

# WATER & SEWER RATE TASK FORCE

Second Public  
Hearing

March 5, 2013

## Water and Sewer Rate Task Force Purpose:

**TO EXAMINE THE  
EXISTING RATES AND  
RATE STRUCTURE  
TO PREPARE A  
RECOMMENDATION TO  
COUNCIL ON A RATE AND  
RATE STRUCTURE FOR  
2013.**



# The Assignment

- Established by Resolution 12-027(A), Tasked with reviewing the existing rates and rate structure
  - Provide proposed rates for 2013
  - Provide written report to City Council no later than June 25, 2013



# How Did the Task Force Prepare

- ❖ Reviewed a variety of data
  - ❖ The last rate study - 1997
  - ❖ Reviewed the Current Rate Structure as Established by Resolution 11-094(S)
  - ❖ Compared Rate Structures from Other Cities
- ❖ Determined what knowledge was required in order to make an informed recommendation
  - ❖ Consulted Manuals, Documents and information supplied by Staff
- ❖ Considered previous changes and determine the reasons supporting those changes



# Why is our system so expensive

- The number one question on everyone's mind
  - Contributing factors :
    - Regulatory Compliance & Staffing
    - Expenses besides usage
    - Lack of System Density
    - Unconnected properties
    - Cost of treating water and waste
    - Flushing water
    - Water lost on docks
    - Seasonal users
    - Fire Hydrants



# Rates Comparison



# Considered Rate Design Options

| OBJECTIVES            | INCREASING RATE MODEL | UNIFORM RATE MODEL | SEASONAL RATE MODEL | FLAT RATE MODEL |
|-----------------------|-----------------------|--------------------|---------------------|-----------------|
| FAIRNESS              | High                  | Low                | High                | Low             |
| CONSERVATION          | High                  | Low                | High                | Low             |
| EQUITY                | High                  | Low                | High                | Low             |
| COST OF SERVICE BASED | High                  | High               | High                | Low             |
| UNDERSTANDABLE        | High                  | High               | High                | High            |
| FEASIBLE              | High                  | High               | High                | Low             |
| DEFENDABLE            | High                  | High               | Low                 | Low             |
| REVENUE STABILITY     | Low                   | High               | Low                 | High            |
| COST RECOVERY         | High                  | High               | High                | High            |
| LEGAL                 | High                  | High               | High                | Low             |



City of Homer Water and Sewer Rate Study Draft Rate Model  
Version 1 Equal Commodity Charge plus Small Service Fee

Assumptions:

|    |                              |             |
|----|------------------------------|-------------|
| 1  | Hydrant Rents =              |             |
| 2  | Commodity Reduction due to   |             |
| 3  | Historic Metered Sales       | 136,000,000 |
| 4  | Adjusted Sales Projection    |             |
| 5  | Total Revenue Requirements   | 1,624,471   |
| 6  | Total Revenue Requirements   | 1,473,602   |
| 7  | Total Services (meters) =    | 1,500       |
| 8  | Total Customers (billings) = |             |
| 9  | Total Revenue Requirements   | 324,000     |
| 10 | Spit Differential =          |             |
| 11 | Sprinkler Differential =     |             |
| 12 | Commercial Differential =    |             |
|    | Monthly Demand Fee =         |             |

Sloan = Line 5/Line 3 = Commodity Rate (\$/gal)

Sloan = Line 8/Line 6/12 = Monthly Service Fee

Sloan= Line 6/Line 3

| All Customers | Water Rate | Service Fee | Sewer Rate |
|---------------|------------|-------------|------------|
|               | 0.01194    | 18          | 0.0108     |



## Equal Commodity Charge Low Service Fee

| Total Water and Sewer | Monthly Bill |
|-----------------------|--------------|
| 1 to 150              | 25.36        |
| 151 to 300            | 41.53        |
| 301 to 450            | 55.27        |
| 451 to 600            | 66.45        |
| 601 to 750            | 77.07        |
| 751 to 900            | 89.37        |
| 901 to 1050           | 102.49       |
| 1051 to 1200          | 123.40       |
| 1201 to 1350          | 169.46       |
| Top 10%               | 985.46       |

### Points in Favor:

- A) Simple
- B) Removes multi-tenant charges
- C) Encourages conservation

### Points Against:

- Case 1 No Hydrant Rents
- Case 2 Reduced Sales through conservation
- Case 3 Cost-causers subsidized by others (Spit water)
- Case 4 Cost-causers subsidized by others (Sprinkler water)
- Case 5 Cost-causers subsidized by others (Spit sewer)
- Case 6 Cost-causers subsidized by others (Heavy Commercial sewer)



