



# **City of Grand Island**

**Tuesday, March 06, 2012**

**Study Session**

## **Item C3**

**Presentation on Uranium Removal Project Cost/Revenue Analysis**

**Staff Contact: Tim Luchsinger**

# **Council Agenda Memo**

**From:** Timothy Luchsinger, Utilities Director

**Meeting:** March 6, 2012

**Subject:** Uranium Removal Project Cost/Revenue Analysis

**Item #'s:** 3

**Presenter(s):** Tim Luchsinger, Utilities Director

## **Background**

The City's municipal water system is supplied primarily from its Platte River Well Field. This well field is comprised of 21 wells and a pumping station. Testing for State regulatory requirements indicated composite uranium levels to be approaching the Maximum Containment Level (MCL) established by the EPA. Uranium is not an acute concern but rather is a chronic concern over a lifetime of exposure, and sampling and testing of the Grand Island water system thus far show full compliance with the EPA regulation. Testing of individual wells for uranium has indicated most wells exceed this MCL. To allow use of these wells during high water system demand periods, additional piping was installed in the past year for blending with lower uranium concentration wells. Recent testing of uranium concentrations in the wells indicated a trend towards increasing levels, reducing the effectiveness of well blending to reduce overall levels, therefore, based on Department recommendations, the Utilities Department was authorized by Council on February 22, 2011, to proceed with the procurement and installation of the large-scale pilot uranium removal system. Based on the multiple phase structure of the uranium engineering services RFP, HDR, the City's consultant on this project, was requested to provide a proposal for preparing specifications to issue for bids for an adsorptive media pilot plant. On June 28, 2011, Council awarded the contract for the Uranium Removal System – Equipment Procurement to Water Remediation Technology.

On August 23, 2011, Council approved the proposal of HDR Engineering, Inc., of Lincoln, Nebraska, for Uranium Removal Water Plant – Task Order No. 2. This task order authorized the detailed engineering services which included preparation of specifications for bidding of a new building and foundations, underground piping, well modifications, and installation of the uranium removal equipment. As part of these engineering services, HDR developed the specifications for the pump modifications of well field wells and installation of the uranium removal system equipment. Contracts have been awarded for the construction of the uranium removal equipment building and for the installation of the equipment. The system is planned to be operational in May of

this year. Methods to fund the capital cost and annual operating costs are now required to be finalized to support completion of the uranium removal system project.

### **Discussion**

Possible funding methods for the capital cost and annual operating costs have been previously discussed with Council. Now that the project is approaching completion and costs are becoming more defined, proposed funding options will be presented at this Study Session to allow staff to prepare an ordinance for revising the Water Rate Schedule and its consideration by Council at a future meeting.

### **Conclusion**

This item is presented to the City Council in a Study Session to allow for any questions to be answered and to create a greater understanding of the issue at hand.

It is the intent of City Administration to bring this issue to a future council meeting for the revision of the Water Rate Schedule.

