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Department of Public Works  
BUREAU OF UTILITIES

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Stephen Gerwin, *Bureau Chief*

May 12, 2016

Maryland Department of the Environment  
Water Supply Program  
1800 Washington Boulevard  
Baltimore, MD 21230

Attn: Zohreh Isadi, Program Administrator

Re: Year 2015 Water Audit  
Howard County, Maryland

Dear Mr. Kasraei:

Attached please find the annual Howard County Water Audit, as required by MDE, for the year 2015. Included is the audit spreadsheet and the backup information requested.

Sincerely,

Jeffrey K. Welty, P.E.  
Deputy Chief

Enclosures

5/12/2016

HOWARD COUNTY, MARYLAND

TABLE 1  
WATER AUDIT WORKSHEET FOR TREATED WATER 2015  
UNITS IN MILLIONS OF GALLONS

PREPARED 5/12/2016

|                                                                                                    | JAN    | FEB    | MAR    | APR    | MAY    | JUNE   | JULY   | AUG    | SEP    | OCT    | NOV    | DEC    | TOTAL   |
|----------------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| <b>Water Delivered</b>                                                                             |        |        |        |        |        |        |        |        |        |        |        |        |         |
| 1. Total Water supplied to Distribution System                                                     | 658    | 653    | 689    | 614    | 710    | 693    | 717    | 778    | 698    | 667    | 614    | 624    | 8115    |
| 2. Adjustments to Water Delivery****                                                               | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0       |
| 3. Net Water Produced                                                                              | 658    | 653    | 689    | 614    | 710    | 693    | 717    | 778    | 698    | 667    | 614    | 624    | 8115    |
| <b>Water Used</b>                                                                                  |        |        |        |        |        |        |        |        |        |        |        |        |         |
| 4. Gallons of Metered Water Sold                                                                   |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Residential                                                                                        |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Commercial                                                                                         |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Industrial                                                                                         |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Institutional                                                                                      |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Other (Combined Meter Usage) <i>Note: County Financial system has unbalanced monthly billings.</i> | 582    | 525    | 593    | 593    | 625    | 616    | 660    | 677    | 644    | 641    | 583    | 585    | 7324    |
| 2. Adjustments to Water Delivery                                                                   |        |        |        |        |        |        |        |        |        |        |        |        | 0       |
| Total                                                                                              | 582    | 525    | 593    | 593    | 625    | 616    | 660    | 677    | 644    | 641    | 583    | 585    | 7324    |
| 5. Billed Unmetered Sales                                                                          | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00    |
| 6. Unbilled Authorized Consumption                                                                 |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Water Main Flushing                                                                                |        |        |        | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   |        |        | 3.50    |
| Sewer/Storm Drain Flushing                                                                         | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 6.00    |
