b>4</b> units                  |                   |
| Base Rate account/year  |  |                       | <b>\$238</b>                    |                | <b>\$276</b>                    |                   |
| ***Fee based on 1/2 of C & G ***                                    | Annual Fixed Revenue Generated   | (FY18 \$210)          | \$1,190.00                      | (FY18 \$280)   | \$1,104.00                      |                   |
|   |  |                       | \$1,190.00                      |                | \$1,104.00                      |                   |
| Total Annual Revenue generated through User Rates:                  |  |                       | \$297,430.28                    |                | \$391,000.00                    |                   |
| Total gallons W/WW usage rate(s) are % of 4/1/15 - 3/31/16 actuals: |  |                       | <b>15,566,810</b> water         |                | <b>13,914,432</b> wastewater    |                   |
|   |  |                       | (FY18 16,974,090)               |                | (FY18 14,634,046)               |                   |
| <b>Sale of water</b>  |  |                       | <b>\$1,500</b>                  |                |                                 | na                |
| Note: FY18 water sales moderately higher than budgeted              |  |                       | (FY18 \$1500)                   |                |                                 | na                |
| Town Fire Protection/Tank Fee (5% water budget + % tank bond)       |  |                       | \$45,637                        |                |                                 | na                |
|   |  |                       | (FY18 \$32,796)                 |                |                                 |                   |
| <b>Septage Revenue (est)</b>  |  |                       | na                              |                |                                 | <b>\$170,000</b>  |
| Note: FY17 septage revenue somewhat lower than budgeted             |  |                       |                                 |                |                                 | (FY18 \$180,000)  |
| <b>est Creamery Revenue</b>   | have increased account totals above by 10 res units and 1 comm unit            |                       | <b>\$0</b>                      |                |                                 | <b>\$0</b>        |
| est. Gateway Revenue  |  |                       | \$0                             |                |                                 | \$0               |
| Hook-on fees  |  |                       | \$500                           |                |                                 | \$1,000           |
| Miscellaneous Fees  |  |                       | \$0                             |                |                                 | \$0               |
| Interest on investments   |  |                       | \$0                             |                |                                 | \$0               |
| Grand Total Revenues FY17   |  |                       | <b>\$345,067</b>                |                | <b>\$562,000</b>                |                   |

|                                     |            |                  |              |                  |  |                   |                  |
|-------------------------------------|------------|------------------|--------------|------------------|--|-------------------|------------------|
| Fixed costs generated Water         |            | W capital budget | \$205,869    | <b>\$158,965</b> |  |                   |                  |
|                                     | From rates |                  | -23%         | <b>\$111,638</b> |  | WW capital budget | \$162,712        |
| Fixed costs generated Wastewater    |            |                  |              |                  |  |                   | <b>\$219,417</b> |
|                                     | From rates |                  |              |                  |  | 35%               | <b>\$132,078</b> |
| Variable costs generated Water      |            |                  |              | <b>\$186,103</b> |  |                   |                  |
|                                     | From rates |                  |              | <b>\$184,603</b> |  |                   |                  |
| Variable costs generated Wastewater |            | 12.20%           |              |                  |  | -1.93%            | <b>\$342,583</b> |
|                                     | From rates | \$37,519         |              |                  |  | \$11,049          | <b>\$255,083</b> |
|                                     |            | (FY18 \$327,104) |              |                  |  | (FY18 \$583,270)  |                  |
|                                     |            | <b>\$345,137</b> | est. revenue | <b>\$345,067</b> |  | <b>\$562,000</b>  | est. revenue     |
|                                     |            | <b>-\$70</b>     |              |                  |  | <b>\$0</b>        |                  |
|                                     |            | -0.02%           |              |                  |  | 0.00%             |                  |

Notes:

Each class of user will pay close to the class % of total usage; calculated separately for W and WW

Class % use of W and WW is likely to change due to changes in usage and possible growth (Creamery, Gateway) and thus will be reviewed/revised annually

Forecast of future gallons is based on the gallons by class in the most recent complete year but is also influenced by other factors eg trends of usage or anticipated new users

Other principles include:

Fixed revenues approximately equal to capital expenses

Rate stability is generally desirable, thus:

Revenues somewhat lower than expected (eg in water sales and septage revenues) may reduce investments in reserve funds - rather than rate increases

Revenues somewhat higher than expected may be used to make capital purchases, pay down debt, or increase reserve funds - rather than rate decreases