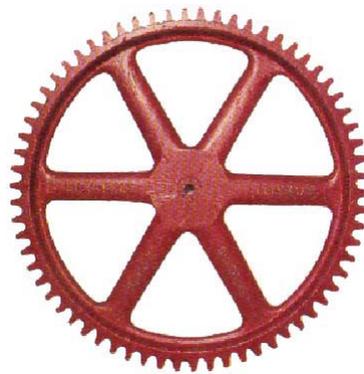


# City of Lodi

## Funding of PCE/TCE Groundwater Remediation



*August 2005*

City of Lodi Staff

**BARTLE WELLS ASSOCIATES**





# All-In Costs of PCE/TCE

- Net cost of implementing remediation plan is estimated to be \$45.7 million and includes capital, operating, legal expenses, and settlements due to other parties less settlement revenues due to the City
- Above costs include pay back of past expenses (total \$12.2 million, which includes \$1.9 million of expenses owed to the sewer utility)





# Rate Increase Alternatives

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- Three rate alternatives were considered:
  - Pure rate funding on a pay-as-you-go annual basis
  - Modified smooth pay-as-you-go, use of cash and reserve from rate increases
  - Long-term financing, use of cash from rate increases plus revenue bonds
- BWA recommends the modified pay-as-you-go alternative
  - Minimizes long-term costs
  - Minimizes annual rate increases
  - Provides predictable rates





# Recommended Alternative

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- Use cash from settlements and rate increases (no borrowing)
- Re-pay accrued expenses
- Increases are phased-in
- Rates for 3-bedroom home
  - January 1, 2006 add \$3.50 (\$30.33/month)
  - July 1, 2006 add \$3.50 (\$33.83/month)
  - July 1, 2007 add \$3.50 (\$37.33/month)
  - Adjustment each July 1 to account for changes in Consumer Price Index





# Rate Survey

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## Lodi Water Rate Survey

Agency	Est. Monthly Bill Current
City of Lathrop	\$48.92
City of Escalon	33.18
City of Manteca	31.35
City of Stockton	29.90
City of Tracy	26.85
<b>City of Lodi</b>	<b>26.83</b>
City of Ripon	19.87

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# What is the Problem?

- PCE and TCE are harmful
- They are in the soil (which means vapors can enter buildings)
- They are in the groundwater at levels greatly exceeding drinking water standards
- The City's water system is interconnected, so if contaminated water is drawn into a City well, it will be spread throughout the City. (Some wells are showing traces.)



# What is the Clean up?

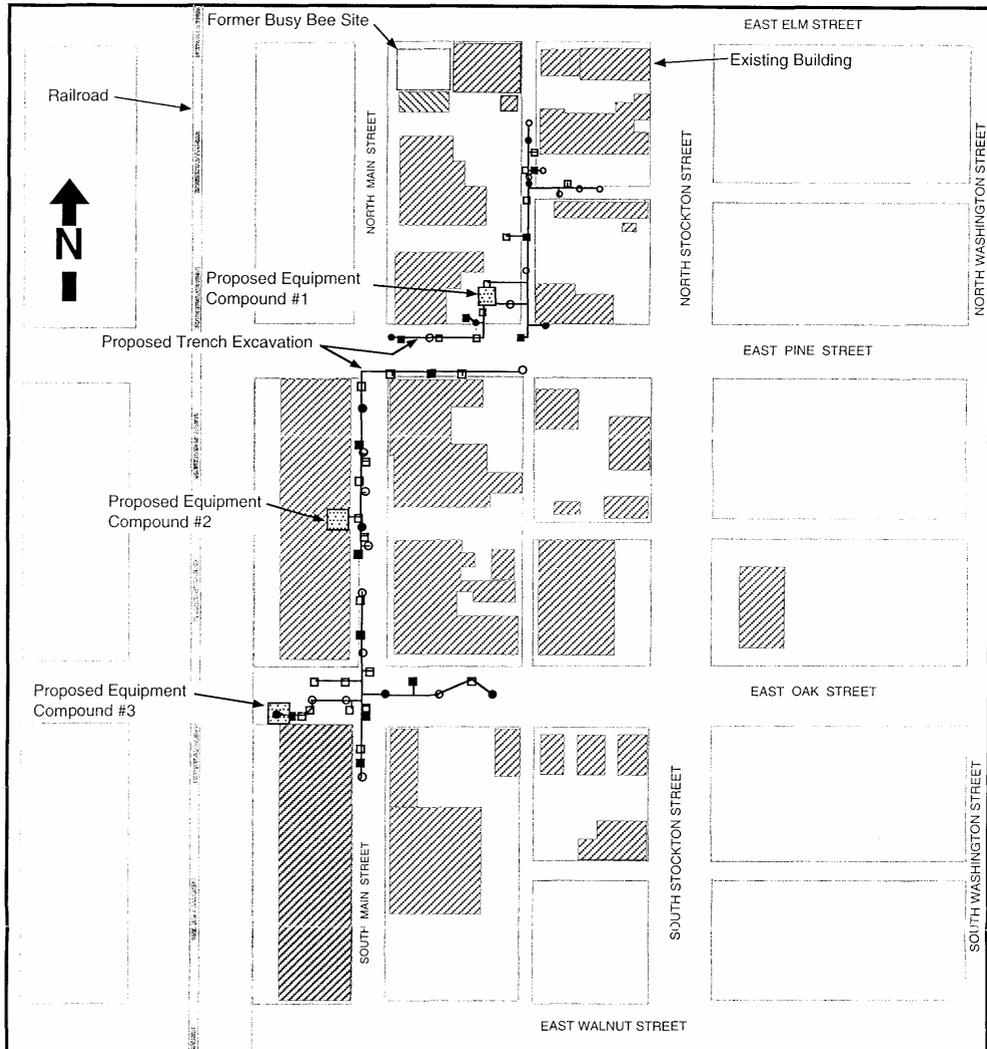
- Soil Vapor Extraction (SVE) – vacuum fans remove vapors from soil above groundwater via special wells; vapors removed from air with carbon or other methods
- “Sparging” – Injection of air bubbles or ozone in groundwater to trap vapor and carry PCE to the soil above where it is removed by SVE



# What is the Clean up?

- Groundwater Extraction – pumping groundwater containing PCE and removing from the water with carbon or other methods
- Ongoing monitoring and reporting
- SVE/Sparge could run for five years
- Groundwater extraction will take 30 +/- years





**LEGEND**

- SVE Well      ○ SVE Observation Well
- AS Well      □ AS Observation Well

**SCALE**  
 1 Inch = 150 Feet  
 0    75    150  
 (Feet)

**E2C Remediation**  
 5300 Woodmere Dr., Suite 105  
 Bakersfield, California 93313  
 Telephone: (661) 831-6906  
 Facsimile: (661) 831-6234

**BUSY BEE LAUNDRY AND CLEANERS**  
 40 NORTH MAIN STREET  
 LODI, CA

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**PROPOSED PILOT TEST WELLS, TRENCHES  
 AND EQUIPMENT LOCATIONS**

**FIGURE**  
**1**



DRAFT



Notes:  
 Reusing source: City of Lodi Public Works.  
 Sample location and date source: TSM, 2004. LTR; Draft RFP's (04/04) (conservative of "94" in location ID) and Memorandum 06/05 (conservative of all other letter designations).  
 Data received from DTSC by 05/04.  
 Data are preliminary draft. Some sample locations and sampling depths were estimated.  
 All results in ug/L.  
 PCE = Tetrachloroethene

