

The background of the slide is a light blue gradient. It is decorated with several realistic water droplets of various sizes, some with highlights and shadows, scattered across the top and bottom edges.

# **2016 PUBLIC UTILITIES UPDATE**

# El Dorado Sewer Rates / 100 cu. ft.



		Customer Cost based on 6000 gallons usage	Customer Cost based on 5000 gallons usage	Base Charge	Usage Charge per 1000 gallons	Usage Charge per 100 cu.ft.
1	Liberal	\$12.80	\$10.20	\$5.45	\$2.60	\$1.94
2	Garden City	\$19.00	\$17.00	\$7.00	\$2.00	\$1.50
3	Hutchinson	\$20.42	\$17.85	\$5.00	\$2.57	\$1.92
4	Derby	\$24.94	\$23.35	\$15.40	\$1.59	\$1.19
5	El Dorado	\$27.18	\$23.82	\$7.02	\$3.36	\$2.51
6	McPherson	\$26.50	\$24.50	\$14.50	\$2.00	\$1.50
7	Parsons	\$27.98	\$24.90	\$9.50	\$3.08	\$2.30
8	Andover	\$25.00	\$25.00			\$0.00
9	Dodge City	\$27.99	\$25.90	\$15.45	\$2.09	\$1.56
10	Great Bend	\$30.34	\$26.54	\$7.54	\$3.80	\$2.84
11	Emporia	\$30.73	\$27.90	\$13.75	\$2.83	\$2.12
12	Salina	\$34.43	\$29.82	\$6.77	\$4.61	\$3.45
13	Hays	\$33.21	\$29.93	\$13.53	\$3.28	\$2.45
14	Winfield	\$33.60	\$30.00	\$12.00	\$3.60	\$2.69
15	Arkansas City	\$33.61	\$30.01	\$19.21	\$3.60	\$2.69
16	Maize	\$31.00	\$31.00	\$31.00	\$0.00	\$0.00
17	Manhattan	\$33.02	\$31.19	\$18.30	\$3.68	\$2.75
18	Colby	\$35.00	\$31.75	\$22.00	\$3.25	\$2.43
19	Pittsburg	\$33.96	\$32.11	\$19.20	\$3.69	\$2.76
20	Olathe	\$37.45	\$32.25	\$6.25	\$5.20	\$3.89
21	Lawrence	\$38.60	\$33.66	\$8.96	\$4.94	\$3.70
22	Haysville	\$37.85	\$33.85	\$13.85	\$4.00	\$2.99
23	Ottawa	\$37.92	\$34.66	\$18.36	\$3.26	\$2.44
24	Augusta	\$35.36	\$35.05	\$32.00	\$0.61	\$0.46
25	Wellington	\$41.04	\$35.46	\$7.56	\$5.58	\$4.17
26	Rose Hill	\$42.17	\$37.81	\$17.01	\$3.36	\$2.51
27	Goddard	\$42.77	\$41.12	\$32.87	\$1.65	\$1.23
28	BelAire	\$49.00	\$46.60	\$45.00	\$0.32	\$0.24
29	Mulvane	\$52.50	\$47.25	\$21.00	\$5.25	\$3.93
30	Newton	\$61.39	\$51.45	\$24.00	\$9.96	\$7.45

## El Dorado Potable Water Rates / 100 cu. ft.



### City of El Dorado Water Rate Survey

		<b>Customer Cost based on 5000 gallons usage</b>	<b>Monthly Minimum or Base Charge</b>
<b>1</b>	South Hutchinson	\$11.03	\$5.91
<b>2</b>	Hesston	\$14.20	\$8.00
<b>3</b>	El Dorado	\$15.48	\$7.18
<b>4</b>	Wellington	\$20.17	\$10.00
<b>5</b>	Wichita	\$21.50	\$11.95
<b>6</b>	Goddard	\$22.44	\$17.94
<b>7</b>	Clearwater	\$24.04	\$12.68
<b>8</b>	Garden Plain	\$24.80	\$14.00
<b>9</b>	Hutchinson	\$24.84	\$9.07
<b>10</b>	Mount Hope	\$26.25	\$20.00
<b>11</b>	Derby	\$27.26	\$17.06
<b>12</b>	Mulvane	\$29.95	\$5.25
<b>13</b>	Cheney	\$30.30	\$21.50
<b>14</b>	Park City	\$31.50	\$21.00
<b>15</b>	Augusta	\$32.65	\$13.15
<b>16</b>	Andover	\$34.43	\$19.13
<b>17</b>	Maize	\$35.73	\$25.50
<b>18</b>	Bentley	\$37.44	\$19.44
<b>19</b>	Rose Hill	\$39.34	\$23.10
<b>20</b>	Conway Springs	\$40.00	\$20.00
<b>21</b>	Kechi	\$40.55	\$15.00
<b>22</b>	Newton	\$41.45	\$17.65
<b>23</b>	Bel Aire	\$44.72	\$26.21
<b>24</b>	Valley Center	\$44.89	\$24.49

# WELCOME TO WATER TREATMENT



# **WATER TREATMENT GENERATOR/PUMP STATION IMPROVEMENTS**

- 2012
- \$1.2 MILLION
- 1250 KW CAPACITY
- PROVIDES POWER TO  
WTP, REFINERY &  
WATER DIST. BLDG.



# **NEW SWITCHGEAR – PART OF GENERATOR PROJECT**

- REPLACED 40-YEAR  
OLD SWITCHGEAR AND  
ADDED NEW ENERGY  
EFFICIENT VFD DRIVES



# HIGH EFFICIENCY VFD DRIVE MOTORS

- 480 VOLT MOTORS TO MATCH OUTPUT OF NEW GENERATOR
- PROVIDE PUMPING FOR ALL POTABLE WATER CUSTOMERS



# REFINERY PUMPHOUSE

- VFD CAPABLE SWITCHGEAR FOR PUMPS
- GENERATOR INTERCONNECT



# OTHER INFRASTRUCTURE INVESTMENTS

- 2006-2008 - 8<sup>TH</sup> STREET LIFT STATION IMPROVEMENTS –\$1M PROJECT INCLUDED \$400,000 OF CDBG GRANT MONEY.
  - PROJECT INCLUDED
    - -TV/CLEANING AND MANHOLE REHAB ENTIRE N/N QUAD OF THE CITY
    - - NEW SEWER ON 10<sup>TH</sup> AVE.
    - -NEW SEWER ON DOUGLAS ROAD.
    - -NORTH MAIN INTERCEPTOR – REPLACING EXISTING 10” WITH NEW 15” RICE PARK TO MCCOLLUM
    - - 8<sup>TH</sup> AVE. LIFT STATION AND FORCE MAIN