City of Homer Water and Sewer Rate Study Draft Rate Model  
 Version 1.1 Case 1 using Equal Commodity Rate Approach  
 with Hydrant Rents Paid by General Fund)

Assumptions:

|    |                                |             |
|----|--------------------------------|-------------|
| 1  | Hydrant Rents =                | 178,647     |
|    | Commodity Reduction due to     |             |
| 2  | Conservation =                 |             |
|    | Historic Metered Sales         |             |
| 3  | Projection (gallons) =         | 136,000,000 |
|    | Adjusted Sales Projection      |             |
| 4  | (gallons) =                    |             |
|    | Total Revenue Requirements for |             |
| 5  | Commodity =                    | 1,445,824   |
|    | Total Revenue Requirements for |             |
| 6  | Disposal =                     | 1,473,602   |
| 7  | Total Services (meters) =      | 1,500       |
| 8  | Total Customers (billings) =   |             |
|    | Total Revenue Requirements for |             |
| 9  | Service =                      | 324,000     |
| 10 | Spit Differential =            |             |
| 11 | Sprinkler Differential =       |             |
| 12 | Commercial Differential =      |             |
|    | Monthly Demand Fee =           |             |

Sloan = Line 5/Line 3 = Commodity Rate (\$/gal)

Sloan = Line 8/Line 6/12 = Monthly Service Fee

Sloan= Line 6/Line 3

| All Customers | Water Rate | Service Fee | Sewer Rate |
|---------------|------------|-------------|------------|
|               | 0.01063    | 18          | 0.0108     |



## Equal Commodity Charge, Low Service Fee, Hydrant Rents Covered by General Fund

| Total Water and<br>Sewer | Monthly Bill |
|--------------------------|--------------|
| 1 to 150                 | 24.93        |
| 151 to 300               | 40.17        |
| 301 to 450               | 53.12        |
| 451 to 600               | 63.66        |
| 601 to 750               | 73.66        |
| 751 to 900               | 85.25        |
| 901 to 1050              | 97.62        |
| 1051 to 1200             | 117.32       |
| 1201 to 1350             | 160.73       |
| Top 10%                  | 929.68       |

### Points in Favor:

- A) Simple
- B) Removes multi-tenant charges
- C) Encourages conservation

### Points Against:

- Case 2 Reduced Sales through conservation
- Case 3 Cost-causers subsidized by others (Spit water)
- Case 4 Cost-causers subsidized by others (Sprinkler water)
- Case 5 Cost-causers subsidized by others (Spit sewer)
- Case 6 Cost-causers subsidized by others (Heavy Commercial sewer)



City of Homer Water and Sewer Rate Study Draft Model  
 Version 1.1 (Case 1 using Equal Commodity Rate with Hydrant Rents  
 Paid by the General Fund, Conservation Adjustment

Assumptions:

|    |   |             |
|----|---|-------------|
| 1  | Hydrant Rents =                               | 178,647     |
| 2  | Commodity Reduction due to Conservation =     | 13%         |
| 3  | Historic Metered Sales Projection (gallons) = | 136,000,000 |
| 4  | Adjusted Sales Projection (gallons) =         |             |
| 5  | Total Revenue Requirements for Commodity =    | 1,633,781   |
| 6  | Total Revenue Requirements for Disposal =     | 1,665,170   |
| 7  | Total Services (meters) =                     | 1,500       |
| 8  | Total Customers (billings) =                  |             |
| 9  | Total Revenue Requirements for Service =      | 324,000     |
| 10 | Spit Differential =                           | 24,480      |
| 11 | Sprinkler Differential =                      |             |
| 12 | Commercial Differential =                     |             |
| 13 | Monthly Demand Fee =                          |             |

Sloan = Line 5/Line 3 = Commodity Rate (\$/gal)

Sloan = Line 8/Line 6/12 = Monthly Service Fee

Sloan = Line 6/Line 3

| All Customers | Water Rate | Service Fee | Sewer Rate |
|---------------|------------|-------------|------------|
|               | 0.01201    | 18          | 0.0122     |

|                             |           |
|-----------------------------|-----------|
| <b>Water</b> Total Revenue: |           |
| Commodity                   | 1,633,781 |
| Service                     | 324,000   |
| Total:                      | 1,957,781 |



## Equal Rate Low Service Fee Conservation Consideration

| Total Water and Sewer | Monthly Bill |
|-----------------------|--------------|
| 1 to 150              | 25.84        |
| 151 to 300            | 43.06        |
| 301 to 450            | 57.68        |
| 451 to 600            | 69.59        |
| 601 to 750            | 80.90        |
| 751 to 900            | 84.12        |
| 901 to 1050           | 96.27        |
| 1051 to 1200          | 115.65       |
| 1201 to 1350          | 158.32       |
| Top 10%               | 914.27       |