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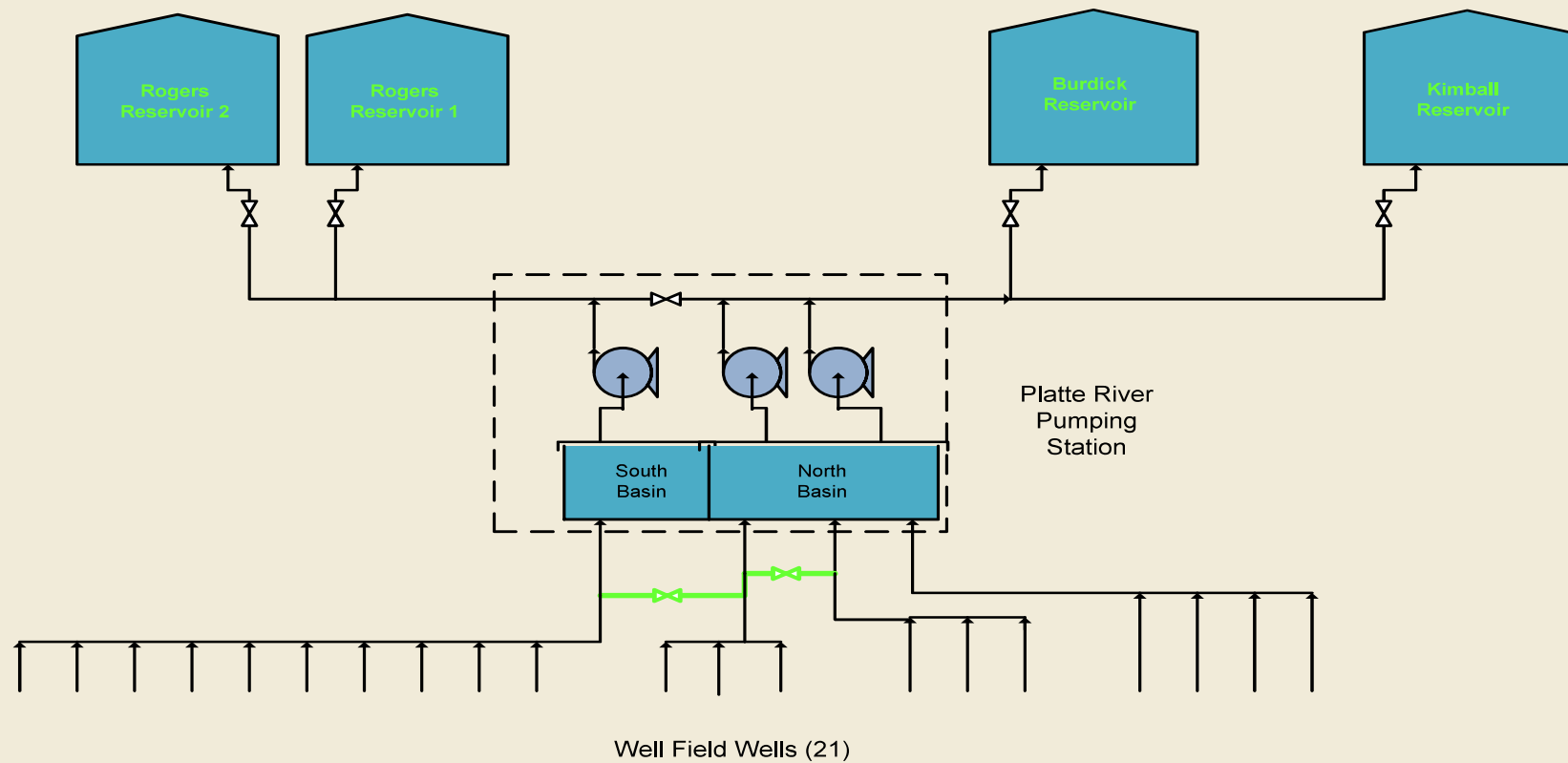
# **Uranium Removal Project Cost / Revenue Analysis**