# **BG/BARTON SOLVENTS WATER MAIN IMPROVEMENTS**

- 2010 - EDA FUNDING OF \$500,000 FOR \$655,000 OF WATER AND SEWER IMPROVEMENTS IN THE EL DORADO INDUSTRIAL PARK TO SERVE BG AND BARTON SOLVENTS

# **WEST BOOSTER PUMP STATION AND PRESSURE ZONE**

- 2011 - THIS \$1.2M PROJECT INCLUDED NEW WATER MAINS AND VALVING TO SUPPORT THE ISOLATION OF A WEST PRESSURE ZONE. IT ALSO INCLUDED A BOOSTER PUMP STATION WITH ENOUGH CAPACITY TO PROVIDE WATER TO FUTURE INDUSTRIAL PARK PROSPECTS.
- \$600,000 ON THE BOOSTER PUMP AND \$600,000 IN NEW 8" THRU 16" WATERLINES

# **PRISON LIFT STATION IMPROVEMENTS**

- 2011 - THIS UPGRADE TO THE PRISON LIFT STATION INCLUDED NEW PUMPS AND A TRASH SCREENING SYSTEM NEEDED TO HANDLE THE HIGH VOLUME OF DEBRIS COMING FROM INMATES DISCARDING ITEMS DOWN DRAINS. THIS NEARLY \$500,000 PROJECT INCLUDED ARRA LOAN FORGIVENESS OF \$301,494.

# **STAR STREET WATER MAIN PROJECT**

- 2012 - THIS \$74,000 PROJECT REPLACED 4 BLOCKS OF UNDERSIZED, DETERIORATING 4" LINES WITH NEW 6" MAINS. THIS MORE THAN DOUBLED THE CAPACITY AND ALLOWED US TO IMPROVE FIRE HYDRANT FLOWS, GETTING RID OF ALL RED HYDRANTS IN THESE BLOCKS.

# **WATER TREATMENT GENERATOR AND PUMP IMPROVEMENTS**

- 2012 - THIS \$1.2M PROJECT INCLUDED A 1250 KW DIESEL GENERATOR THAT WILL PROVIDE ENOUGH POWER TO RUN THE WATER PLANT, HOLLYFRONTIER'S RAW WATER PUMPS AND POWER TO THE WATER DISTRIBUTION BUILDING.
- THE PROJECT ALSO INCLUDED REPLACEMENT OF NEARLY 50 YEAR OLD SWITCHGEAR AND MOTORS IN THE WATER TREATMENT PLANT.

# **NORTH WATER MAIN EXTENSION**

- 2013 - NEW WATER MAIN TO SERVE EL DORADO MIDDLE SCHOOL AND FUTURE CITY GROWTH – 1.5 MILES OF 12” PIPE AT A COST OF ABOUT \$606,000

# **PARALLEL RAW WATER LINE UNDER CHANNEL**

- 2014 – ABOUT \$100,000 - PROJECT TO PROVIDE COMPLETE REDUNDANCY IN THE TWO RAW WATER TRANSMISSION LINES FROM THE BASE OF THE DAM TO THE WATER TREATMENT PLANT

# **CENTRAL SEWER IMPROVEMENT**

- 2015 – THIS PROJECT INVOLVED PIPE BURSTING TO ENLARGE A CRITICAL SEWER COLLECTOR MAIN DOWN THE MIDDLE OF CENTRAL. 3 BLOCKS OF NEW 12” HDPE SEWER MAIN WAS INSTALLED AT A COST OF APPROXIMATELY \$175,000.

# **NEW WATER MAINS FOR NEW DEVELOPMENTS**

- NEW WATER MAINS IN BELMONT HEIGHTS, COLLEGE ACRES, CRISS ADDITION, PRAIRIE LAND ESTATES, GREENS AT PRAIRIE TRAILS.

# **SOUTHWEST EL DORADO SEWER IMPROVEMENTS**

- 2016 – SEWER IMPROVEMENT SW EL DORADO - \$1.2M,  
\$500,000 CDBG GRANT MONEY - 1.2 MILE OF PIPE BURSTING 6”  
TO 8”

The background is a light blue gradient. There are several realistic water droplets of various sizes in the corners: top-left, top-right, and bottom-right. The text is centered in the upper half of the page.

# **EFFICIENCY IMPROVEMENTS**

# LAB REMODEL

- 2013
- EXPANDED LAB
- SCADA SYSTEM IMPROVEMENTS
- ADDED ISLAND WITH SECOND SINK
- COMPLETED ALMOST ENTIRELY BY CITY PERSONNEL