| Parks/Playgrounds/Swimming Pools (Metered)                                                         |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Golf Courses (Metered)                                                                             |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Cemeteries (Metered)                                                                               |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Institutional                                                                                      |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Fire Hydrant Meter Rental Consumption*                                                             | 0.27   | 0.27   | 0.27   | 0.21   | 0.21   | 0.21   | 5.36   | 5.36   | 5.36   | 0.04   | 0.04   | 0.04   | 17.64   |
| Training /Fire Fighting                                                                            |        |        |        | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   |        |        | 3.50    |
| Construction Related (In-House/subdivision)                                                        | 0.10   | 0.10   | 0.10   | 0.30   | 0.50   | 0.70   | 0.75   | 0.75   | 0.75   | 0.50   | 0.10   | 0.10   | 4.75    |
| Water/Wastewater Pumping Stations (unmetered)                                                      | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 0.10   | 1.20    |
| Wastewater Plant (unmetered)                                                                       | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 12.00   |
| Total                                                                                              | 1.97   | 1.97   | 1.97   | 3.11   | 3.31   | 3.51   | 8.71   | 8.71   | 8.71   | 3.14   | 1.74   | 1.74   | 48.59   |
| Authorized Consumption Total                                                                       | 583.97 | 526.97 | 594.97 | 596.11 | 628.31 | 619.51 | 668.71 | 685.71 | 652.71 | 644.14 | 584.74 | 586.74 | 7372.59 |
| 7. Apparent Water Losses                                                                           |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Water Meter Malfunction**                                                                          | 5.82   | 5.25   | 5.93   | 5.93   | 6.25   | 6.16   | 6.60   | 6.77   | 6.44   | 6.41   | 5.83   | 5.85   | 73.24   |
| Theft ***                                                                                          | 0.58   | 0.53   | 0.59   | 0.59   | 0.63   | 0.62   | 0.66   | 0.68   | 0.64   | 0.64   | 0.58   | 0.59   | 7.32    |
| Other                                                                                              | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00    |
| Total                                                                                              | 6.40   | 5.78   | 6.52   | 6.52   | 6.88   | 6.78   | 7.26   | 7.45   | 7.08   | 7.05   | 6.41   | 6.44   | 80.56   |
| 8. Real Water Losses                                                                               |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Leaks                                                                                              | 33.82  | 60.13  | 43.75  | 5.68   | 37.41  | 33.36  | 20.52  | 42.42  | 19.10  | 7.90   | 11.42  | 15.41  | 330.93  |
| Storage Overflow                                                                                   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00   | 0.00    |
| Documented fire event                                                                              |        |        |        |        |        |        |        |        |        |        |        |        |         |
| Water Main Breaks                                                                                  | 25.00  | 25.00  | 25.00  | 8.00   | 6.00   | 6.00   | 6.00   | 6.00   | 8.00   | 25.00  | 25.00  | 25.00  | 190.00  |
| Total                                                                                              | 58.82  | 85.13  | 68.75  | 13.68  | 43.41  | 39.36  | 26.52  | 48.42  | 27.10  | 32.90  | 36.42  | 40.41  | 520.93  |
| 9. Net Lost or Unmeasured Water                                                                    | 74.04  | 126.03 | 94.03  | 17.89  | 81.69  | 73.49  | 48.29  | 92.29  | 45.29  | 22.86  | 29.26  | 37.26  | 742.42  |
| 10. Percentage of Lost or Unmeasured Water                                                         | 0.11   | 0.19   | 0.14   | 0.03   | 0.12   | 0.11   | 0.07   | 0.12   | 0.06   | 0.03   | 0.05   | 0.06   | 9.1%    |