Points in  
Favor:

- A) Simple
  - Removes multi-tenant
- B) charges
- C) Encourages conservation

Points  
Against:

Cost-causers subsidized by others  
Case 3 (Spit water)

Cost-causers subsidized by others  
Case 4 (Sprinkler water)

Cost-causers subsidized by others  
Case 5 (Spit sewer)

Cost-causers subsidized by others (Heavy  
Case 6 Commercial sewer)



## Flat Rate Model

City of Homer Water and Sewer Rate Study Draft Rate Model  
Version 1.1 (Case 1 using Equal Commodity Rate with Hydrant Rents  
Paid by General Fund)

Assumptions:

|   |           |
|---|-----------|
| 1 Hydrant Rents =                               | 178,647   |
| 2 Commodity Reduction due to Conservation =     |           |
| 3 Historic Metered Sales Projection (gallons) = |           |
| 4 Adjusted Sales Projection (gallons) =         |           |
| 5 Total Revenue Requirements for Commodity =    | 1,607,824 |
| 6 Total Revenue Requirements for Disposal =     | 1,635,602 |
| 7 Total Services (meters) =                     | 1,500     |
| 8 Total Customers (billings) =                  |           |
| 9 Total Revenue Requirements for Service =      |           |
| 10 Spit Differential =                          |           |
| 11 Sprinkler Differential =                     |           |
| 12 Commercial Differential =                    |           |
| 13 Monthly Demand Fee =                         |           |

Flat Rate = (Sum Line 5 + Line 6)/Line 7/12 months

All Customers      One Bill for Water and Sewer  
180.19





## Flat Rate Model

### Points in Favor:

A) Simple

### Points Against:

Cost-causers subsidized by others

Discourages conservation

Multi-fold increase to residential users



# Proposed Water Rates



# Commodity Rate Model Water Rates

| City of Homer Water and Sewer Rate Study Draft Rate Model    |   |             |                     |
|--|---|-------------|---------------------|
| Version 1 - Working Feb - FIRST FINAL for 2nd Public Hearing |   |             |                     |
| Updated February 5, 2012 by Task Force                       |   |             |                     |
| Water Rates  |   |             |                     |
| Revenue Assumptions (dollars):                               |   |             | Source:             |
| 1  | Total Water Revenue Requirements (2014)=        | 1,890,265   | Annual Budget       |
| 2  | Deduct Portion Collected through Service Fee=   | 310,077     | Annual Budget       |
| 2  | Hydrant Rents (10% of E6) =                     | 189,027     | Annual Budget       |
| 4  | Sprinkler Differential (20 buildings - \$5/mo)= | 1,200       | Building Customer   |
| 6  | Surplus Water Sales (Bulk) surcharge only =     | 92,290      | Bulk Sales          |
| 8  | Adjusted Revenue Requirements =                 | 1,297,672   | Calculated          |
| 9  | Usage Assumptions (gallons):                    |             |                     |
| 10   | Metered Sales Projection (gallons) =            | 125,000,000 | Prior Year          |
| **11   | 6.5% Commodity Reduction due to Conservation =  | 8,125,000   | Number to be tested |
| 12   | Adjusted Sales Projection (gallons) =           | 116,875,000 | Calculated          |
|  | <b>Informational:</b>                           |             |                     |
| 13   | Spit Water Sales =                              | 17,921,000  | Prior Year          |
| 14   | Surplus (Bulk) Water Sales =                    | 23,072,500  | Prior Year          |
| 15   | Number of Meters =                              | 1,472       | Prior Year          |
| 16   | City Hall Finance Department O/H=               | 775,192     | Annual Budget       |
| 17   | Public Facilities Water Usage (value)=          | 134,904     | Annual Budget       |
|  | All Customers                                   | Water Rate  | Metered Service Fee |
|  |   | 0.0111      | 17.55               |
|  | Bulk Water =                                    | .015/gallon |                     |
|  |   |             | Rounded up to \$18  |
|  | ** Changes to Rates following Public Hearing    |             |                     |