Council Study Session  
March 6, 2012

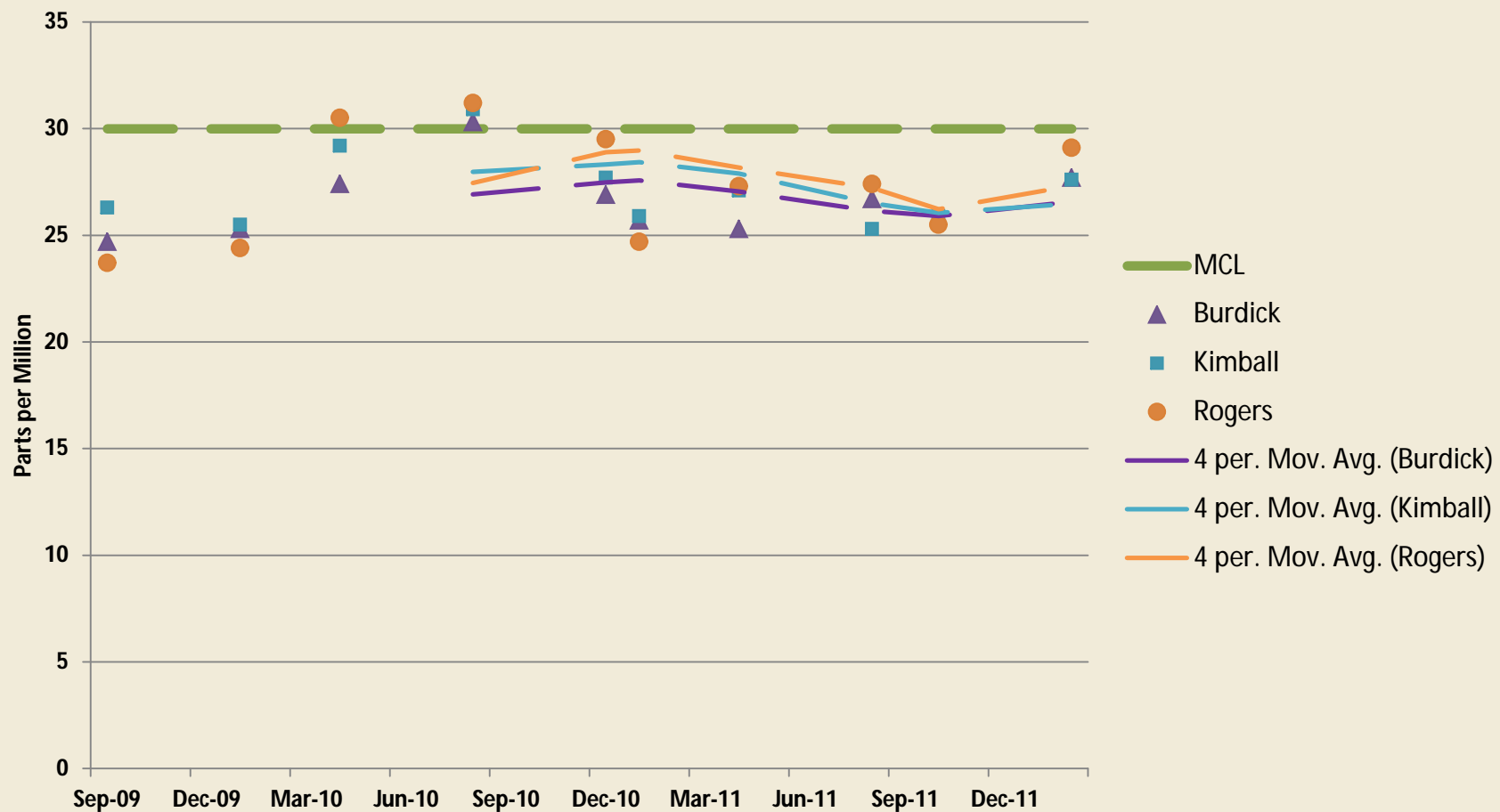
## 2000 Uranium Rule

- Established by EPA and the Safe Water Drinking Water Act
- Maximum Contaminant Level (MCL)- 30 ug/L (ppb)
- Based on rolling average of 4 quarterly samples
- Samples must be taken at each Point of Entry (POE) to the water distribution system




# Water Supply System



## Point of Entry Uranium Sampling Results




## Implementation Plan

-  Adsorptive media system recommended
-  Phased construction – Treat three wells, blend treated water to lower overall uranium concentrations
-  Residual management/disposal and radioactive licensing responsibility of manufacturer



## Uranium Removal Project

 Utilities Department directed by Council to proceed with the procurement and installation of a large-scale uranium removal system at the Platte River Well Field – February 22, 2011

## Project Status

### Phase 1 – Equipment Procurement

 Phase 1 Engineering Authorization, Prepare  
System Specifications – August 23, 2010

 Awarded Uranium Removal System Contract –  
July 26, 2011

## Project Status

### Phase 2 – Detailed Engineering/Construction Specifications

 Phase 2 Engineering Authorization, Prepare Construction Specifications – August 23, 2011