\*\* Meter Underregistration @ 1.0%

\*\*\* Theft @ 0.1% billed usage

\* 80% FH Meter usage April-Sept.

| WATER PURCHASES - INTERVAL MGD'S |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
|----------------------------------|------|--------|------|-------|------|-------|------|----------|------|-------|--|------|------|-----------|
| FISCAL YEAR 2015                 |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
|                                  |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
|                                  |      | RT. 40 | NO.  | RT.40 | NO.  | RIVER | NO.  | ELKRIDGE | NO.  | BALT. |  | WSSC | NO.  | TOTAL     |
| MONTH                            | YEAR | WMM1   | DAYS | WMM2  | DAYS | ROAD  | DAYS |          | DAYS | CITY  |  |      | DAYS | BALT/WSSC |
| JULY                             | 2014 | 3.21   | 31   | 14.06 | 31   | 0.77  | 30   | 3.09     | 31   | 21.14 |  | 2.97 | 29   | 24.11     |
| AUG                              | 2014 | 3.09   | 33   | 14.21 | 33   | 1.14  | 33   | 2.35     | 33   | 20.78 |  | 2.90 | 34   | 23.68     |
| SEPT                             | 2014 | 2.99   | 29   | 14.17 | 29   | 1.11  | 30   | 1.91     | 30   | 20.18 |  | 2.90 | 28   | 23.08     |
| OCT                              | 2014 | 2.88   | 30   | 10.83 | 30   | 1.14  | 29   | 1.25     | 22   | 16.10 |  | 2.82 | 30   | 18.92     |
| NOV                              | 2014 | 2.97   | 31   | 14.03 | 31   | 1.12  | 31   | 0.00     | 38   | 18.12 |  | 2.69 | 31   | 20.81     |
| DEC                              | 2014 | 2.98   | 29   | 14.17 | 29   | 1.11  | 37   | 0.00     | 29   | 18.26 |  | 2.63 | 29   | 20.89     |
| JAN                              | 2015 | 3.04   | 34   | 14.47 | 34   | 1.11  | 27   | 0.00     | 34   | 18.62 |  | 2.62 | 31   | 21.24     |
| FEB                              | 2015 | 3.24   | 29   | 15.31 | 29   | 0.68  | 28   | 2.70     | 4    | 21.93 |  | 1.41 | 32   | 23.34     |
| MAR                              | 2015 | 2.89   | 28   | 13.75 | 28   | 1.27  | 30   | 0.93     | 29   | 18.84 |  | 3.39 | 28   | 22.23     |
| APR                              | 2015 | 2.75   | 31   | 13.03 | 31   | 1.10  | 32   | 1.22     | 31   | 18.11 |  | 2.35 | 31   | 20.46     |
| MAY                              | 2015 | 2.32   | 31   | 10.71 | 31   | 1.62  | 28   | 5.49     | 31   | 20.14 |  | 2.75 | 31   | 22.89     |
| JUNE                             | 2015 | 2.82   | 31   | 13.10 | 28   | 1.61  | 31   | 2.85     | 31   | 20.37 |  | 2.74 | 31   | 23.11     |
|                                  |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
|                                  |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
| WATER PURCHASES - CUMULATIVE MGD |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
| FISCAL YEAR 2015                 |      |        |      |       |      |       |      |          |      |       |  |      |      |           |
|                                  |      | RT.40  | NO.  | RT.40 | NO.  | RIVER | NO.  | ELKRIDGE | NO.  | BALT. |  | WSSC | NO.  | TOTAL     |
| MONTH                            | YEAR | WMM1   | DAYS | WMM2  | DAYS | ROAD  | DAYS |          | DAYS | CITY  |  |      | DAYS | BALT/WSSC |
| JULY                             | 2014 | 3.21   | 31   | 14.06 | 31   | 0.77  | 30   | 3.09     | 31   | 21.14 |  | 2.97 | 29   | 24.11     |
| AUG                              | 2014 | 3.15   | 64   | 14.14 | 64   | 0.96  | 63   | 2.71     | 64   | 20.96 |  | 2.93 | 63   | 23.89     |
| SEPT                             | 2014 | 3.10   | 93   | 14.15 | 93   | 1.01  | 93   | 2.45     | 94   | 20.71 |  | 2.92 | 91   | 23.63     |
| OCT                              | 2014 | 3.05   | 123  | 13.34 | 110  | 1.04  | 122  | 2.22     | 116  | 19.65 |  | 2.90 | 121  | 22.54     |
| NOV                              | 2014 | 3.03   | 154  | 13.52 | 140  | 1.06  | 153  | 1.68     | 154  | 19.28 |  | 2.85 | 152  | 22.13     |
| DEC                              | 2014 | 3.02   | 183  | 13.61 | 147  | 1.07  | 190  | 1.41     | 183  | 19.10 |  | 2.82 | 181  | 21.92     |
| JAN                              | 2015 | 3.02   | 217  | 13.72 | 158  | 1.07  | 217  | 1.19     | 217  | 19.01 |  | 2.79 | 212  | 21.80     |
| FEB                              | 2015 | 3.05   | 246  | 13.89 | 189  | 1.03  | 245  | 1.10     | 245  | 19.06 |  | 2.61 | 244  | 21.67     |
| MAR                              | 2015 | 3.03   | 274  | 13.87 | 218  | 1.05  | 275  | 1.08     | 274  | 19.04 |  | 2.69 | 272  | 21.73     |
| APR                              | 2015 | 3.01   | 305  | 13.80 | 252  | 1.06  | 307  | 1.09     | 305  | 18.96 |  | 2.65 | 303  | 21.61     |
| MAY                              | 2015 | 2.94   | 336  | 13.54 | 281  | 1.11  | 335  | 1.50     | 336  | 19.09 |  | 2.66 | 334  | 21.75     |
| JUNE                             | 2015 | 2.93   | 367  | 13.50 | 309  | 1.15  | 366  | 1.61     | 367  | 19.20 |  | 2.67 | 365  | 21.87     |