# POST CHLORINE ANALYZER

ADDED CONTINUOUS MONITORING OF CHLORINE RESIDUAL BEING PUMPED INTO THE DISTRIBUTION SYSTEM



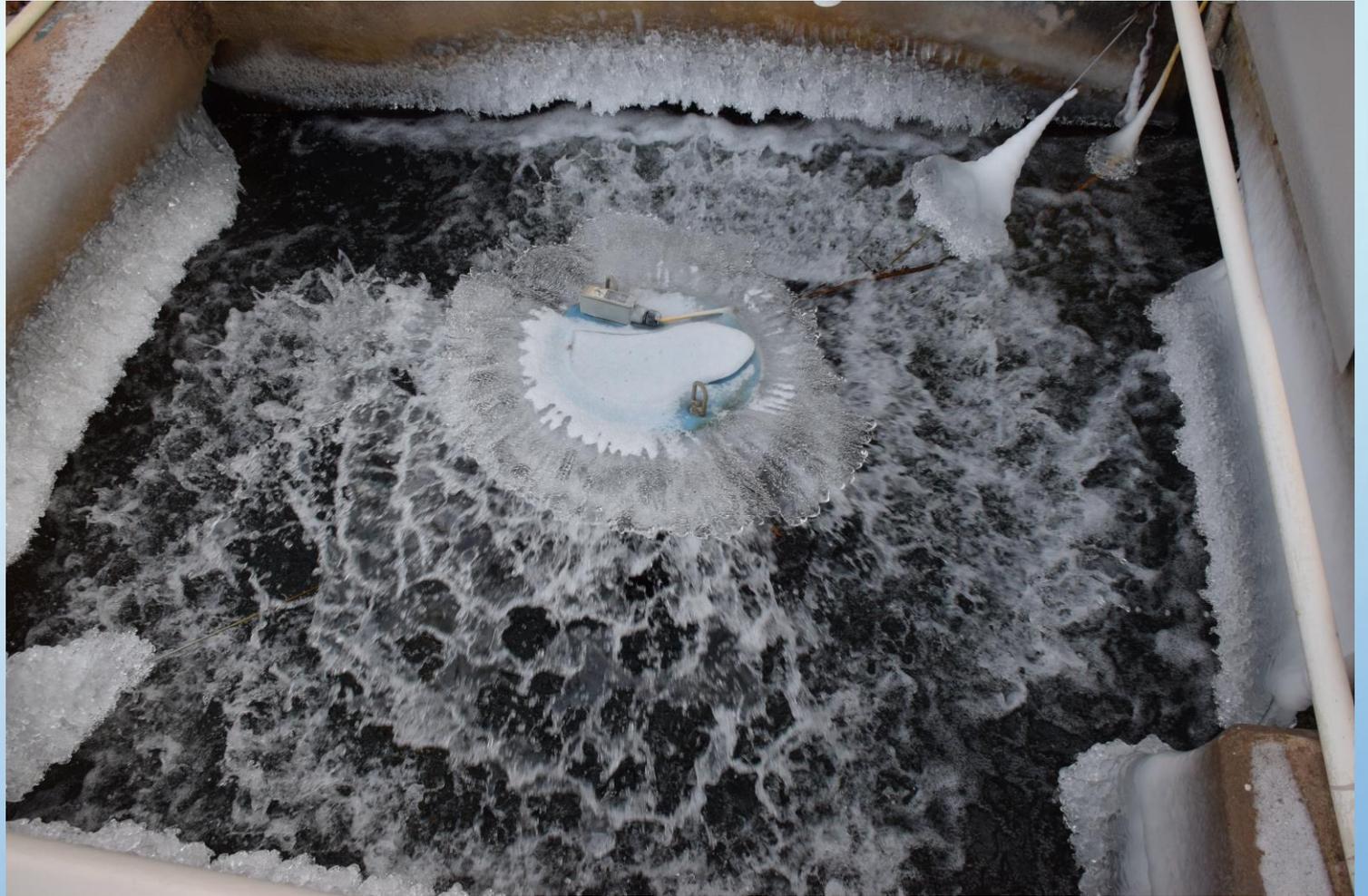
# AIR ACTUATED VALVES

- REPLACED 40-YEAR OLD VALVE ACTUATORS
- PROVIDE VERY SLOW, SMOOTH & RELIABLE CLOSING OF PUMP DISCHARGE VALVES



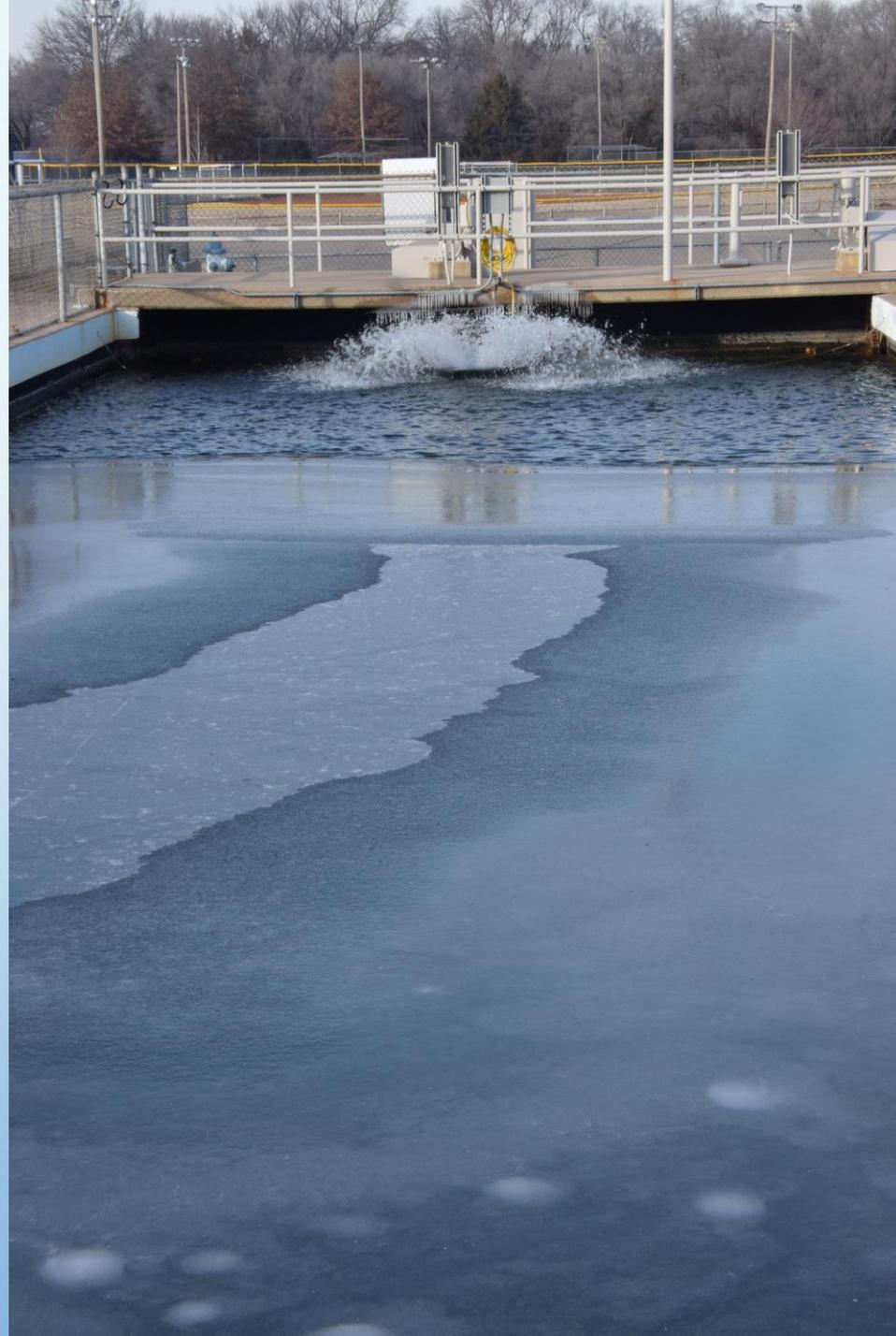
# AEROLATORS

- KEEP ICE CLEAR OF MOVING PARTS
- REDUCTION OF THM'S & HAA5'S



# AEROLATORS

- HUGE SAFETY BENEFIT
- NO LONGER HAVE TO BREAK ICE BY HAND TO CLEAR FROM BASIN DRAG SYSTEM



# SODIUM PERMANGANATE

- TRIAL RUN IN 2013 TO DEAL WITH T&O ISSUES
- BENEFITS – BETTER T&O CONTROL
- LOWER DOSAGE THAN CARBON = DECREASED COST
- ENHANCED COAGULATION = LOWER DOSAGE
- 2 YEAR PAYBACK