**LEGEND**

- PCE Soil Gas Results 0-20 ft bgs
  - 140 - 14000
  - 14 - 140
  - 6 - 14
  - 1.4 - 6
  - 0.5 - 1.4
- Proposed SVE Well Location (An additional 5 component locations may be added)
- Estimated Radius of Influence of SVE Well (75 and 150 feet)
- Not Detected (<0.5 except "94" locations where not detected by <1)
- Historical Extent of Tetrachloroethene (PCE) Concentration Exceeding 5 ug/L in Soil Gas 0 - 20 ft bgs
- Parcels and Right-of-way

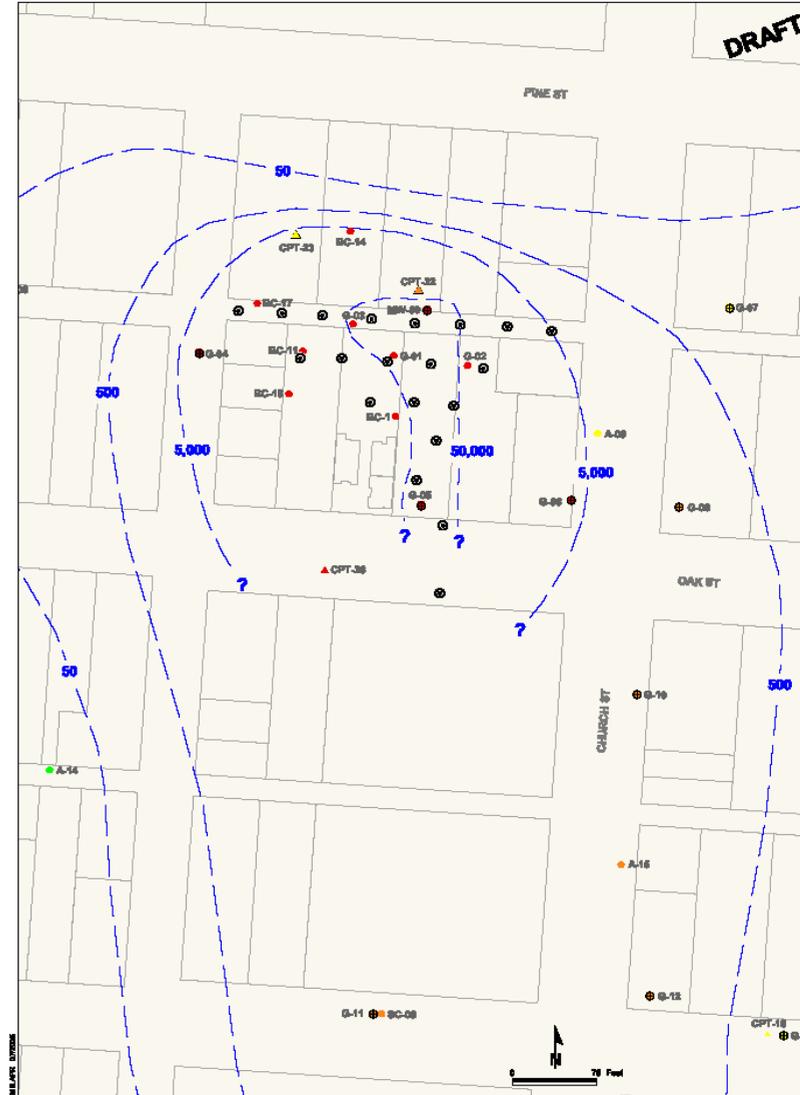
**CITY OF LODI**  
 Lodi, California

**Proposed SVE System Schematic**

Date: 07/2005 Project No. 3923.12 Figure 1

**Treadwell & Rollo**

DRAFT



Notes:  
 Reusing source: City of Lodi Public Works.  
 Sample location and date source: TAR 406, TAR 0404, TRC 0404, LFR 0404 and Hensley 06/05 (from DTSC data).  
 Groundwater monitor collected between 1800 and 2004.  
 Reusing source: City of Lodi Public Works.

**LEGEND**

- Proposed Air Sparge Well Location
- Parcels and Right-of-way
- Contour of PCE Concentration in Shallow Groundwater (Charted where Intersect)
- Contour Interpolation (Charted where Intersect)

**Tetrachloroethene (PCE) Results in Groundwater (ug/L)**

Monitoring Well	CPT-1 06-04	CPT-26 06-04	CPT-35 06-04	All Other Samples
● 0000 - 00000	▲ 0000 - 00000	▲ 0000 - 00000	▲ 0000 - 00000	● 0000 - 00000
● 000 - 0000	▲ 000 - 0000	▲ 000 - 0000	▲ 000 - 0000	● 000 - 0000
● 00 - 000	▲ 00 - 000	▲ 00 - 000	▲ 00 - 000	● 00 - 000
● 0 - 00	▲ 0 - 00	▲ 0 - 00	▲ 0 - 00	● 0 - 00
● 0.0 - 0	▲ 0.0 - 0	▲ 0.0 - 0	▲ 0.0 - 0	● 0.0 - 0
○ Not Detected	▲ Not Detected	▲ Not Detected	▲ Not Detected	○ Not Detected

**CITY OF LODI**  
 Lodi, California

**Proposed Air Injection System Schematic**

Date: 07/2005 Project No. 3923.12 Figure 3

**Treadwell & Rollo**

DRAFT



DATE: 07/20/05, COMMUNITY DEVELOPMENT, UTILITIES, WATER

LEGEND	
⊙ G-302	Monitoring Well
⊙ W-102R	Water Supply Well
△ G-302	CPT locations analyzed prior to 2005
⊙ A-30	All Other Samples analyzed prior to 2005
---	Contour of Trichloroethene (PCE) Concentration in Shallow Groundwater
---	Concentration in Intermediate Groundwater
---	Concentration in Deep Groundwater [Concentrations in µg/L]
⊙	Proposed Extraction Well Location
<p>Note: Contours are based on highest concentrations. Portions of contours are based on results obtained in January and March 2005, and the period 2000-2004. Reversao source: City of Lodi Public Works.</p>	

**CITY OF LODI**  
**Lodi, California**

**PROPOSED GROUNDWATER  
EXTRACTION SYSTEM SCHEMATIC**

Date 07/20/05	Project No. 3923.12	Figure 5
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**Treadwell & Rollo**