[illegible]

|                                     |
|-------------------------------------|
| WATER CONSUMPTION YEAR 2015 MG SOLD |
|-------------------------------------|

|                | 2014 |     |     | 2015             |                  |                  |                  |                  |                  |
|----------------|------|-----|-----|------------------|------------------|------------------|------------------|------------------|------------------|
|                | OCT  | NOV | DEC | JAN              | FEB              | MAR              | APR              | MAY              | JUNE             |
| Cycle 1        |      |     |     | 60,416           | 54,569           | 9,745<br>50,927  | 58,762           | 60,720           | 7,835<br>55,175  |
| Cycle 2        |      |     |     | 59,174           | 53,447           | 22,906<br>37,699 | 59,525           | 61,509           | 21,826<br>41,814 |
| Cycle 3        |      |     |     | 58,523           | 52,859           | 35,869<br>22,641 | 56,602           | 58,490           | 22,641<br>24,929 |
| Cycle 4        |      |     |     | 20,453<br>67,983 | 82,761           | 76,850<br>18,494 | 110,968          | 114,666          | 92,472<br>15,963 |
| Cycle 5        |      |     |     | 20,453<br>38,886 | 35,123           | 38,336           | 11,289<br>37,288 | 55,044           | 53,269           |
| Cycle 6        |      |     |     | 26,187<br>34,129 | 59,726           | 66,125           | 34,129<br>24,036 | 53,223           | 51,507           |
| Cycle 7        |      |     |     | 47,146<br>20,023 | 62,292           | 68,966           | 51,169<br>16,785 | 74,333           | 71,935           |
| Cycle 8        |      |     |     | 50,834<br>3,536  | 49,499           | 54,803           | 53,035           | 59,340           | 57,426           |
| Cycle 9        |      |     |     | 99,128           | 15,988<br>78,751 | 106,142          | 102,718          | 23,968<br>83,486 | 104,358          |
| Cycle 10       |      |     |     | 49,158           | 19,029<br>26,843 | 52,008           | 50,330           | 23,488<br>34,376 | 60,664           |
| Cycle 11       |      |     |     | 39,776           | 24,379<br>11,951 | 41,146           | 39,836           | 26,985<br>15,506 | 46,518           |
| Cycle 12       |      |     |     | 82,343           | 69,062<br>5,798  | 89,870           | 86,971           | 81,173<br>9,474  | 94,737           |
| TOTALS (UNITS) |      |     |     | 778,148          | 702,077          | 792,527          | 793,443          | 835,781          | 823,069          |
| TOTALS (MG)    |      |     |     | 582              | 525              | 593              | 593              | 625              | 616              |