 Awarded Treatment Building – October 11, 2011

 Awarded System Installation Contract – February 28, 2012

 Construction Complete - May 2012

## Project Parameters

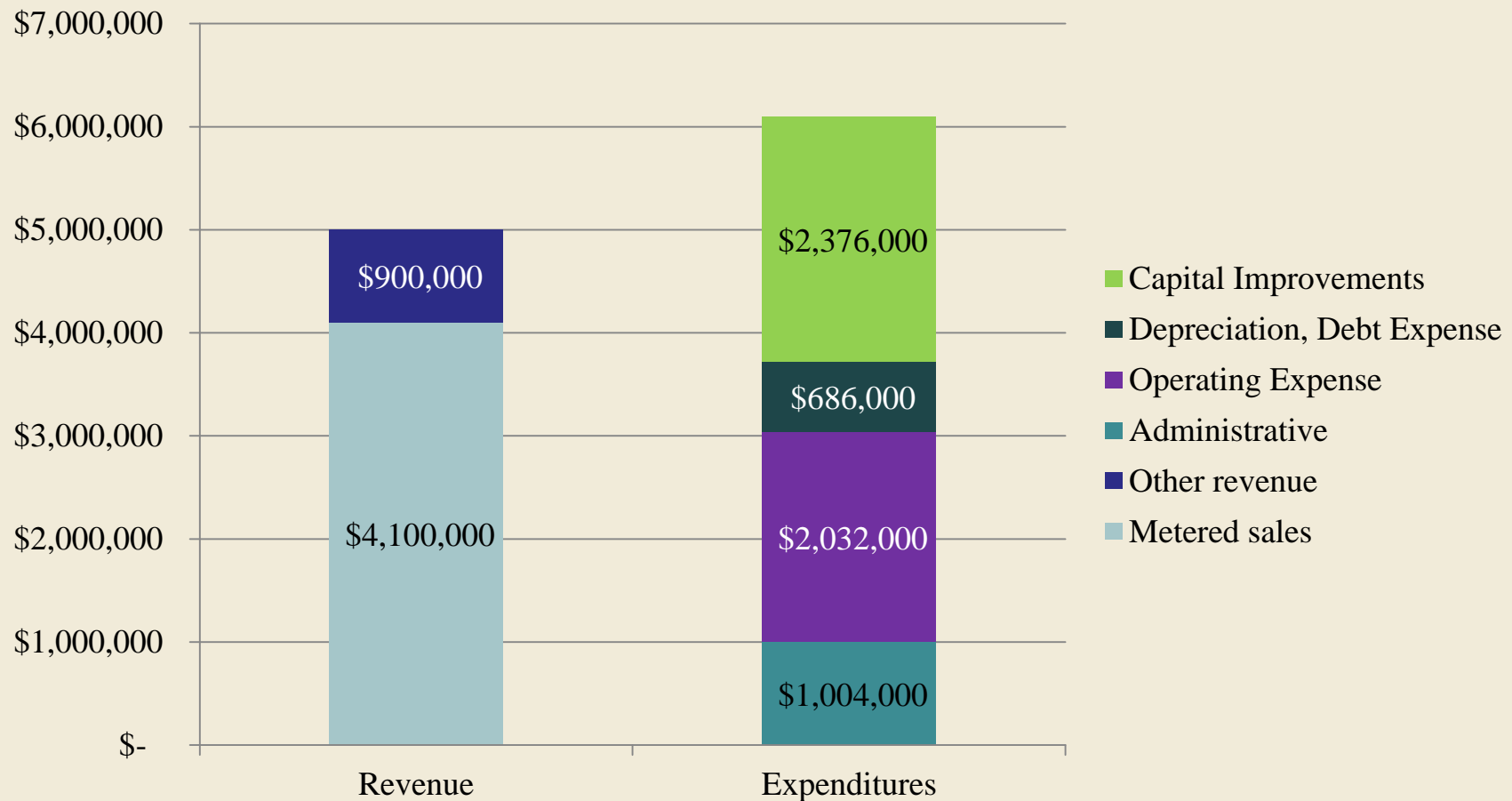
 Capital Cost = \$3,000,000

 Annual Operating Costs = \$800,000 to treat  
up to 1.5 billion gallons per year

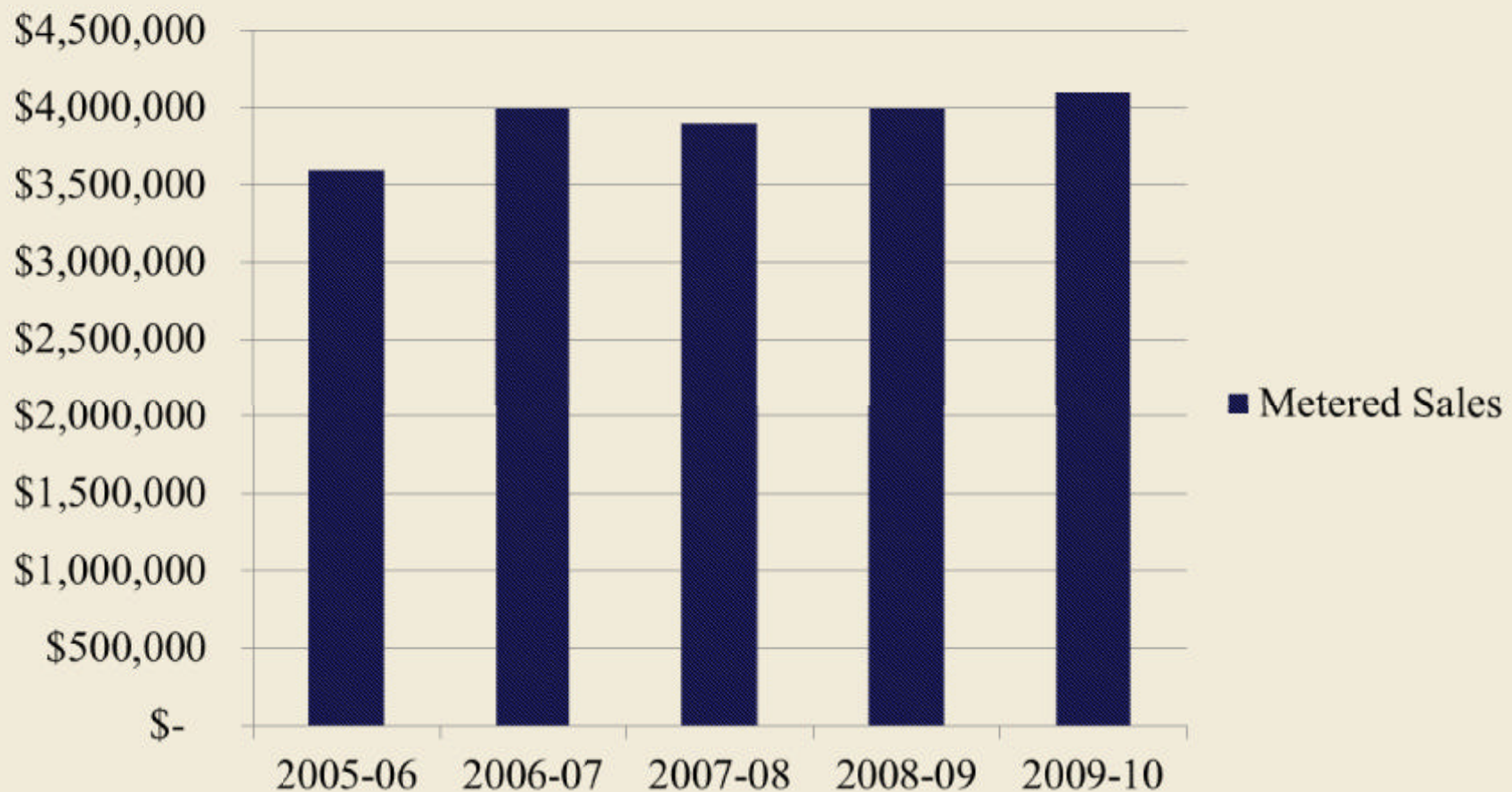
 Annual Water Demand = 3.75 billion gallons