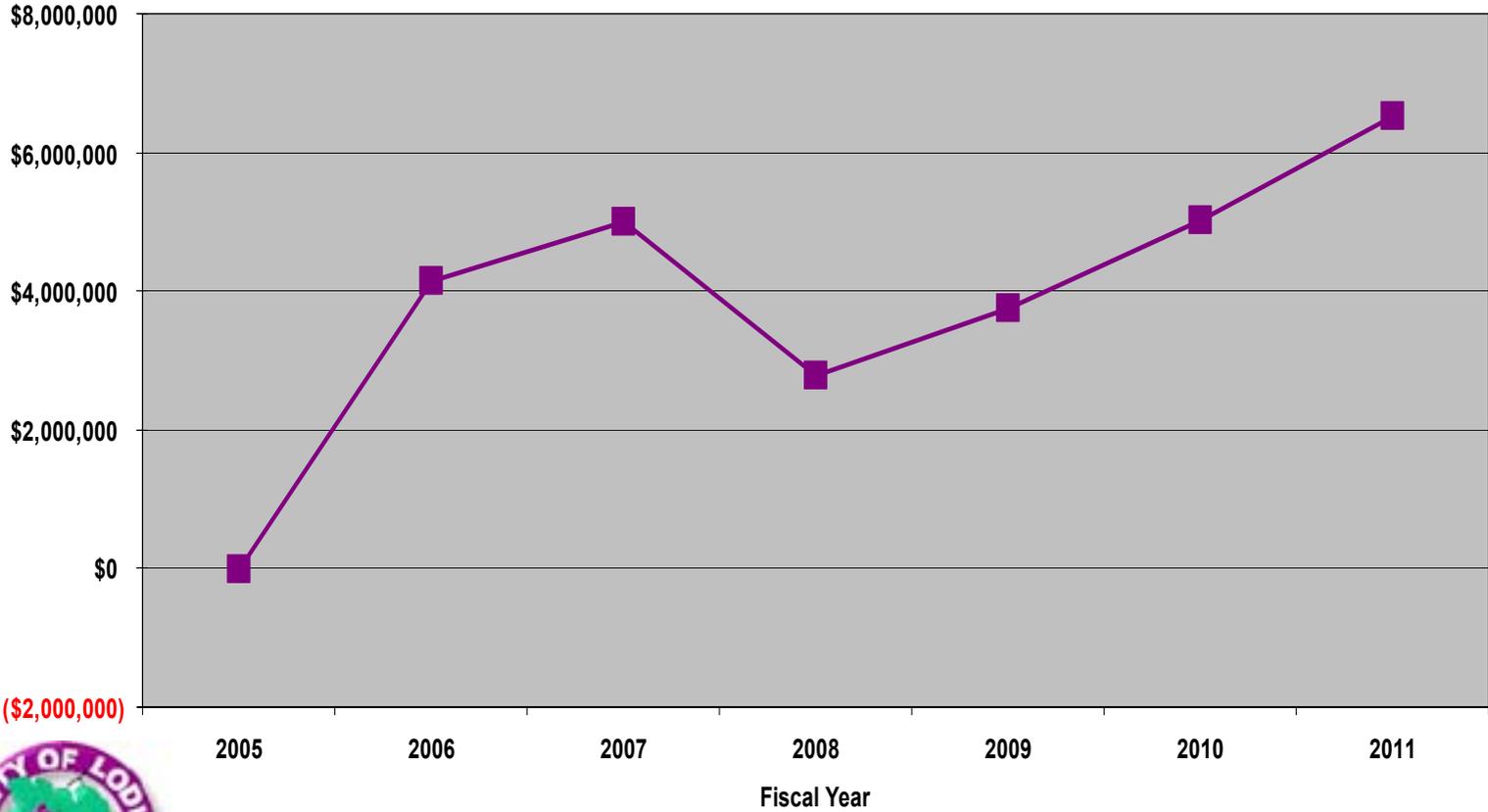
# Other Factors in Recommended Rate Increase

- Water Enterprise should not rely on General Fund for support
- Account for PCE costs in separate “sub-fund”
- Maintain combined *minimum* 15% reserve in operating, capital and cleanup funds (should be higher)



### Water Fund Balances With Rate Increase

■ Combined Ending Reserves

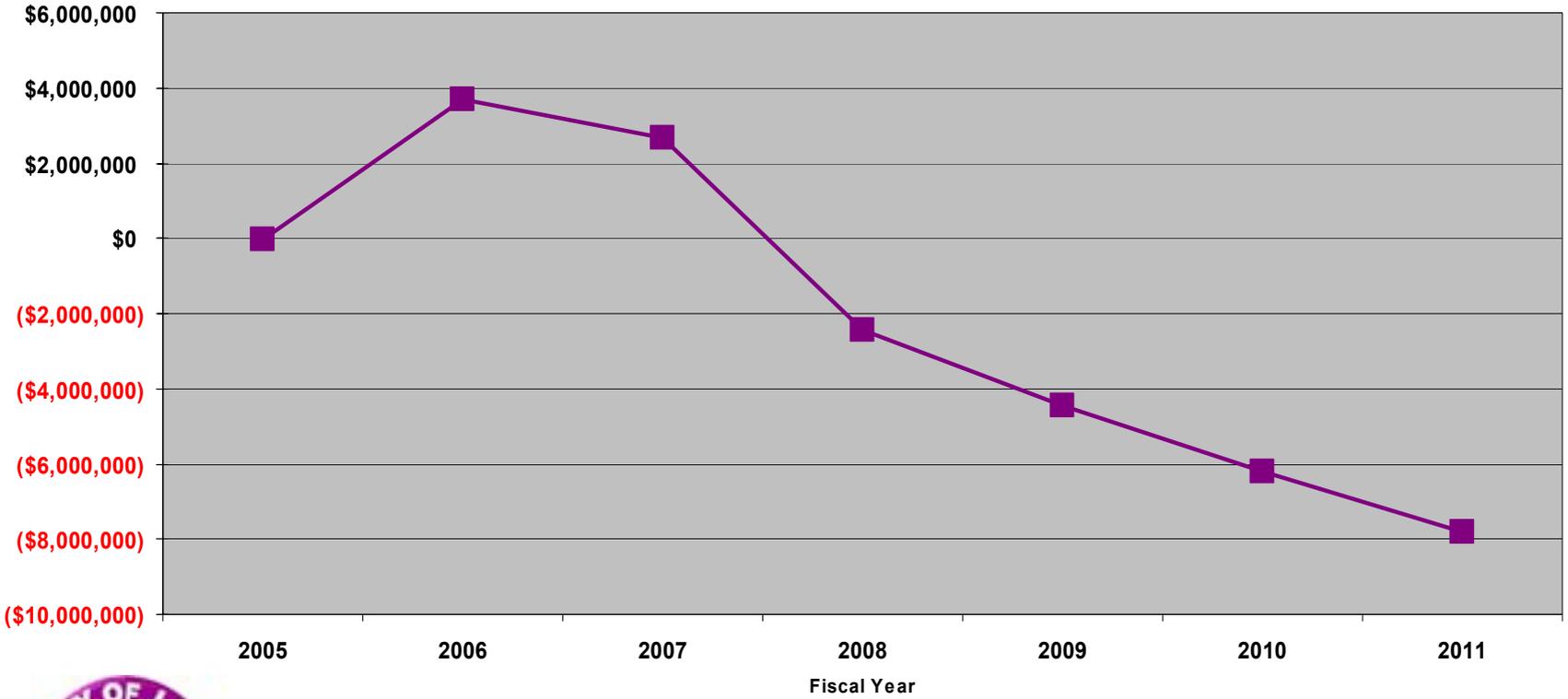


(\$2,000,000)