|                | 2015    |         |         |         |         |         | 2016 |     |   |
|----------------|---------|---------|---------|---------|---------|---------|------|-----|---|
|                | JULY    | AUG     | SEPT    | OCT     | NOV     | DEC     | JAN  | FEB |   |
| Cycle 1        | 65,786  | 65,786  | 6,366   | 63,656  | 61,603  | 6,160   |      |     |   |
|                |         |         | 55,442  |         |         | 52,656  |      |     |   |
| Cycle 2        | 68,223  | 68,223  | 22,007  | 61,420  | 59,438  | 19,813  |      |     |   |
|                |         |         | 39,625  |         |         | 40,123  |      |     |   |
| Cycle 3        | 64,400  | 64,400  | 35,317  | 56,711  | 54,882  | 31,100  |      |     |   |
|                |         |         | 23,782  |         |         | 25,581  |      |     |   |
| Cycle 4        | 98,970  | 98,970  | 76,622  | 107,490 | 104,023 | 83,218  |      |     |   |
|                |         |         | 20,805  |         |         | 22,866  |      |     |   |
| Cycle 5        | 15,981  | 79,757  | 77,184  | 20,582  | 46,237  | 47,778  |      |     |   |
|                | 56,602  |         |         | 35,448  |         |         |      |     |   |
| Cycle 6        | 27,470  | 64,149  | 62,080  | 31,040  | 52,313  | 54,057  |      |     |   |
|                | 31,040  |         |         | 27,900  |         |         |      |     |   |
| Cycle 7        | 55,150  | 80,972  | 78,360  | 57,464  | 65,974  | 68,173  |      |     |   |
|                | 20,896  |         |         | 19,792  |         |         |      |     |   |
| Cycle 8        | 59,340  | 64,091  | 62,024  | 59,956  | 52,520  | 54,271  |      |     |   |
|                | 2,067   |         |         | 3,501   |         |         |      |     |   |
| Cycle 9        | 107,836 | 20,872  | 110,759 | 114,451 | 18,460  | 102,907 |      |     |   |
|                |         | 92,999  |         |         | 82,990  |         |      |     |   |
| Cycle 10       | 62,686  | 26,288  | 56,965  | 58,864  | 22,786  | 47,580  |      |     |   |
|                |         | 34,179  |         |         | 27,627  |         |      |     |   |
| Cycle 11       | 48,069  | 31,012  | 42,878  | 44,307  | 27,156  | 38,732  |      |     |   |
|                |         | 15,722  |         |         | 13,743  |         |      |     |   |
| Cycle 12       | 97,895  | 85,263  | 90,750  | 93,775  | 75,625  | 86,449  |      |     |   |
|                |         | 12,100  |         |         | 13,943  |         |      |     |   |
| TOTALS (UNITS) | 882,411 | 904,783 | 860,966 | 856,357 | 779,320 | 781,464 | 0    | 0   | 0 |
| TOTALS (MG)    | 660     | 677     | 644     | 641     | 583     | 585     | 0    | 0   | 0 |

Prepared 5/12/2016

**UNBILLED AUTHORIZED CONSUMPTION**

**CALENDAR YEAR 2015**

I. Watermain Flushing (Estimated)

- a) April through October (unmetered)\*
  - Average 1 days/week
  - 2 hours flushing per day
  - 1000 gpm ave flush rate
- b)  $1 \text{ days/week} \times 4 \text{ weeks/mo.} \times 2 \text{ hrs/day} \times 1000 \text{ gpm} \times 60 \text{ min/hr} = 0.5 \text{ MG/mo.}$
- c)  $7 \text{ mos/yr} \times 0.5 \text{ MG} = 3.5 \text{ MG/yr}$

2. Sewer Cleaning (Estimated)

- a) 12 mos. Yr.
- b) Average 25 miles / month
- c) Ave. 1600 gallons (1 tank) per every 1000 ft of sewer ( 2 cleanings per section)
- d)  $25 \text{ miles/mo.} \times 5280 \text{ ft/mile} \times 3600 \text{ gal/1000ft} = 475,200 \text{ gallons /mo.}$
- e) One jet truck assigned 100% to televised inspection group @ 25,000 gallons/mo (ave)
- f) Total Cleaning usage at  $475,200 + 25,000 = 500,200 \text{ gal/mo}$
- g) Total Annual =  $500,200 \times 12 = 6.0 \text{ MG/YR}$

3. Fire Hydrant Usage ( CY 15)

- a) Fire Hydrant Meters issued year round
- b) Usage Jan - Mar  $795,124 \text{ gallons/3} = 265,041/\text{mo}$
- c) Usage Apr - June  $619,344 \text{ gallons/3} = 206,448/\text{mo}$
- d) Usage July - Sept  $16,070,580 \text{ gallons/3} = 5,356,860 /\text{mo}$
- d) Usage Oct - Dec  $118,810 \text{ gallons/3} = 39,603/\text{mo}$