# AMMONIA GASSING

- PROBLEM: AQUA AMMONIA STARTS TURNING FROM LIQUID TO GAS AT HIGH TEMPS
- SOLUTION: ADDED COOLING SYSTEM TO PREVENT GASSING, IMPROVING CONSISTENT DOSING



# BULK WATER FILL STATION

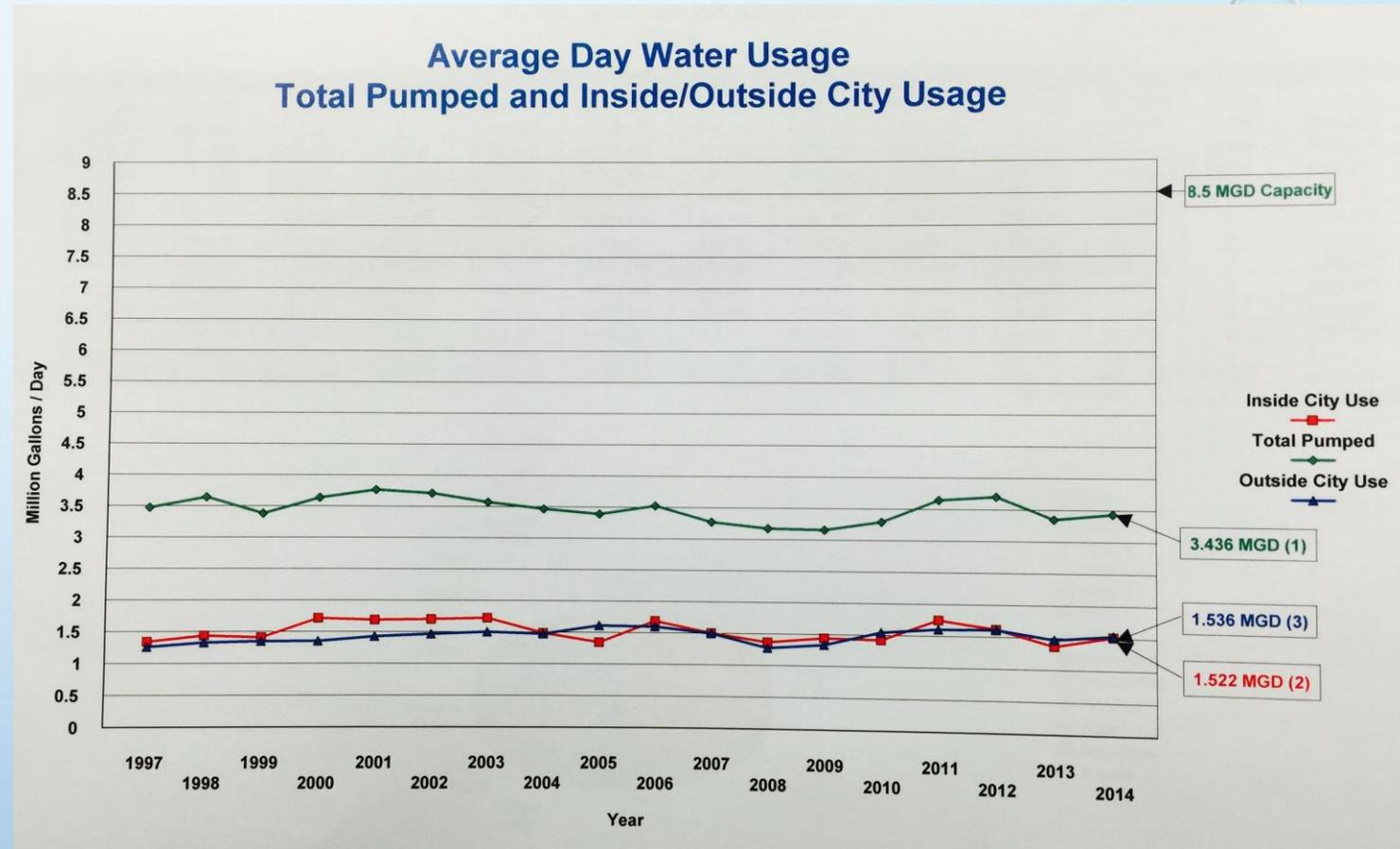
- SELL ABOUT 5 MILLION GALLONS PER YEAR
- VERY BUSY MOST OF THE YEAR



The background is a light blue gradient with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the upper half of the page.