 Annual Water Sales = \$4,100,000

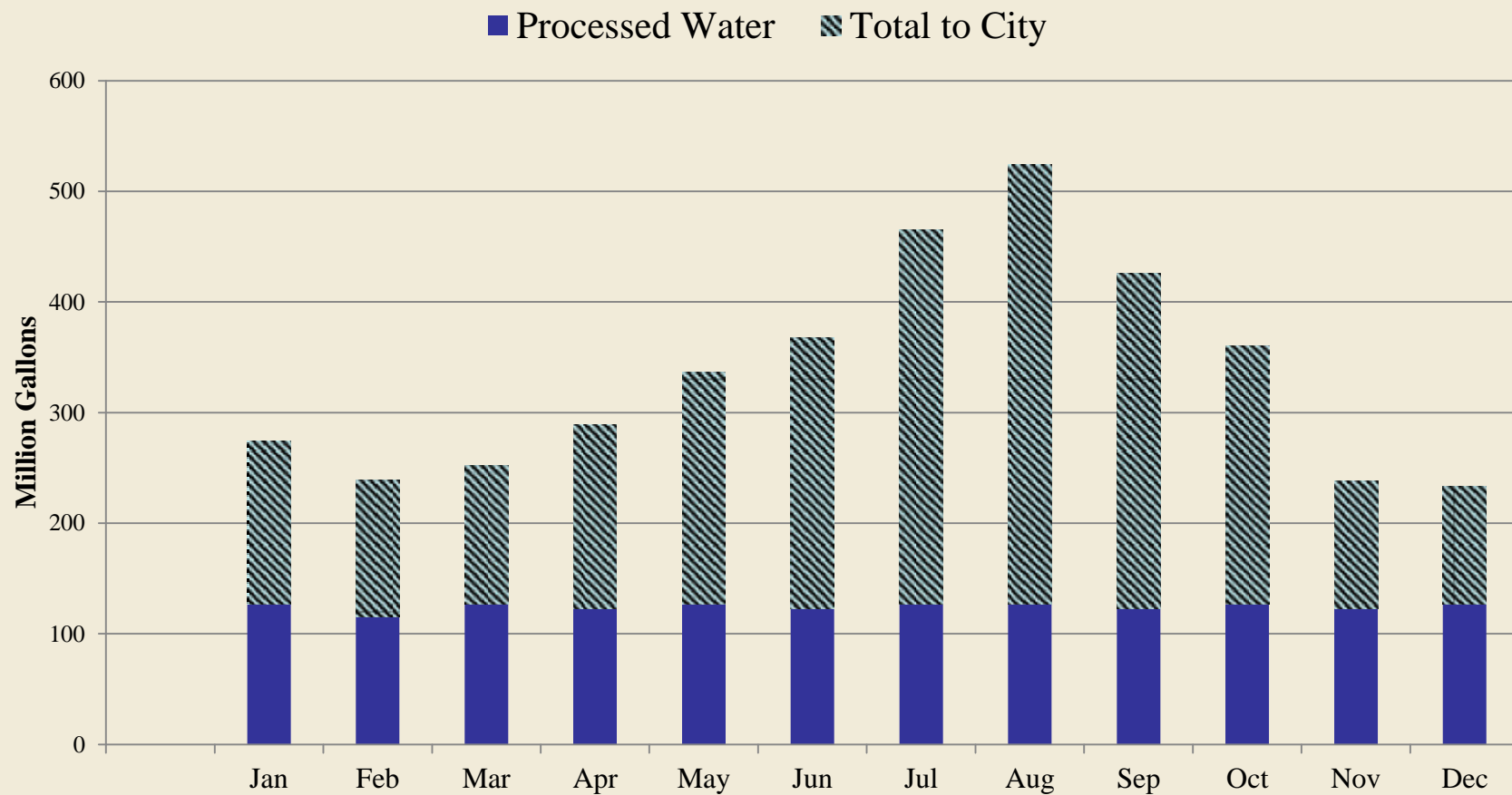
## Water Fund - 2010-11



### Metered Sales




## Removal System Operation





## Capital Funding

### Evaluation of Capital Funding Options

-  Short-term debt

-  Cash reserves

### Long-term bonding

-  Refinance existing 1999 bond

-  Lower interest rate

-  Extend term

-  Maintain existing debt service level



## Revenue

- 🌊 Evaluation of revenue streams to cover the additional annual operating cost

- 🌊 Volumetric/Flat Rate (per gallon)