4. Little Patuxent Water Reclamation Plant (Unmetered, estimated)

- a) County Owned Wastewater Plant at approximately 22 MGD daily effluent
- b) Process Water for Control and chemicals @ 600,000 gal/mo.
- c) Washdown water for solids handling and maintenance, misc @ 400,000 gal/mo
- d) Total Usage 1.0 MG /mo

5. Water and Sewer Pump stations (unmetered, estimated)

- a) 13 Water and 26 sewer pumping stations
- b) ave approximately 100,00 gallons/mo ( combined), washdown and control
- c) Total Usage at 1.20 MG /YR

6. Fire fighting and training (Unmetered, estimated)

- a) 11 fire stations using public water
- b) Live training approximately 7 mos. /yr
- c)  $2.0 \text{ hrs/wk} \times 1000 \text{ gpm} \times 30 \text{ weeks/yr} \times 60 \text{ min/hr} = 3.5 \text{ MG / Yr}$

7. Unmetered Utility(subdivision and in-house) construction (estimated)

- a) 12 mos. /Yr
- c) Estimated usage at 5.0 MG/yr

**WATER AND SEWER BILLING STATISTICS**  
**FY 2014 AND FY 2015**

CONS \*\*  
IN UNITS

| <u>Main Portion</u> | <u>MONTH</u> | <u>FY2015</u> |
|---------------------|--------------|---------------|
|                     | July         |               |
| 5                   | 7/10/2014    | 158,633       |
| 6                   | 7/17/2014    | 183,196       |
| 7                   | 7/24/2014    | 220,183       |
| 8                   | 7/31/2014    | 173,344       |
|                     |              | <hr/>         |
|                     |              | 735,356       |
|                     | August       |               |
| 9                   | 8/7/2014     | 336,201       |
| 10                  | 8/14/2014    | 163,782       |
| 11                  | 8/21/2014    | 140,910       |
| 12                  | 8/28/2014    | 288,276       |
|                     |              | <hr/>         |
|                     |              | 929,169       |
|                     | September    |               |
| 1                   | 9/4/2014     | 190,490       |
| 2                   | 9/11/2014    | 195,476       |
| 3                   | 9/18/2014    | 190,020       |
| 4                   | 9/25/2014    | 362,945       |
|                     |              | <hr/>         |
|                     |              | 938,931       |

October

|   |            |         |
|---|------------|---------|
| 5 | 10/9/2014  | 171,277 |
| 6 | 10/16/2014 | 193,114 |
| 7 | 10/23/2014 | 216,658 |
| 8 | 10/30/2014 | 168,427 |
|   |            | <hr/>   |
|   |            | 749,476 |

#### November

|    |            |         |
|----|------------|---------|
| 9  | 11/6/2014  | 302,629 |
| 10 | 11/13/2014 | 186,071 |
| 11 | 11/20/2014 | 121,482 |
| 12 | 11/26/2014 | 259,416 |
|    |            | <hr/>   |
|    |            | 869,598 |

#### December

|   |            |         |
|---|------------|---------|
| 1 | 12/4/2014  | 190,705 |
| 2 | 12/11/2014 | 186,925 |
| 3 | 12/18/2014 | 165,074 |
|   |            | <hr/>   |
|   |            | 542,704 |

Method of distribution - Posting date = Reading date ( per Finance, with approx 90 day usage)

#### January

|     |           |         |
|-----|-----------|---------|
| 4&5 | 1/8/2015  | 465,312 |
| 6   | 1/15/2015 | 158,873 |
| 7   | 1/22/2015 | 195,015 |
| 8   | 1/29/2015 | 158,101 |
|     |           | <hr/>   |
|     |           | 511,989 |

8 days Jan  
15 days jan  
22 days jan  
29 days Jan

#### February

|    |           |         |
|----|-----------|---------|
| 9  | 2/5/2015  | 290,990 |
| 10 | 2/12/2015 | 144,305 |

31 days January, 5 days Feb  
31 days January, 12 days Feb

|    |           |               |
|----|-----------|---------------|
| 11 | 2/19/2015 | 116,763       |
| 12 | 2/26/2015 | 241,718       |
|    |           | <hr/> 793,776 |