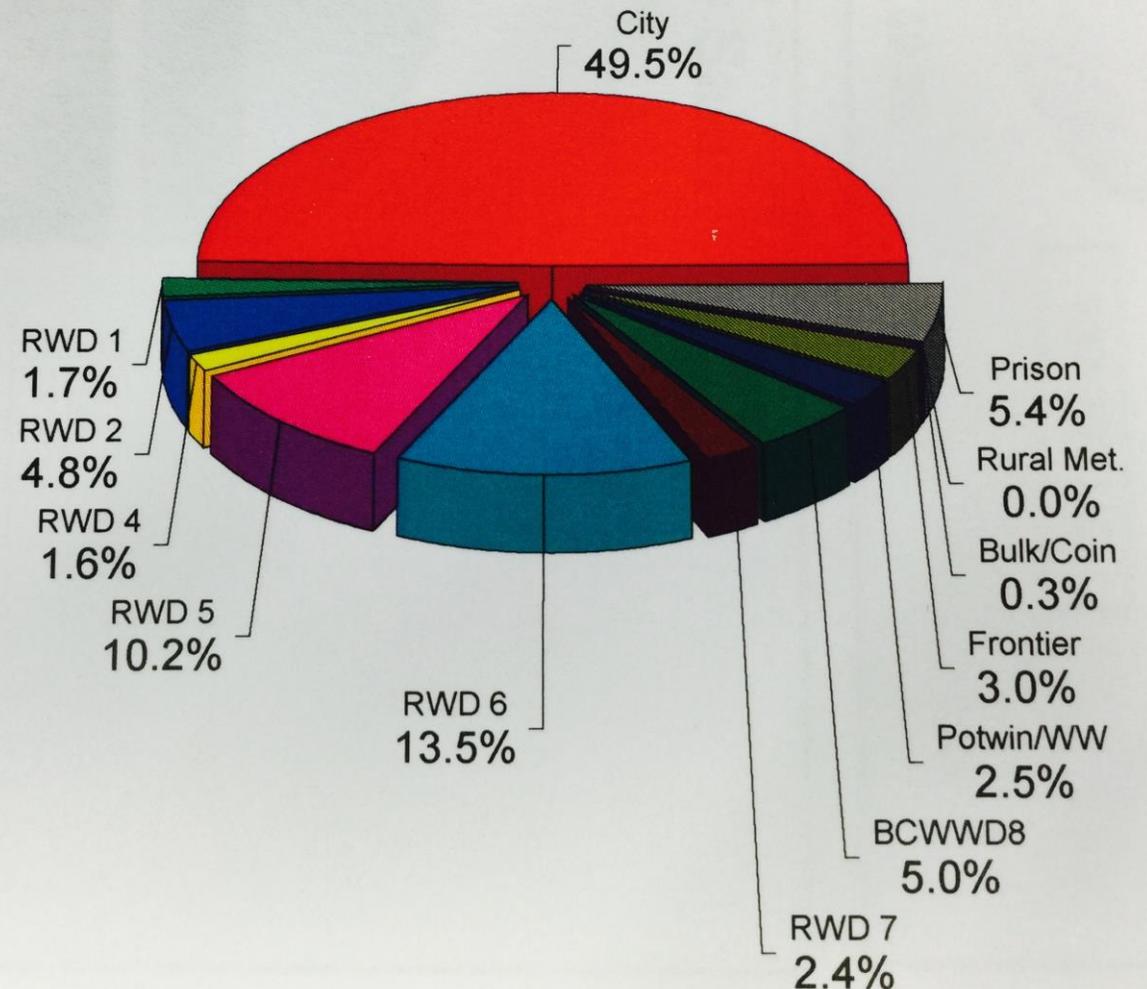
# **WATER TREATMENT PRODUCTION STATS**

- WATER PRODUCTION HAS BEEN FAIRLY STEADY OVER THE LAST 18 YEARS
- INCREASED SALES IS PRIMARILY DEPENDENT UPON PRECIPITATION
- PEAK DEMAND IS ABOUT 7 MGD



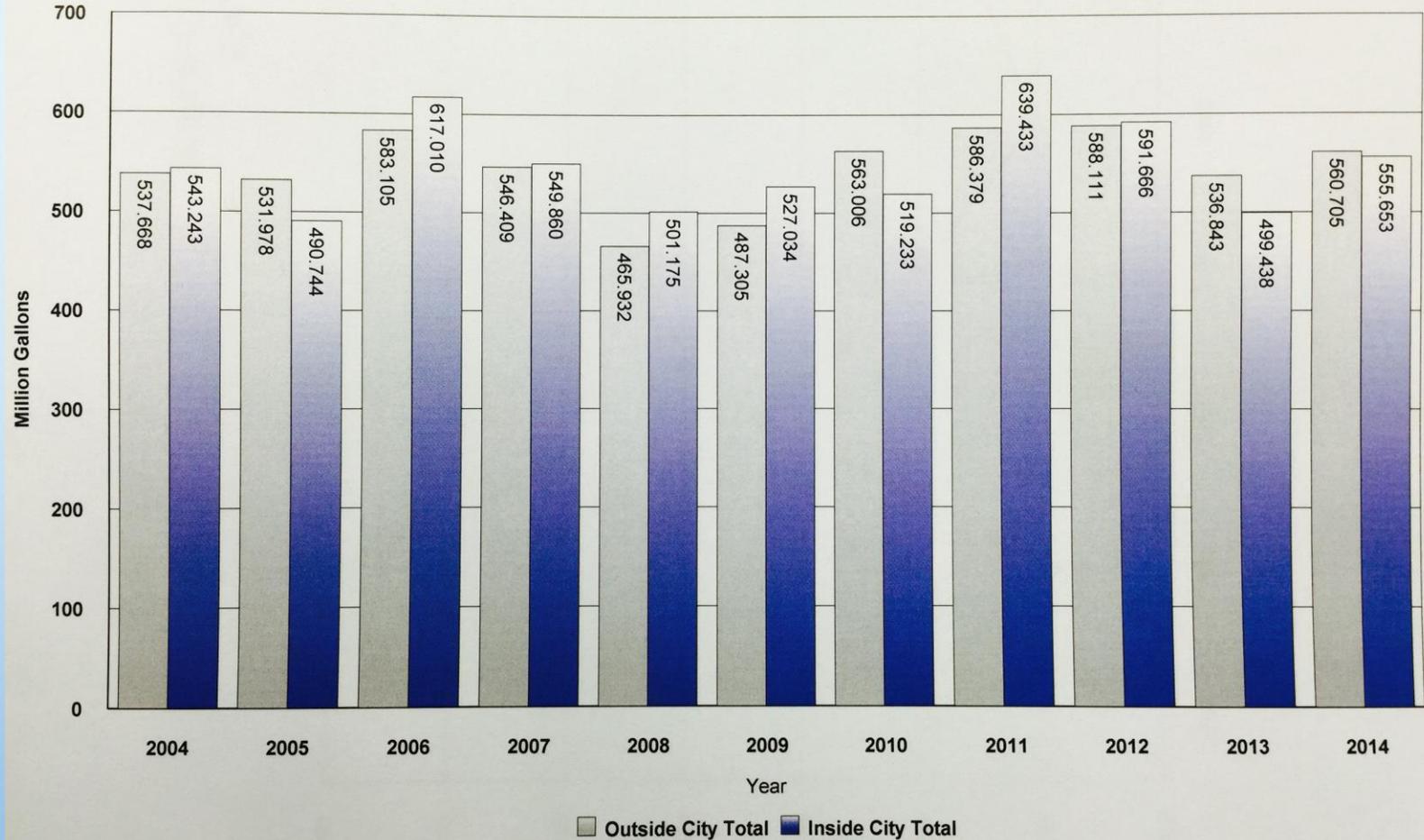
- RWD #5 AND #6 ARE OUR LARGEST POTABLE WATER CUSTOMERS
- RWD #4 WAS JUST ADDED IN 2014