- 🌊 Flat Percentage

- 🌊 Cost per Service

## Current Rate Structure

<u>Cubic Feet Per Month</u>	<u>Rate Per 100 Cubic Feet</u>
First 500	\$1.496
Next 500	\$0.700
Next 500	\$0.692
Next 2,500	\$0.767
Next 6,000	\$0.713
Next 90,000	\$0.654
Next 100,000	\$0.574
Over 200,000	\$0.535
Monthly Minimum (500 cubic feet)	\$7.480
<b>(1 cubic foot = 7 ½ gallons)</b>	

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## UTILITIES

**Flat Rate Increase (\$0.16 / 100cf)**

Cubic Feet	Current Amount	Increase	Increased Amount	% Increase	Typical Customer
500	\$7.83	\$0.80	\$8.63	10%	small household
1,500	\$14.79	\$2.39	\$17.18	16%	average household
5,000	\$41.10	\$7.98	\$49.08	19%	small business
13,000	\$96.37	\$20.75	\$117.12	22%	small manufacturing
35,000	\$240.25	\$55.85	\$296.10	23%	motels, large manufacturing
900,000	\$5,257.34	\$1,436.26	\$6,693.60	27%	food processing
3,000,000	\$15,684.00	\$4,787.53	\$20,471.53	31%	meat processing

## Percentage Rate Increase (20%)

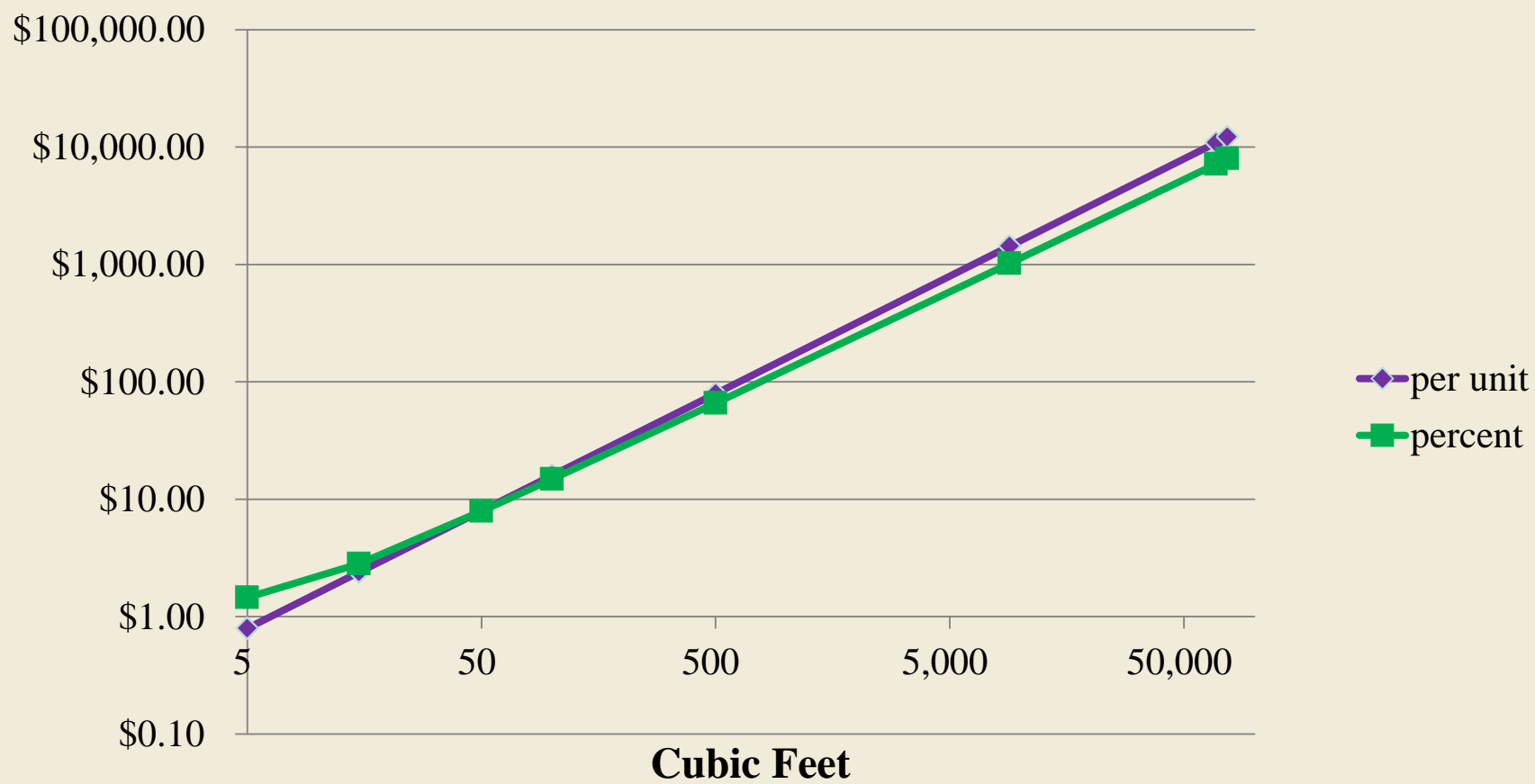
Cubic Feet	Current Amount	Increase	Increased Amount	Typical Customer
500	\$7.83	\$1.46	\$9.29	small household
1,500	\$14.79	\$2.82	\$17.61	average household
5,000	\$41.10	\$7.95	\$49.05	small business
13,000	\$96.37	\$18.74	\$115.11	small manufacturing
35,000	\$240.25	\$46.81	\$287.06	motels, large manufacturing
900,000	\$5,257.34	\$1,025.75	\$6,283.09	food processing
3,000,000	\$15,684.00	\$3,060.22	\$18,744.22	meat processing