# Proposed Sewer Rates

# Commodity Rate Model Sewer Rates

| City of Homer Water and Sewer Rate Study Draft Rate Model |  |                              |                                  |
|---|--|------------------------------|----------------------------------|
| Updated February 5, 2013 by Task Force                    |  |                              |                                  |
| Sewer Rates   |  | Version 12 - Working Febuary | FIRST FINAL - Second Public Hear |
|   | Revenue Assumptions (dollars):                     |                              | Source:                          |
| 1   | 2014 Total Revenue Requirement=                    | 1,680,279                    | Annual Budget                    |
| **2   | Sewer Differential (.86*84% of Lift Stations) =    | 156,447                      | All Lift Station Users           |
| **3   | High BOD Generator Sewage Differential (\$10/mo) = | 5,760                        | New Fee                          |
| 4   | Customer Fee from KC/Tennants (\$5/mo) =           | 53,160                       | Reduced Fee                      |
| 7   | Kachemak City Fees (less pumping) =                | 81,270                       | Prior Year                       |
| 8   | Dumping Station Fees                               | 10,500                       | Prior Year                       |
| 9   | Summer Metered Gallons (Septic Reduction) =        | (400.00)                     | From Accounting                  |
| 10  | Adjusted Revenue Requirements=                     | 1,373,542                    |                                  |
|   | Usage Assumptions (gallons):                       |                              |                                  |
| 11  | Discharge Sales Projection (gross metered) =       | 125,000,000                  | Water Sales                      |
| **12  | 6.5% Commodity Reduction due to Conservation =     | (8,125,000)                  |                                  |
| 13  | Metered Spit w/o entering Treatment Line=          | (9,150,000)                  |                                  |
| 14  | Adjusted Discharge Sales Projection =              | 107,725,000                  |                                  |
|   | Informational:                                     |                              |                                  |
| 15  | Spit Sewer Discharge (gallons)=                    | 7,225,000                    | Prior Year                       |
| 16  | Lift Station Costs=                                | 181,915                      | Annual Budget                    |
| 17  | Single Connection Multi-Tenant Units=              | 886                          | Prior Year                       |
| 18  | Public Facilities Contribution =                   | 46,918                       | Annual Budget                    |
| **19  | High BOD Generator Sewage (gallons) =              | 48                           | From Page 2                      |
| 20  | Dumping Station Fees =                             | 10,500                       | Annual Budget                    |





## WHAT DO THESE NEW RATES MEAN TO ME?

Example # 1 The vast majority of customers will fall under this rate.

The first line on your bill is the Customer Service Charge for Water:

It is a flat fee for both water and sewer \$ 18.00

The second line on your bill is for water per 100 gallons

Multiply your consumption by 1.19

Example:  $35 \times 1.19 = \$ 41.65$

The third line on your bill is the Customer Service Charge for Sewer

There is just one service fee \$ -

The fourth line on your bill is the septage per 100 gallons

Multiply your consumption by 1.5

Example:  $35 \times 1.50 = \$ 52.50$

Total for this example using 3500 gallons: \$112.15

So for *most* customers you simply multiply your metered water

by \$2.69

and add the \$18 service fee

Example:  $35 \times 2.69 = \$ 94.15$  then add 18.00 = \$ 112.15

Multiply that number by 7.5% for the tax  $\$112.15 \times 0.075 = \$ 8.41$

Add them together = \$ 120.56

## HOW MANY GALLONS DO YOU USE EACH MONTH?

For *most* residential and commercial users:

If you have multiple units:\*\*

| Gallons Used: | Your Total Bill:* | Your Total Bill:* |        |        |        |        |
|---------------|-------------------|-------------------|--------|--------|--------|--------|
|               |                   | 2 unit            | 3 unit | 4 unit | 6 unit | 8 unit |
| 1000          | 48.27             | 53.64             | 59.02  | 69.77  | 80.52  | 91.27  |
| 2000          | 77.19             | 82.56             | 87.94  | 98.69  | 109.44 | 120.19 |
| 3000          | 106.10            | 111.48            | 116.85 | 127.60 | 138.35 | 149.10 |
| 4000          | 135.02            | 140.40            | 145.77 | 156.52 | 167.27 | 178.02 |
| 5000          | 163.94            | 169.31            | 174.69 | 185.44 | 196.19 | 206.94 |
| 6000          | 192.86            | 198.23            | 203.61 | 214.36 | 225.11 | 235.86 |
| 7000          | 221.77            | 227.15            | 232.52 | 243.27 | 254.02 | 264.77 |
| 8000          | 250.69            | 256.07            | 261.44 | 272.19 | 282.94 | 293.69 |
| 10000         | 308.53            | 313.90            | 319.28 | 330.03 | 340.78 | 351.53 |
| 12000         | 366.36            | 371.74            | 377.11 | 387.86 | 398.61 | 409.36 |
| 15000         | 453.11            | 458.49            | 463.86 | 474.61 | 485.36 | 496.11 |
| 20000         | 597.70            | 603.08            | 608.45 | 619.20 | 629.95 | 640.70 |
| 30000         | 886.88            | 892.25            | 897.63 | 908.38 | 919.13 | 929.88 |
| 40000         | 1176.05           |                   |        |        |        |        |
| 60000         | 1754.40           |                   |        |        |        |        |
| 100000        | 2911.10           |                   |        |        |        |        |