## TREATED WATER SOLD 2014

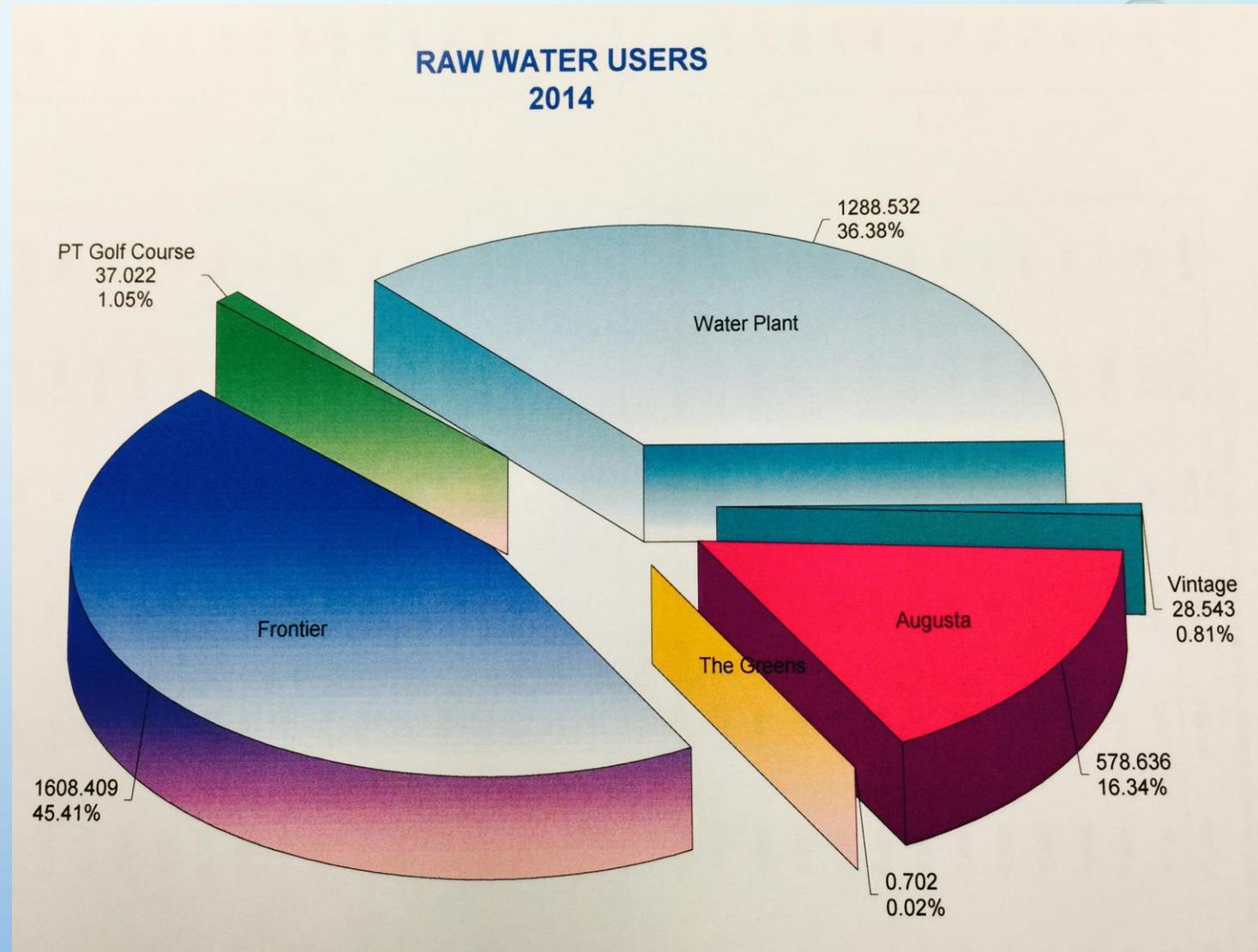


- IN DRY YEARS, INSIDE CITY SALES EDGE OUT THE OUTSIDE CITY SALES

## Inside vs. Outside City Water Use



- THE REFINERY IS THE LARGEST SINGLE USER OF WATER FROM EL DORADO LAKE AVERAGING ABOUT 4.3 MGD
- IN DRY YEARS WATER PLANT USAGE COMES CLOSE TO REFINERY USAGE



# WATER DISTRIBUTION & SEWER MAINT.

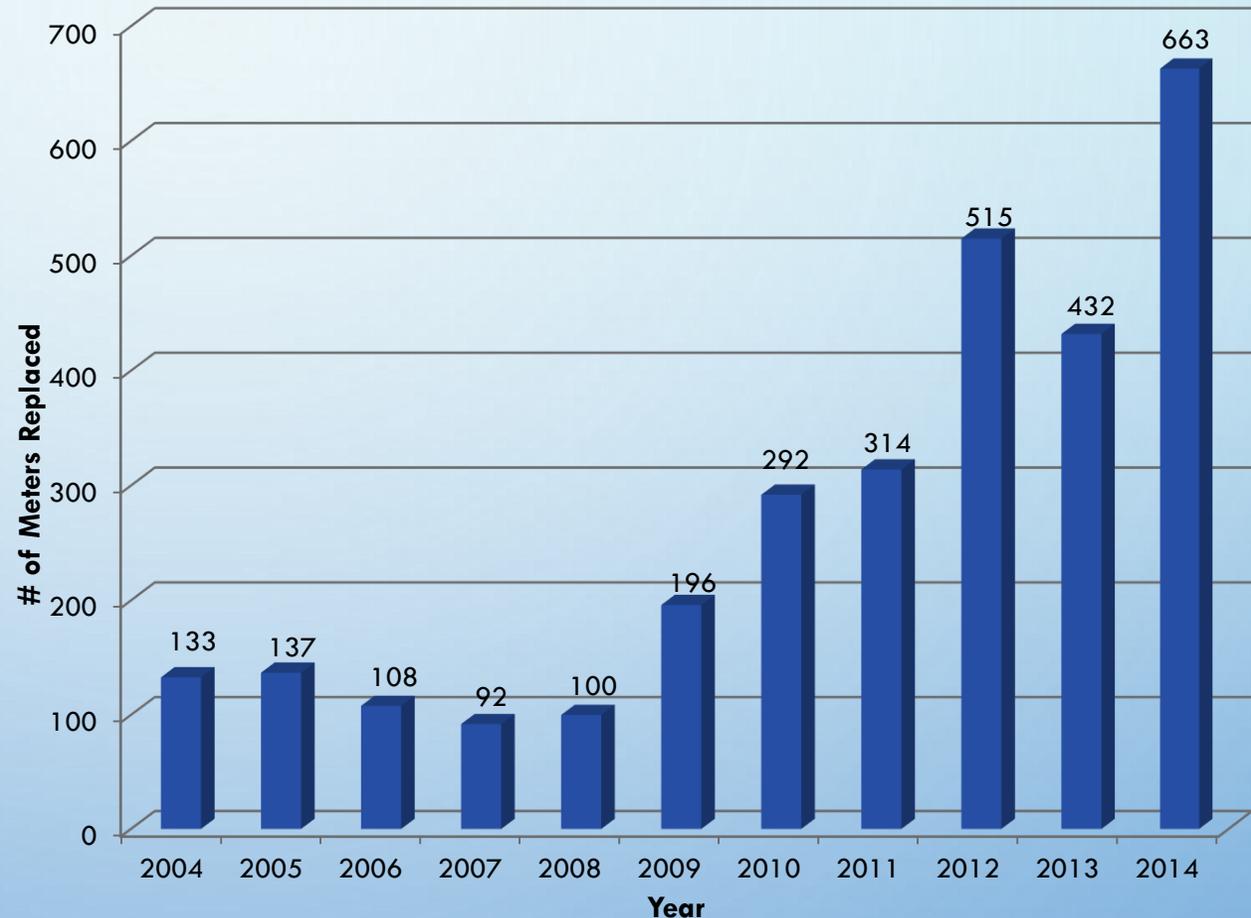
- 648,072 FEET OF WATER MAINS
- 5,277 METERS
- 679 FIRE HYDRANTS
- 2,919 VALVES
- 479,631 FEET OF SEWER MAINS
- 1,872 MANHOLES
- 12 LIFT STATIONS