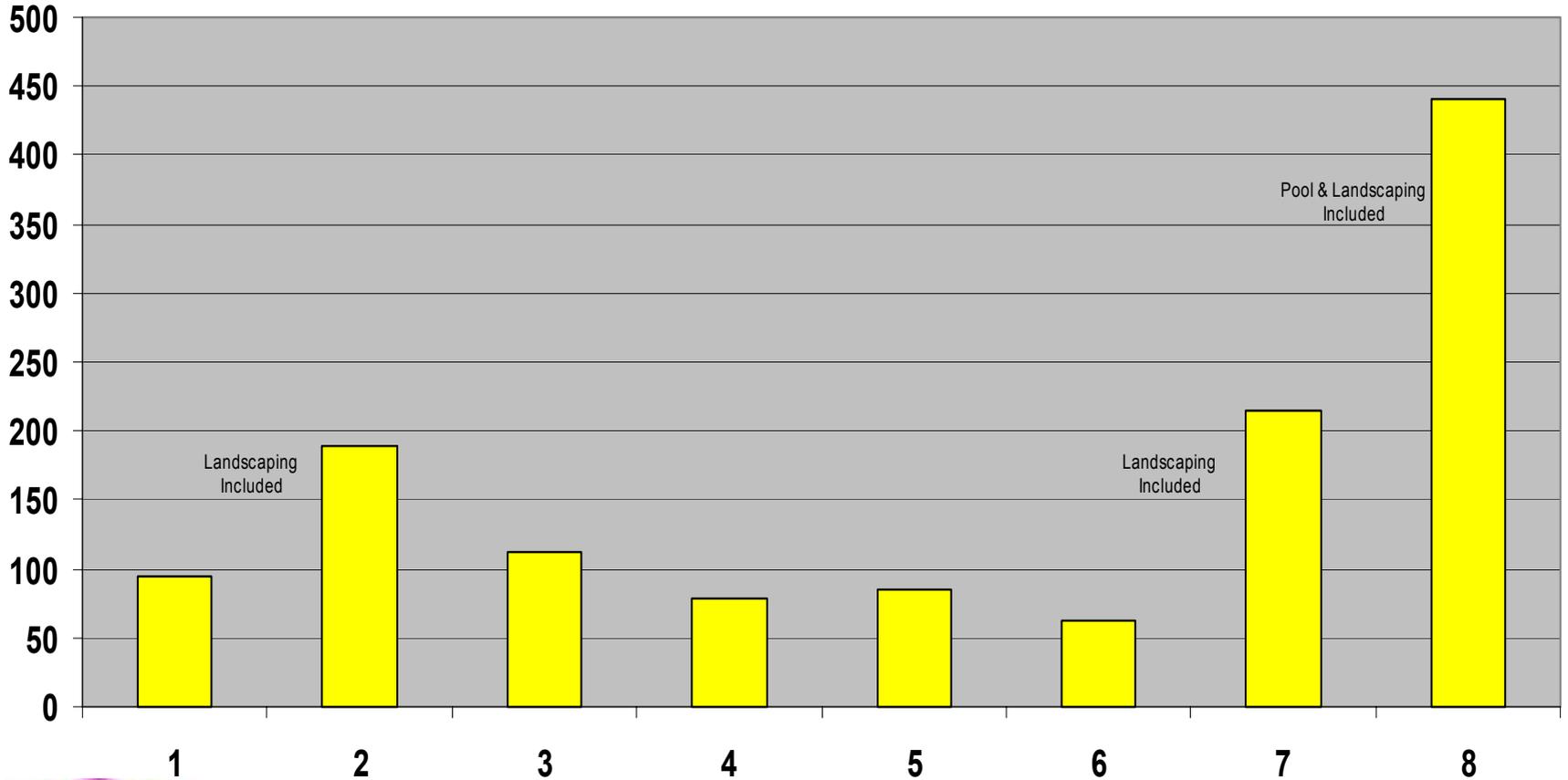


### Water Fund Balances Without Rate Increase

■ Combined Ending Reserves

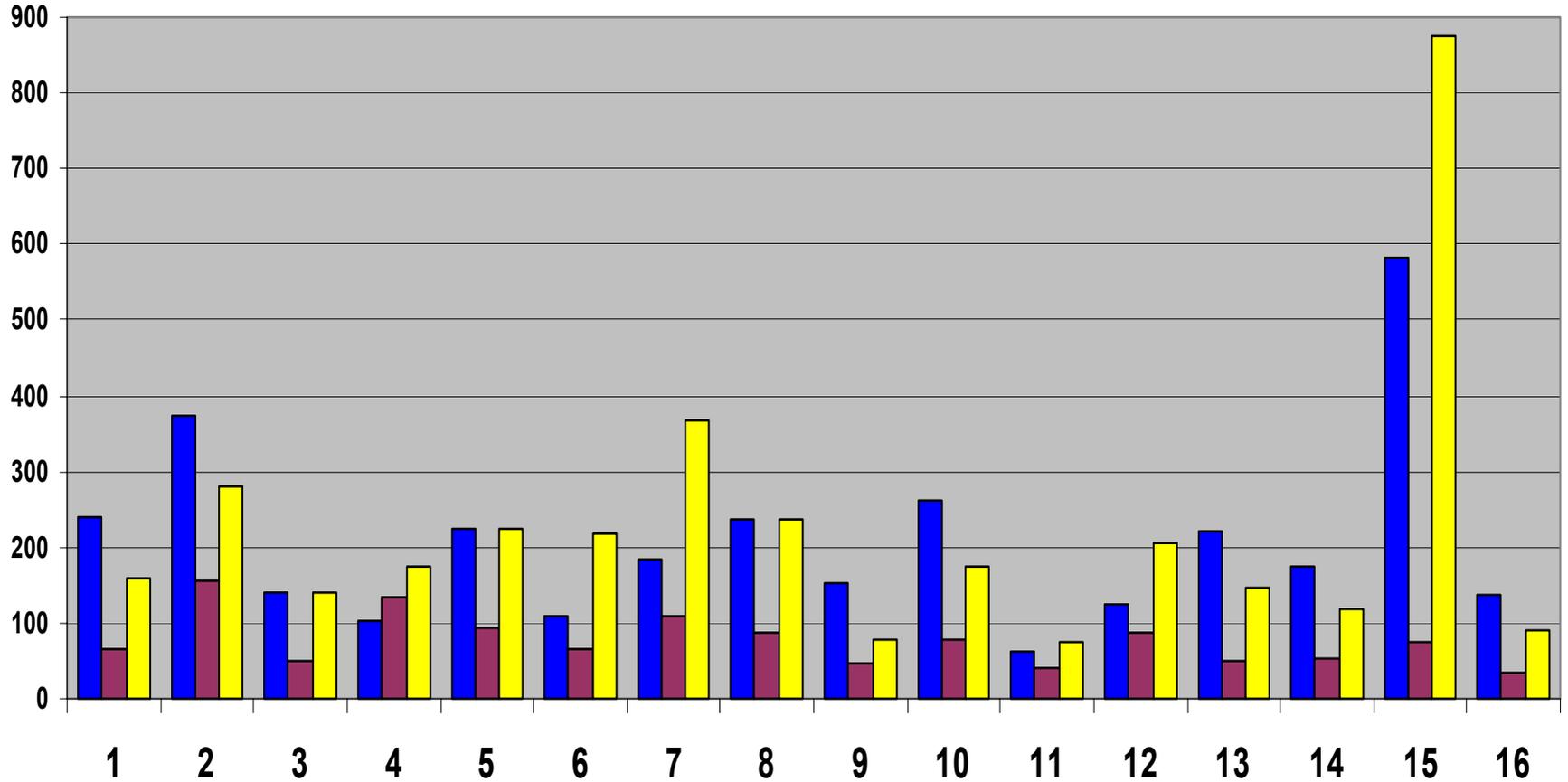


### Lodi Apartment Water Use