31 days January, 19 days feb  
31 days Jan, 26 days feb

#### March

|   |           |               |
|---|-----------|---------------|
| 1 | 3/5/2015  | 177,350       |
| 2 | 3/12/2015 | 183,515       |
| 3 | 3/19/2015 | 171,795       |
| 4 | 3/26/2015 | 268,976       |
|   |           | <hr/> 801,636 |

31 days Jan, 28 days feb, 5 days Mar  
31 days Jan, 28 days feb, 12 days Mar  
31 days jan, 28 days feb 19 days Mar  
23 days Jan, 28 days Feb, 26 days Mar

#### April

|   |           |               |
|---|-----------|---------------|
| 5 | 4/9/2015  | 153,853       |
| 6 | 4/16/2015 | 194,110       |
| 7 | 4/23/2015 | 202,450       |
| 8 | 4/30/2015 | 160,872       |
|   |           | <hr/> 711,285 |

23 days Jan, 28 days feb, 31 days Mar, 9 days Apr  
16 days Jan, 28 days feb, 31 days Mar, 16 days apr  
9 days Jan, 28 days feb, 31 days Mar, 23 days apr  
2 days Jan, 28 days feb, 31 days mar, 30 days apr

#### May

|    |           |               |
|----|-----------|---------------|
| 9  | 5/7/2015  | 311,579       |
| 10 | 5/14/2015 | 152,669       |
| 11 | 5/21/2015 | 120,836       |
| 12 | 5/28/2015 | 263,812       |
|    |           | <hr/> 848,896 |

23 days feb, 31 days Mar, 30 days apr, 7 days may  
16 days feb, 31 days mar, 30 days apr, 14 days may  
9 days feb, 31 days mar, 30 days apr, 21 days may  
2 days feb, 31 days mar, 30 days apr, 28 days May

#### June

|   |           |         |
|---|-----------|---------|
| 1 | 6/4/2015  | 178,244 |
| 2 | 6/11/2015 | 180,559 |
| 3 | 6/18/2015 | 171,695 |
| 4 | 6/25/2015 | 336,599 |

19 days Mar, 30 days apr, 31 days may, 11 days june  
12 days mar, 30 days apr, 31 days may, 18 days june  
5 days mar, 30 days apr, 31 days may, 25 days june

867,097

Total

9,299,913

**WATER AND SEWER BILLING STATISTICS**  
**FY 2015 AND FY 2016**

CONS \*\*  
 IN UNITS

Main Portion

MONTH

FY2016

Method of distribution - Posting date = Reading date ( per  
 Finance, with approx 90 day usage)

July

|   |           |               |
|---|-----------|---------------|
| 5 | 7/9/2015  | 161,582       |
| 6 | 7/16/2015 | 178,566       |
| 7 | 7/23/2015 | 218,203       |
| 8 | 7/30/2015 | 174,193       |
|   |           | <hr/> 732,544 |

21 days apr,31 days may,30 days june, 9 days july  
 14 days apr,31 days may, 30 days june, 16 days july  
 7 days apr,31 days may, 30 days june, 23 days july  
 31 days may, 30 days june, 30 days july

August

|    |           |               |
|----|-----------|---------------|
| 9  | 8/6/2015  | 316,552       |
| 10 | 8/13/2015 | 184,015       |
| 11 | 8/20/2015 | 141,105       |
| 12 | 8/27/2015 | 287,368       |
|    |           | <hr/> 929,040 |

24 days may, 30 days june, 31 days july, 6 days august  
 17 days may, 30 days june, 31 days july, 13 days august  
 10 days may, 30 days june, 31 days july, 20 days august  
 3 days may, 30 days june, 31 days july, 27 days august

September

|   |           |               |
|---|-----------|---------------|
| 1 | 9/3/2015  | 193,114       |
| 2 | 9/10/2015 | 200,267       |
| 3 | 9/17/2015 | 189,049       |
| 4 | 9/24/2015 | 290,524       |
|   |           | <hr/> 872,954 |