# METER REPLACEMENT PROGRAM

- GOAL IS TO REPLACE ANY METER OLDER THAN 7-10 YEARS
- NEW METERS = GREATER ACCURACY

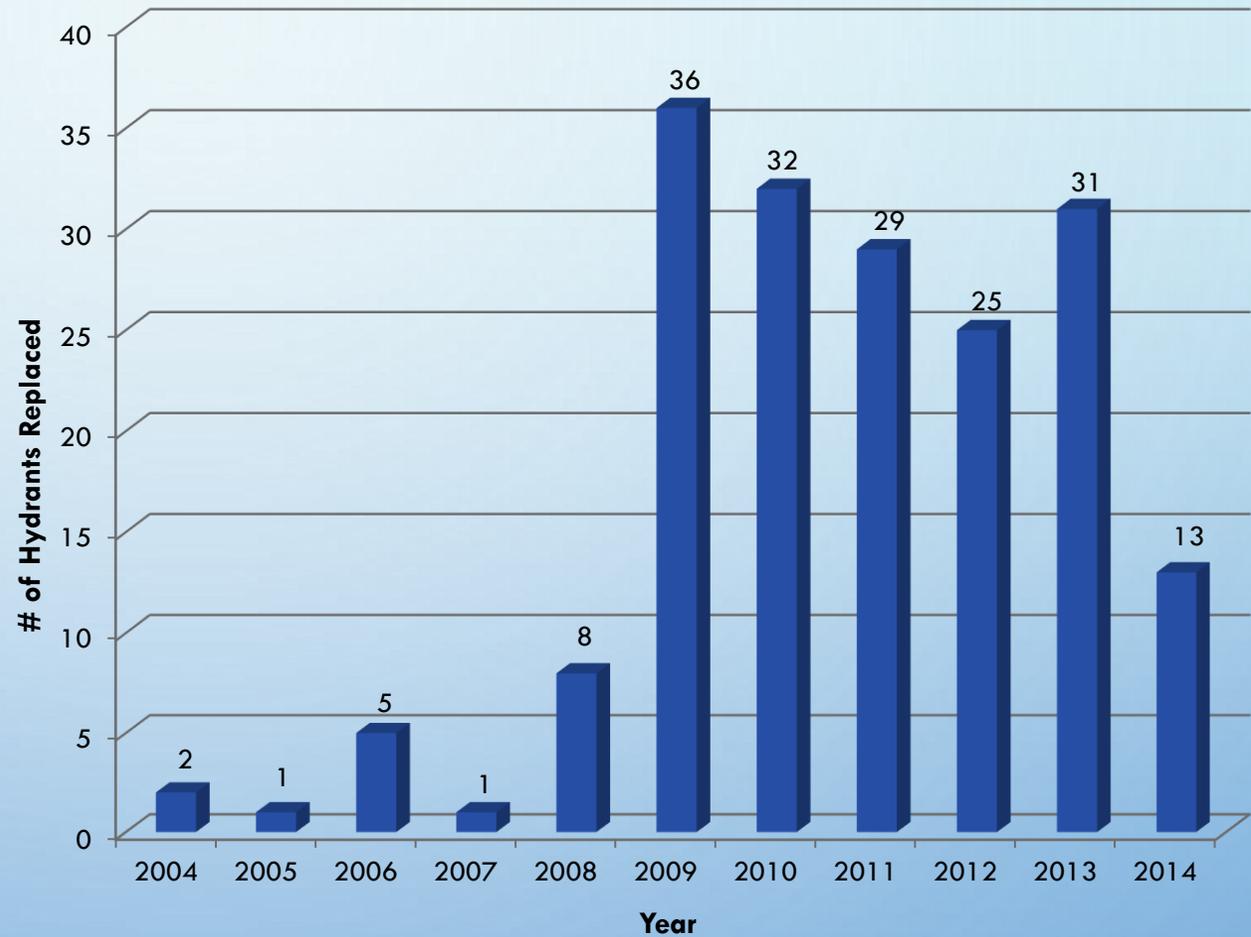
Meters Replaced



# HYDRANT REPLACEMENT PROGRAM

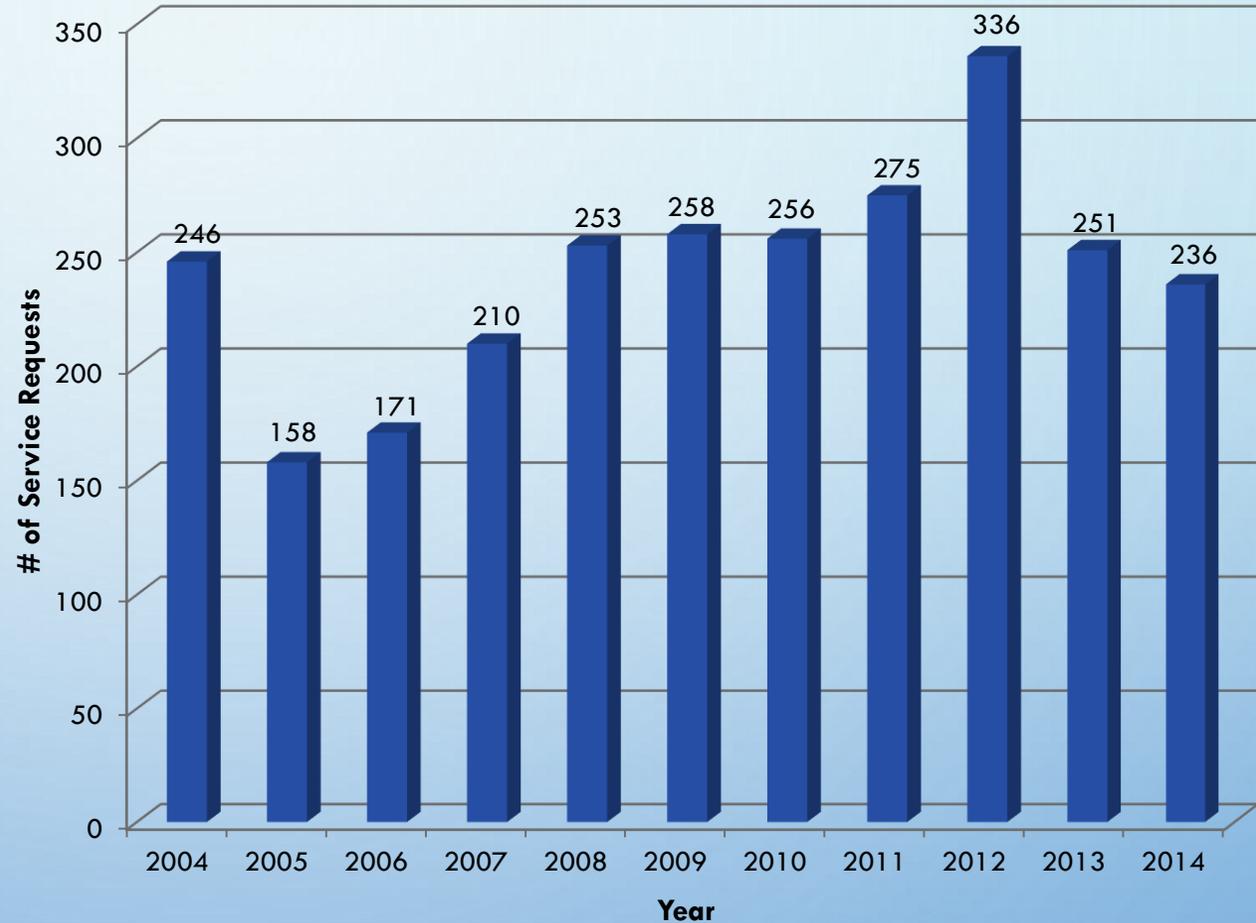
- GOAL IS TO HAVE ALL KENNEDY K-81 HYDRANTS