Per Bedroom Per Day

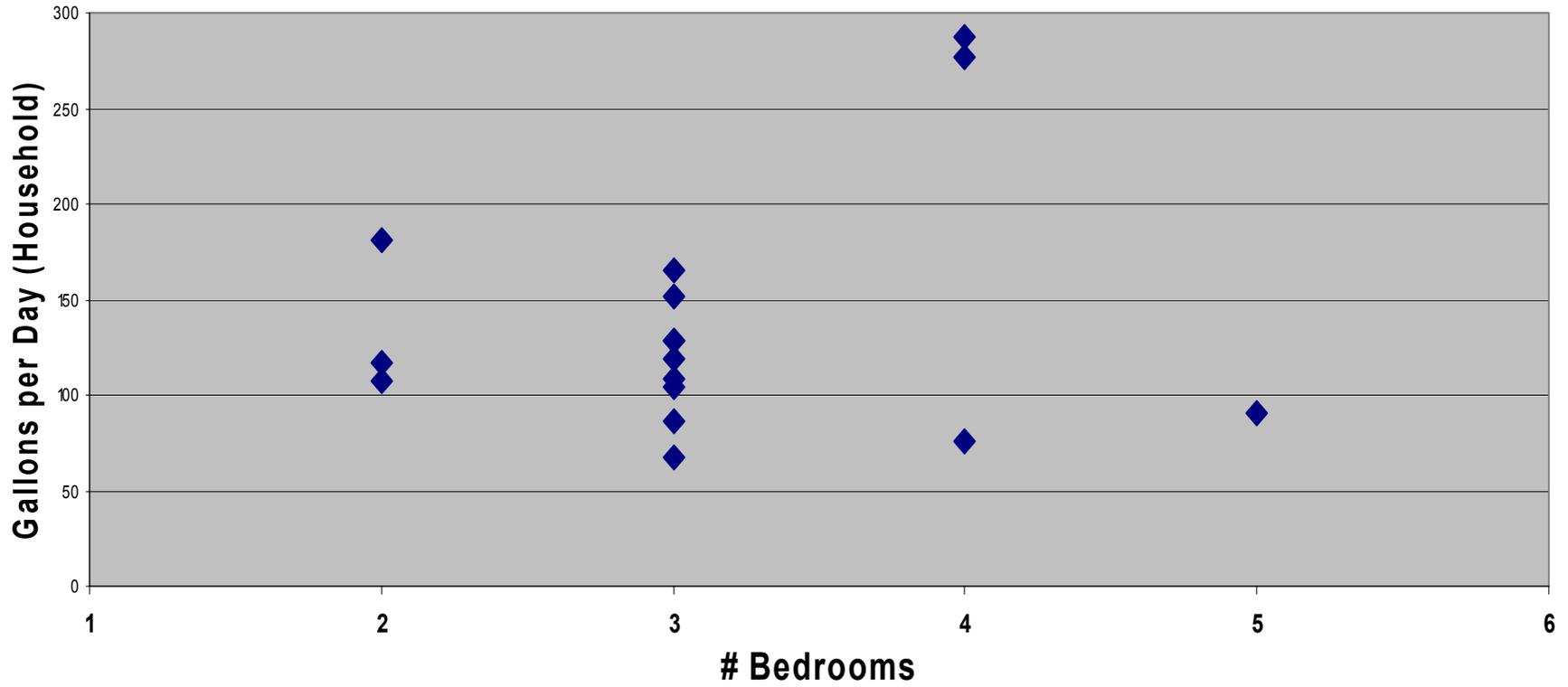


### Lodi Water Use - Gallons Per Day Per:

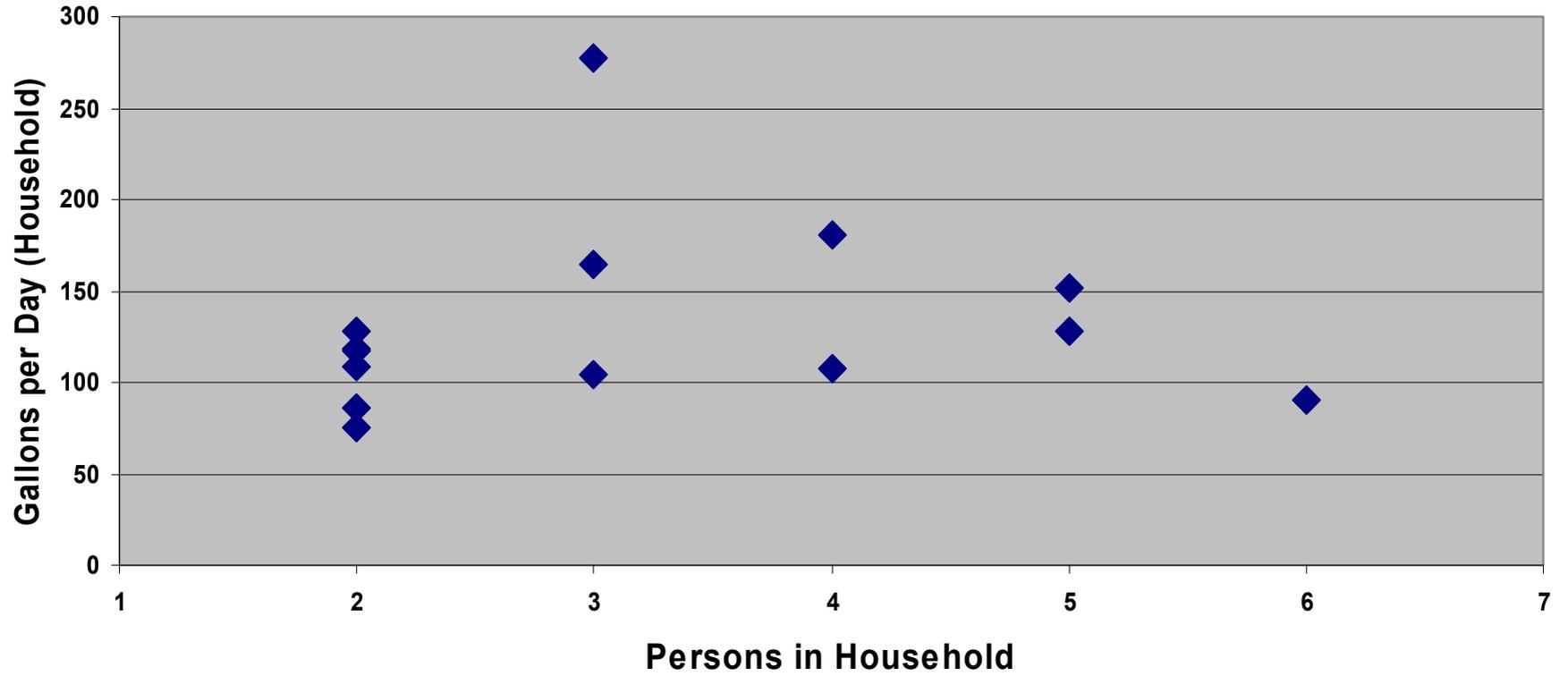
■ / Person ■ /1000 Sq.Ft. (Lot) ■ / Bdrm