\* City sales tax included

\*\* Applies to both residential and commercial

# Reference Resources

- Rate Setting for Small Water Systems, Texas Cooperative Extension Service, Texas A & M University System
- Excerpt from Basic Guide to Water Rates, [www.lwua.gov.ph/water\\_rates\\_08/rates\\_two.html](http://www.lwua.gov.ph/water_rates_08/rates_two.html)
- Chart Table 2-1 Annual Funds Required
- Anchorage Water & Sewer Rates 2012 [www.awwu.biz/website/Customer\\_Service/water\\_tariff13-2.htm](http://www.awwu.biz/website/Customer_Service/water_tariff13-2.htm)
- Intergovernmental Agreement for Kachemak /Homer Wastewater System Between Kachemak City and City of Homer , dated August 10, 1988
- KPMG Peat Marwick, Water and Wastewater Utilities Rate Study, February 11, 1991
- Montgomery Watson, Utility Rate Study, August 11, 1997
- City of Homer 2000 Rate Model Matrix – Water & Sewer
- 2008 Rates Analysis Water & Sewer Enterprise Fund

# Reference Resources

- City of Kenai Water & Sewer Rate Study  
Prepared by Kurt Playstead, CH2M HILL,  
February 7, 2011
- M54: Developing Rates for Small Systems,  
American Water Works Association, Copyright  
2004
- City of Soldotna Water & Sewer Rate Study  
Prepared by HDR  
Engineering Completed in Late 2011/Early 2012

# Reference Resources

- Resolution 12-027(A), Establishing a Water & Sewer Rate Task Force
- Resolution 11-094(S), Maintaining the City of Homer Fee Schedule at the Current Rates and Amending Customer Classifications in the Water & Sewer Rate Schedules
- Ordinance 11-43, Amending HCC 14.08.037, Water Meters Regarding Number of Meters Per Lot
- Resolution 11-062(A) Maintaining the City of Homer Fee Schedule Under Water and Sewer Fees.

# Reference Resources

- Resolution 04-94(S)(A), Amending Homer Fee Schedule Regarding Water Rates
- Resolution 04-95, Amending Homer Fee Schedule Regarding Sewer Rates
- Excerpt from City Council Minutes regarding Resolution 04-94(S) & Resolution 04-95
- Resolution 05-121(A), Amending the City of Homer Fee Schedule Regarding Water Rates
- Resolution 05-122, Amending the City of Homer Fee Schedule Regarding Sewer Rates

# Reference Resources

## Information Provided by Finance Department

- City of Homer Year End 2011 Utility Special Revenue Fund
- 2011 Balance Sheet
- Classifications & Average Monthly Usage for 2011
- Actual Random Sample Invoices depicting various gallonage used for comparison
- Depreciation Reserves Requirements
- 2012 Operating Budget Water & Sewer
- Staff time to produce Invoice
- How Budget Numbers are calculated
- Year to Date figures Water & Sewer June 2012
- Year to Date figures Water & Sewer August 2012
- City of Homer 2012 Operating Budget
  - Fund 200 – Water & Sewer Special Revenue Fund
  - Fund 400 - Water Fund Administration
  - Fund 400 Water & Fund 500 Sewer Fund Revenues

# Reference Resources

Provided by the Finance Department  
continued-

- Fund 200 – 401 Water Treatment Plant
  - 402 Water Treatment Plant Testing
  - 403 water Pump Stations
  - 404 Water Distribution Systems
  - 405 Water Reservoir
  - 406 Water Meters
  - 407 Water Hydrants

# Reference Resources

## Information Provided by Public Works

- How Fire Protection Affects the Water System – Public Works
- Spit Water Overhead & Maintenance Costs
- Flushing Fire Hydrants & Water Mains
- 2011 Average Water Usage By Classification
- Water Treatment Plant Flows in Millions of Gallons
- Maps Indicating Lift Station Locations and Areas Served
- Number of Gallons of Water delivered to the spit Annually
- Approximate Amounts returned to Water Treatment Plant
- Meter Sizes & Number of Each Size
- Gallonage in the Harbor



# Your Turn! We Want to Hear From You

- What are your thoughts?
  - Is it fair?
  - Is it reasonable?
  - What would you change?