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## UTILITIES



## Meter Fee

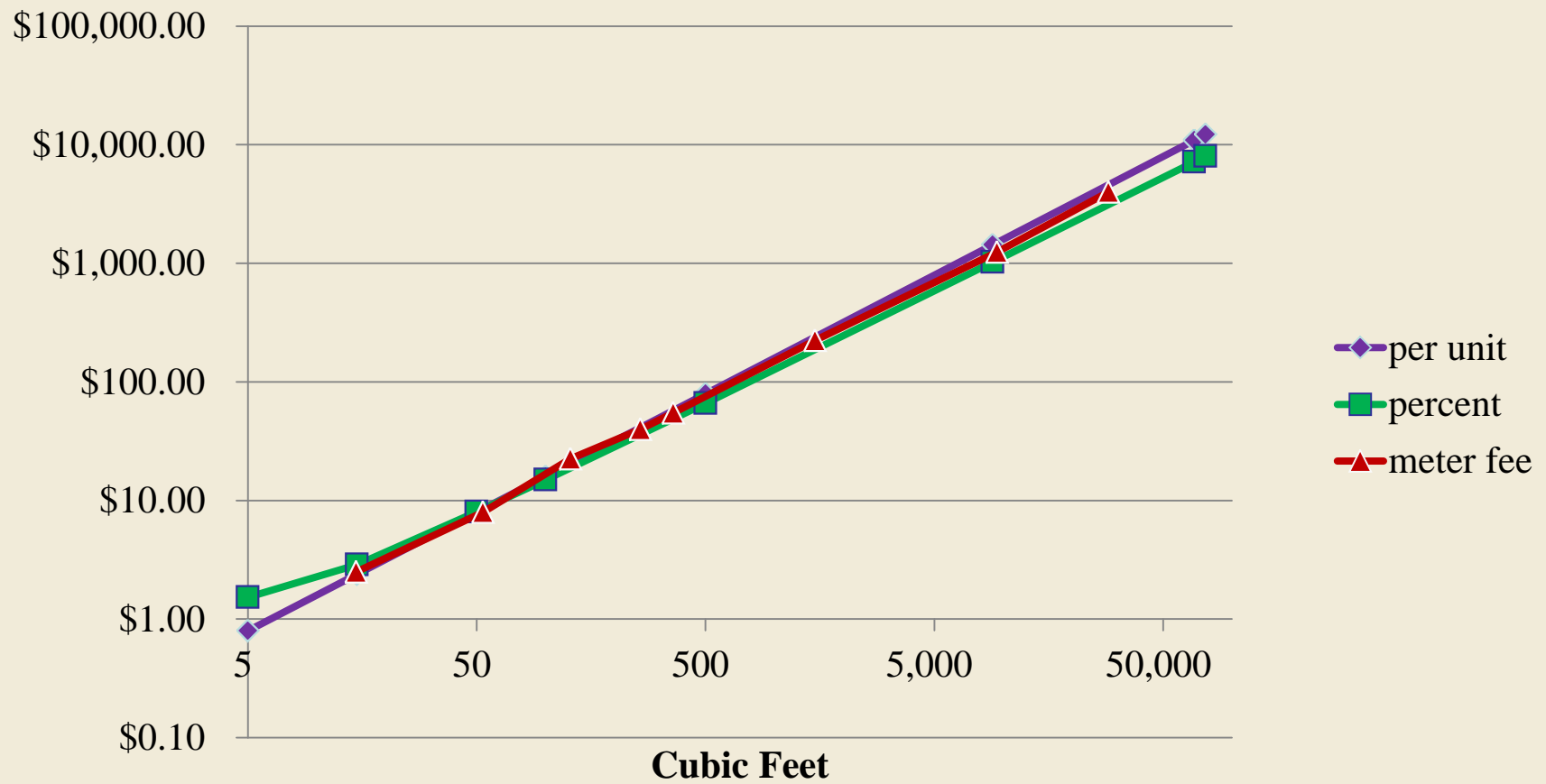
Meter Size	Consumption	No. of meters	Avg. consump. (100 cf)	Proposed Monthly Fee	Typical Customer
<= 1"	212,928	14,332	15	\$2.50	household
1 1/2"	16,860	317	53	\$8.00	small business
2"	29,693	231	129	\$22.50	small
3"	14,930	58	260	\$40.00	manufacturing
4"	12,473	35	362	\$55.00	motels
6"	19,584	13	1,506	\$225.00	large manufacturing
8"	56,282	6	9,380	\$1,250.00	food processing
10"	57,708	2	28,854	\$4,000.00	meat processing
TOTALS	420,455	14,993			