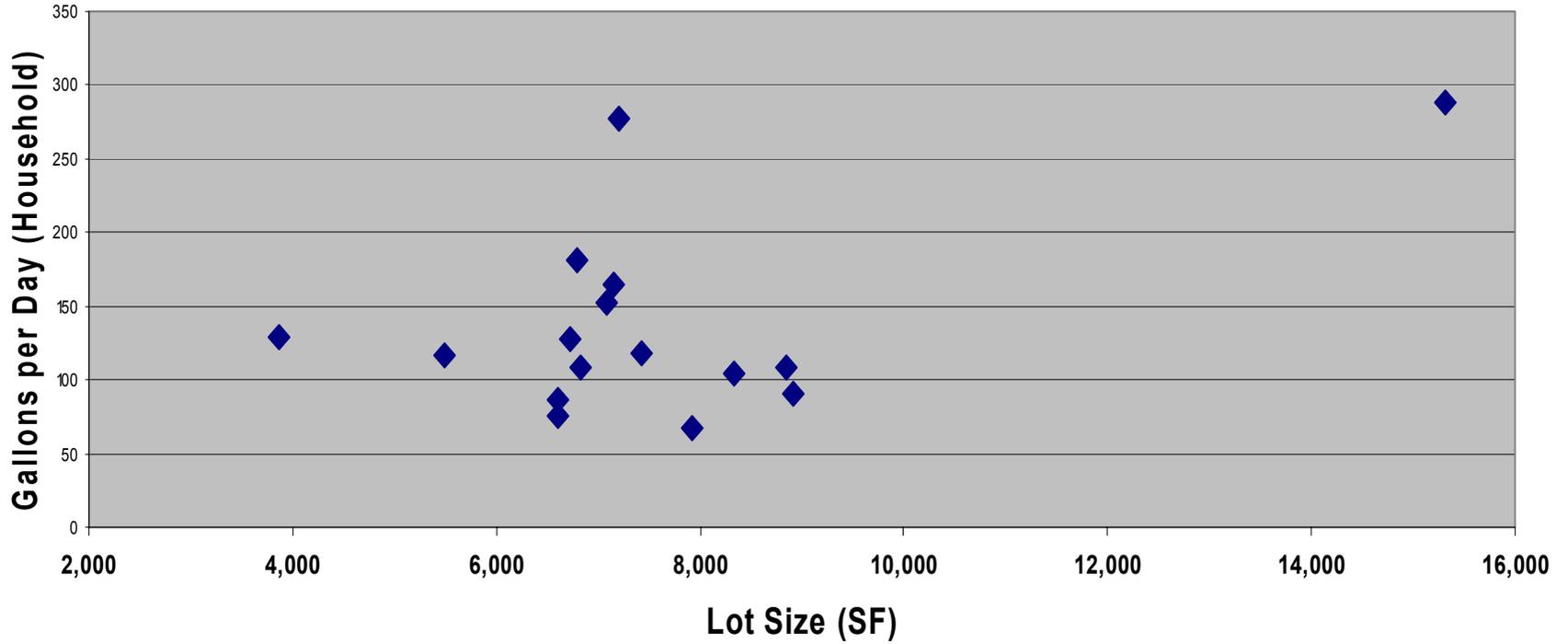
### Residential Water Use 16 Lodi Residences



### Residential Water Use 16 Lodi Residences



### Residential Water Use 16 Lodi Residences



# “Frequently Asked Questions”

## **1) What? Another Increase?? Why???**

The City is proposing to increase water rates to pay the cost of cleaning up contaminated groundwater. Lodi must clean up its groundwater for several reasons. One, the City needs to ensure that its citizens have a reliable, clean, safe source of drinking water. Two, the obligation to clean up the water has been imposed upon the City by the Central Valley Water Resources Control Board, a State agency. Three, the City, through legal settlements, has promised to clean the groundwater.

## **2) But why? We were told this would not cost the City anything.**

The City’s past efforts to avoid charging the rate payers, simply put, did not work.

In order to avoid the cost of clean up, the City sued businesses, property owners and insurance companies to recover costs associated with removal and treatment. The City will receive over \$16 million in settlement money from other parties (and hopes to recover more). Due to court decisions, bankruptcies, insurance exclusions, closed businesses, deceased responsible parties, etc, the amounts recovered will be substantially short of the full cost. Based on current estimates, an additional \$45 million is needed.



# “Frequently Asked Questions”

## **3) 45 Million!!! Why so much?**

This cost is total for the whole cleanup program – one-time costs for design, equipment, materials and installation; technical and legal expenses; plus ongoing operations and maintenance for an estimated 30 years. The area to be cleaned up is very large, extending from Turner Road to south of Kettleman Lane (two miles long) and is nearly a mile wide. The contamination is in soil and groundwater over two hundred feet deep. Clean up costs include drilling specialized wells, installing extraction, treatment and monitoring equipment, electricity to operate the systems and professional fees related to design, reporting, and accounting.

## **4) Does this include paying back the money the City borrowed from Lehman to pursue the litigation?**

No, that issue has been settled. The City borrowed about \$15 million over the course of the litigation and with interest the total owed was about \$32.9 million as of last year. The City negotiated a settlement with the lender and paid \$7.9 million of the principle and none of the interest to close this loan. However, the City is proposing to replenish the money used from its own internal accounts in the Water and Wastewater Funds.



# “Frequently Asked Questions”

**5) Doesn't this contamination only affect part of the town?**

**No, the City's sole source of water is from groundwater and the water system is interconnected. Any well that becomes contaminated affects the entire system. Also, the contaminated area is very large – over two miles long and up to a mile wide – in the center of the City.**

**6) What about using other City money or grants?**

**Although our elected officials at all levels of government have been sympathetic to Lodi's situation, no federal or state agency has provided the funds necessary to clean up Lodi's water supply.**

**Lodi has looked at other possible sources of revenue as well. The other source of funding that the City considered is its discretionary budget, the City's General Fund. General Fund revenues come primarily from property and sales taxes and those are largely controlled by the State. (That would be the State that teetered on bankruptcy a year ago..., and remember, the City only receives about 17¢ from each dollar you pay in property taxes and 1¢ of the sales tax.)**

**The General Fund provides for the Police Department, Fire Department, Parks, Economic Development, and a variety of other City services. The General Fund budget was already cut by 7% in this current fiscal year. Twenty-nine positions were left unfilled, including eight in the Police and Fire Departments. Funding this additional cost out of the General Fund means significant additional cuts in programs and personnel from the General Fund.**