26 days june, 31 days july, 31 days august, 3 days sept  
 19 days june, 31 days july, 31 days aug, 10 days sept  
 12 days june, 31 days july, 31 days august, 17 days sept  
 5 days june, 31 days july, 31 days august, 24 days sept

### October

|   |            |                |
|---|------------|----------------|
| 5 | 10/8/2015  | 234,125        |
| 6 | 10/15/2015 | 188,309        |
| 7 | 10/22/2015 | 237,692        |
| 8 | 10/29/2015 | 188,139        |
|   |            | <u>848,265</u> |

22 days july, 31 days august, 30 days sept, 8 days Oct  
 15 days july, 31 days aug, 30 days sept, 15 days oct  
 8 days july, 31 days aug, 30 days sept, 22 days oct  
 1 day july, 31 days aug, 30 days sept, 29 days oct

### November

|    |            |                |
|----|------------|----------------|
| 9  | 11/5/2015  | 335,970        |
| 10 | 11/12/2015 | 172,795        |
| 11 | 11/19/2015 | 130,062        |
| 12 | 11/25/2015 | 275,275        |
|    |            | <u>914,102</u> |

25 days aug, 30 days sept, 31 days oct, 5 days nov  
 18 days aug, 30 days sept, 31 days oct, 12 days nov  
 11 days aug, 30 days sept, 31 days oct, 19 days nov  
 4 days aug, 30 days sept, 31 days oct, 25 days nov

### December

|   |            |                |
|---|------------|----------------|
| 1 | 12/3/2015  | 186,861        |
| 2 | 12/10/2015 | 180,296        |
| 3 | 12/17/2015 | 166,477        |
| 4 | 12/24/2015 | 315,536        |
|   |            | <u>849,170</u> |

27 days sept, 31 days oct, 30 days nov, 3 days dec  
 20 days sept, 31 days oct, 30 days nov, 10 days dec  
 13 days sept, 31 days oct, 30 days nov, 17 days dec  
 6 days sept, 31 days Oct, 30 days Nov, 24 days Dec

### Jan-16

|   |           |                |
|---|-----------|----------------|
| 5 | 1/7/2016  | 140,253        |
| 6 | 1/14/2016 | 158,682        |
| 7 | 1/21/2016 | 200,121        |
| 8 | 1/28/2016 | 159,311        |
|   |           | <u>658,367</u> |

23 days oct, 30 days nov, 31 days Dec  
 16 days oct, 30 days nov, 31 days dec  
 9 days oct, 30 days nov, 31 days dec  
 2 days oct, 30 days nov, 31 days Dec

### February

|    |           |         |                          |
|----|-----------|---------|--------------------------|
| 9  | 2/4/2016  | 302,083 | 25 days Nov, 31 days Dec |
| 10 | 2/11/2016 | 139,670 | 18 days Nov, 31 days Dec |
| 11 | 2/18/2016 | 113,696 | 11 days nov, 31 days dec |
| 12 | 2/25/2016 | 253,770 | 5 days nov, 31 days dec  |

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809,219

#### March

|   |           |         |             |
|---|-----------|---------|-------------|
| 1 | 3/3/2016  | 171,133 | 28 days dec |
| 2 | 3/10/2016 | 173,866 | 21 days dec |
| 3 | 3/17/2016 | 166,277 | 14 days dec |
| 4 | 3/24/2016 | 297,263 | 7 days dec  |

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808,539

#### April

|   |           |         |
|---|-----------|---------|
| 5 | 4/7/2016  | 142,205 |
| 6 | 4/14/2016 | 159,626 |
| 7 | 4/21/2016 | 201,504 |
| 8 | 4/28/2016 | 159,341 |

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662,676

#### May

|    |           |           |
|----|-----------|-----------|
| 9  | 5/5/2016  | 326,830   |
| 10 | 5/12/2016 | 142,121   |
|    |           | 1,131,627 |

#### June

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Total 7,434,836