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## UTILITIES



## Monthly Increase Comparison

Cubic Feet	Increasing rates per gallon	Increasing rates by percentage	Establishing Meter Fee	Typical Customer
500	\$0.80	\$1.46	\$2.50	small household
<b>1,500</b>	<b>\$2.39</b>	<b>\$2.82</b>	<b>\$2.50</b>	<b>average household</b>
5,000	\$7.98	\$7.95	\$8.00	small business
13,000	\$20.75	\$18.74	\$22.50	small manufacturing
35,000	\$55.85	\$46.81	\$55.00	motels, large manufacturing
900,000	\$1,436.26	\$1,025.75	\$1,250.00	food processing
3,000,000	\$4,787.53	\$3,060.22	\$4,000.00	meat processing









## Water Rate Comparison

	Residential 1" Meter		Commercial 2" Meter	Industrial 6" Meter
	5 ccf	50 ccf	100 ccf	1500 ccf
<b>Omaha Area</b>				
Winter	\$31.37	\$76.31	\$172.25	\$1684.78
Summer	\$31.37	\$76.31	\$202.02	\$2131.33
<b>Lincoln</b>	\$10.14	\$94.10	\$159.40	\$2944.02
<b>North Platte</b>	\$22.67	\$67.03	\$128.60	\$1416.89
<b>Norfolk</b>	\$14.50	\$69.97	\$152.39	\$1643.83
<b>Fremont</b>	\$16.17	\$53.26	\$128.00	\$1416.40
<b>Hastings</b>	\$16.35	\$62.25	\$110.07	\$1366.74
<b>Columbus</b>	\$11.65	\$63.85	\$134.00	\$1705.00
<b>Kearney</b>	\$13.25	\$69.50	\$125.00	\$1774.91
<b>Grand Island</b>	<b>\$7.83</b>	<b>\$41.10</b>	<b>\$76.75</b>	<b>\$992.35</b>
<b>\$0.16 per ccf</b>	<b>\$8.63</b>	<b>\$49.08</b>	<b>\$92.71</b>	<b>\$1231.73</b>
<b>20% flat rate</b>	<b>\$9.29</b>	<b>\$49.05</b>	<b>\$91.66</b>	<b>\$1185.91</b>
<b>Meter fee</b>	<b>\$10.33</b>	<b>\$43.60</b>	<b>\$99.25</b>	<b>\$1217.35</b>





## Methodology Comparison

	Per Cubic Foot/Gallon	Flat Percentage	Meter Fee
<b>Revenue Change</b>	Dependent on water usage	Dependent on water usage	Dependent on number and type of customers
<b>Revenue stream</b>	Variable by season and weather	Variable by season and weather	Constant by month
<b>Customer impact</b>	Higher impact on large users	Higher impact on small users	Neutral on customer usage

## Proposed Timeline Implementation

-  Consideration by Council for Rate Schedule Revision – March 13, 2012
-  Fifteen day publication
-  Revised Rate Schedule effective April 1, 2012
-  Refinance 1999 Revenue Bonds – April, 2012
-  Revised Rate Receipts begin May, 2012
-  Receive Bond Receipts – May, 2012

## Budget Plan!

-  Utilities Customers
-  Flat monthly payments
-  Budget amount determined in December, beginning January
-  Balance reviewed in September, payment adjusted accordingly

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## Questions/Discussion