# “Frequently Asked Questions”

*As for “other City money”, the Sewer Fund is committed to wastewater treatment upgrades and pipe replacements. The Electric Fund revenue can not be used to clean up the ground water. Transportation funds are dedicated by law and can not be used for the clean up.*

*One final option considered was to eliminate expenditures for the water and wastewater capital replacement program. This means redirecting revenue from the infrastructure replacement charge that is in the water and sewer bill to PCE/TCE clean up. Making this change stops the replacement of old, leaky pipes and increases long-term costs for water and sewer. This seems counter-productive given that the Regional Board determined that the City was partly liable for the clean up because of its leaky sewers.*



# “Frequently Asked Questions”

## **7) So what does this add to my bill?**

Rates for a typical 3-bedroom home would increase \$3.50 per month on January 1, 2006, another \$3.50 on July 1, 2006, and a final \$3.50 on July 1, 2007 (\$10.50 in total). Increases for other customers range from \$2.09 for a one-bedroom apartment to over \$30 for a commercial customer. For the sake of comparison, a case of bottled water costs between \$5 to \$6 plus CRV. The full rate table is available at City Hall or on the City’s website: [www.lodi.gov](http://www.lodi.gov)

## **8) Wow, we’ll have the highest water bills in the County!?!**

Actually, no; most of the other cities are metered, so comparisons can only be estimated. Using other cities water rates and an assumed monthly use for a typical Lodi residence, Lodi’s current rate is next to the lowest. With all the planned increases, it will be near the high end assuming other cities do not raise their rates in the next two years. (This comparison is also on the City’s website as part of the presentation from our rate consultant.) While the City cannot speak for these other communities, one might expect that their water rates will also go up over the next two years.



# “Frequently Asked Questions”

## **9) *What was done to minimize the impacts of water rate increases?***

The proposal is to establish a gradual rate increase spread out over the longest period of time possible, 2 years, while avoiding the need to borrow money to pay for the initial cleanup costs. While the costs of the clean up program are spread over 30 years, the bulk of the costs are in the first few years.

## **10) *What other water rate structures were considered?***

Money could be borrowed from an outside source, but that would add financing and interest costs.

Another alternative would be to adjust the rates each year based on actual expenses. Doing this would mean a large increase to build up a reserve for the first year's expenses, and then setting the rate up or down each following year. With this alternative, rates could easily double for a few years before they could go down.

Many times the City has been asked to keep rate increases at smaller, more frequent amounts so they can be anticipated. The plan is to reduce the proposed \$3.50 increases in the future once the clean up is in “maintenance” mode and the past expenses have been paid back. The proposed increase includes provisions for official reporting of the clean up expenses so this will not be overlooked.



# “Frequently Asked Questions”

## **11) You're still charging residences per bedroom – this isn't fair.**

Yes, however prior to establishing the “per bedroom” rate, residential rates were averaged across all users – a one-bedroom bungalow paid the same as a seven-bedroom mansion. Unfortunately the only fair way to charge for water use is based on the amount you use – and that requires meters. The State of California has now mandated retrofitting of water meters. This year's budget includes an initial purchase of meters to determine usage on a large group of residential customers in order to establish a rate that will, for the average user, be comparable to the flat rate. Then customers who use more than average will pay more and those who use less will pay less, once billing is based on metered use.

## **12) What about other cost increases coming down the line; for example, what will it cost to use the Woodbridge Irrigation District surface water we have purchased?**

The City has established a policy of reviewing water and sewer rates annually and making adjustments based on the Consumer Price Index. These “cost of living” type increases will help keep rates at a level that should avoid big jumps in the future and be predictable.

As for the surface water, that is still uncertain. First, a decision needs be made as to how the water will be used. Groundwater recharge will be less expensive than building a treatment plant and using the water directly. However using the water directly is the way most cities use surface water – but it does mean switching to full time disinfection of our water, which would require chlorination at some minimal level. More information on this issue is on the City's website and will be discussed with the City Council in the near future.

Either way, some of the cost of using this water could be paid by new development. This would reduce the impact on current ratepayers.



# “Frequently Asked Questions”

**13) *Well, this is all fine, but that doesn't do me much good. I'm on a fixed income and will have trouble paying this increase. What is being done about this?***

The City has a number of utility discount and assistance programs, some in cooperation with the Salvation Army. These discounts would apply to this increase as well.

**14) *This is still all too much; why do we have to deal with this anyway? Can't we make it go away?***

As the water provider, the City has the final responsibility to provide safe, clean water to its customers. This would be the same if service was provided by a private water company. In addition, the State has ordered clean up. Non-compliance would mean substantial fines and penalties, and the clean up would still need to be done.

**15) *I still have more questions – whom should I call?***

Contact the Public Works Department at 333-6706.

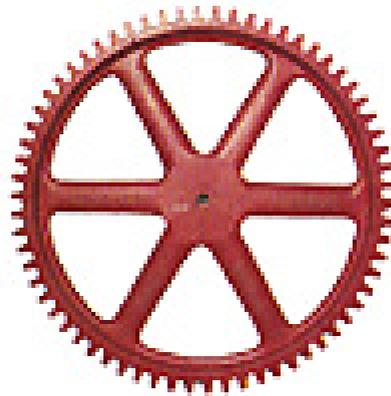


Single-Family Residential	Current Rates Effective 5/1/2005				Rates Effective 1/1/2006				Rates Effective (1) 7/1/2006				Rates Effective (1) 7/1/2007			
	Base	Infr.	PCE/TCE	Monthly Total	Base	Infr.	PCE/TCE	Monthly Total	Base	Infr.	PCE/TCE	Monthly Total	Base	Infr.	PCE/TCE	Monthly Total
1 BR - House	13.67	4.97	0.00	18.64	13.67	4.97	2.43	21.07	13.67	4.97	4.86	23.50	13.67	4.97	7.29	25.93
2 BR - House	16.41	5.97	0.00	22.38	16.41	5.97	2.92	25.30	16.41	5.97	5.84	28.22	16.41	5.97	8.76	31.14
3 BR - House	19.68	7.15	0.00	26.83	19.68	7.15	3.50	30.33	19.68	7.15	7.00	33.83	19.68	7.15	10.50	37.33
4 BR - House	23.64	8.60	0.00	32.24	23.64	8.60	4.20	36.44	23.64	8.60	8.41	40.65	23.64	8.60	12.61	44.85
5 BR - House	28.36	10.32	0.00	38.68	28.36	10.32	5.04	43.72	28.36	10.32	10.09	48.77	28.36	10.32	15.13	53.81
6 BR - House	34.03	12.38	0.00	46.41	34.03	12.38	6.05	52.46	34.03	12.38	12.10	58.51	34.03	12.38	18.16	64.57
7 BR - House	40.82	14.85	0.00	55.67	40.82	14.85	7.26	62.93	40.82	14.85	14.52	70.19	40.82	14.85	21.78	77.45
Multi-Family Residential																
1 BR - APT	11.73	4.27	0.00	16.00	11.73	4.27	2.09	18.09	11.73	4.27	4.17	20.17	11.73	4.27	6.26	22.26
2 BR - APT	14.07	5.12	0.00	19.19	14.07	5.12	2.50	21.69	14.07	5.12	5.00	24.19	14.07	5.12	7.51	26.70
3 BR - APT	16.88	6.14	0.00	23.02	16.88	6.14	3.00	26.02	16.88	6.14	6.00	29.02	16.88	6.14	9.01	32.03
4 BR - APT (2)	20.26	7.38	0.00	27.64	20.26	7.38	3.60	31.24	20.26	7.38	7.21	34.85	20.26	7.38	10.81	38.45
Flat-Rate Commercial Customers - Varies					Flat rates increase 13.05% 01/01/06				Flat rates increase 11.545% 07/01/06				Flat rates increase 10.35% 07/01/07			
Metered Commercial (3)	Base	Base \$/ccf	Infr. \$/ccf	PCE/TCE	Base	Base \$/ccf	Infr. \$/ccf	PCE/TCE	Base	Base \$/ccf	Infr. \$/ccf	PCE/TCE	Base	Base \$/ccf	Infr. \$/ccf	PCE/TCE
Comm. .75"	15.77	0.490	0.233	0.00	15.77	0.490	0.233	3.50	15.77	0.490	0.233	7.00	15.77	0.490	0.233	10.50
Comm. 1"	23.65	0.490	0.233	0.00	23.65	0.490	0.233	5.25	23.65	0.490	0.233	10.51	23.65	0.490	0.233	15.76
Comm. 1.5"	31.53	0.490	0.233	0.00	31.53	0.490	0.233	7.00	31.53	0.490	0.233	14.00	31.53	0.490	0.233	21.01
Comm. 2"	39.43	0.490	0.233	0.00	39.43	0.490	0.233	8.76	39.43	0.490	0.233	17.51	39.43	0.490	0.233	26.27
Comm. 3"	55.19	0.490	0.233	0.00	55.19	0.490	0.233	12.26	55.19	0.490	0.233	24.51	55.19	0.490	0.233	36.77
Comm. 4"	70.96	0.490	0.233	0.00	70.96	0.490	0.233	15.76	70.96	0.490	0.233	31.52	70.96	0.490	0.233	47.28
Comm. 6"	102.60	0.490	0.233	0.00	102.60	0.490	0.233	22.77	102.60	0.490	0.233	45.53	102.60	0.490	0.233	68.30
Comm. 8"	134.06	0.490	0.233	0.00	134.06	0.490	0.233	29.75	134.06	0.490	0.233	59.50	134.06	0.490	0.233	89.25
Comm. 10"	165.60	0.490	0.233	0.00	165.60	0.490	0.233	36.75	165.60	0.490	0.233	73.50	165.60	0.490	0.233	110.25



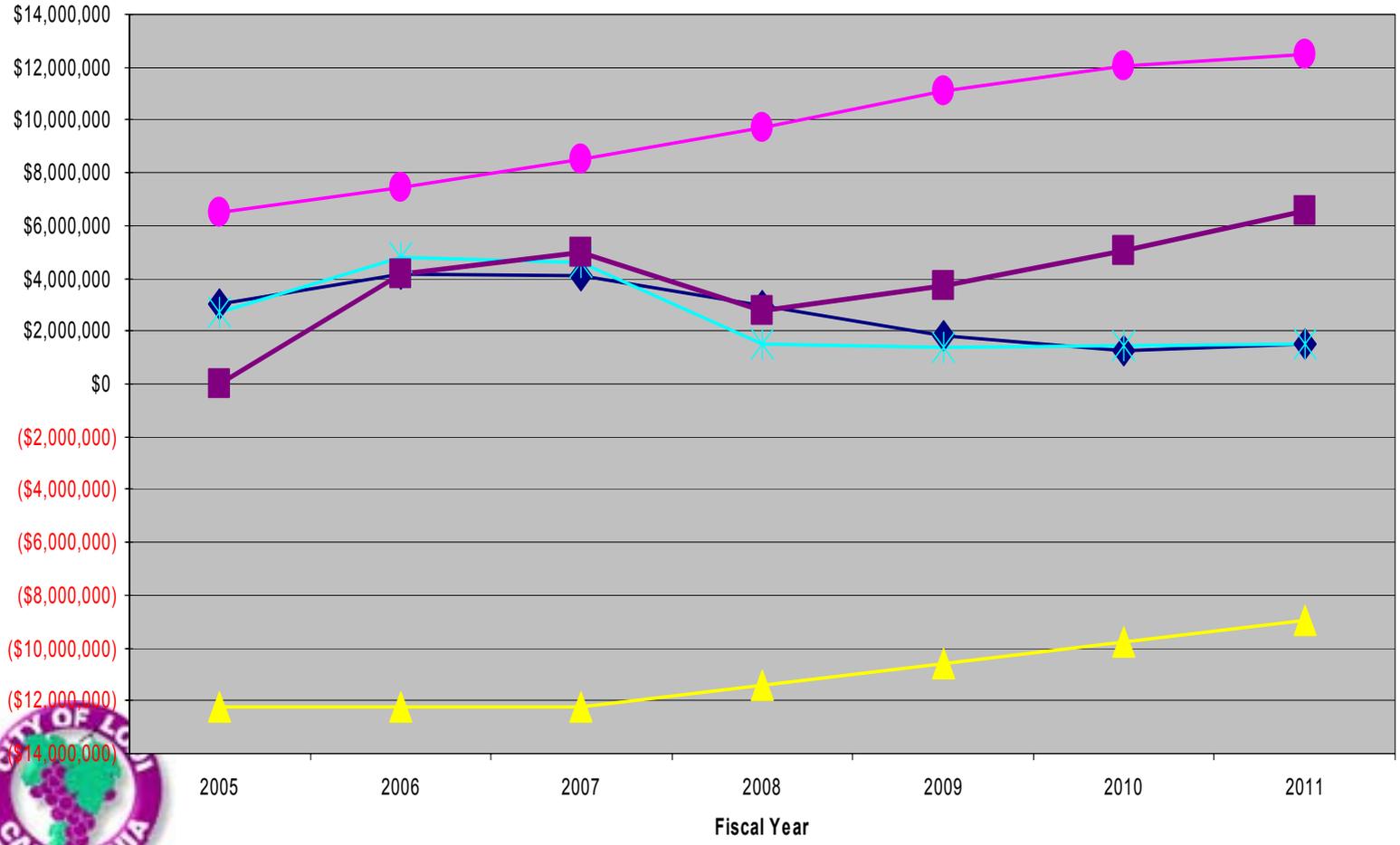
- (1) Rates effective each July 1 will be adjusted for changes in the Consumer Price Index
- (2) Plus 20% for each additional bedroom
- (3) Monthly total for metered commercial customers depends on amount of water used
- (4) Established City Utility Discounts apply to above rates

# Discussion & Questions



### Water Fund Balances With Rate Increase

● Operating Fund    ◆ Capital Maintenance    ▲ Past PCE/TCE    ✧ PCE/TCE Cleanup Fund    ■ Combined Ending Reserves



### Water Fund Balances Without Rate Increase

● Operating Fund    ◆ Capital Maintenance    ▲ Past PCE/TCE    ✧ PCE/TCE Cleanup Fund    ■ Combined Ending Reserves