- REPLACE AS NEEDED BASED ON FIRE DEPT EVALUATION

## Fire Hydrants Replaced



ANY WATER RELATED  
CALL: WATER MAIN  
LEAKS, TURN ON/OFF,  
METER PROBLEM,  
LEAKING VALVE,  
LEAKING HYDRANT, ETC.

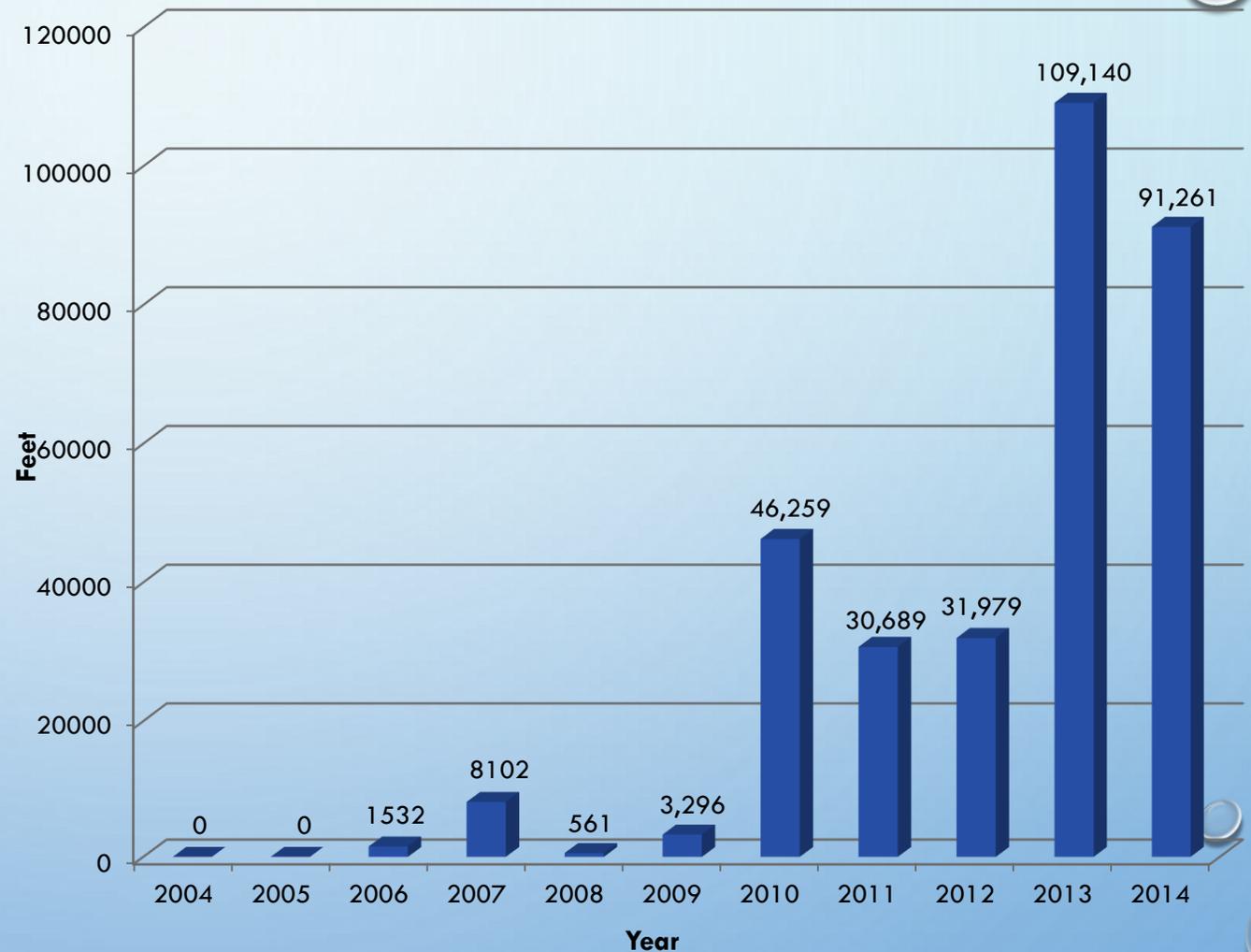
## Service Requests



## VAPOR-ROOTER

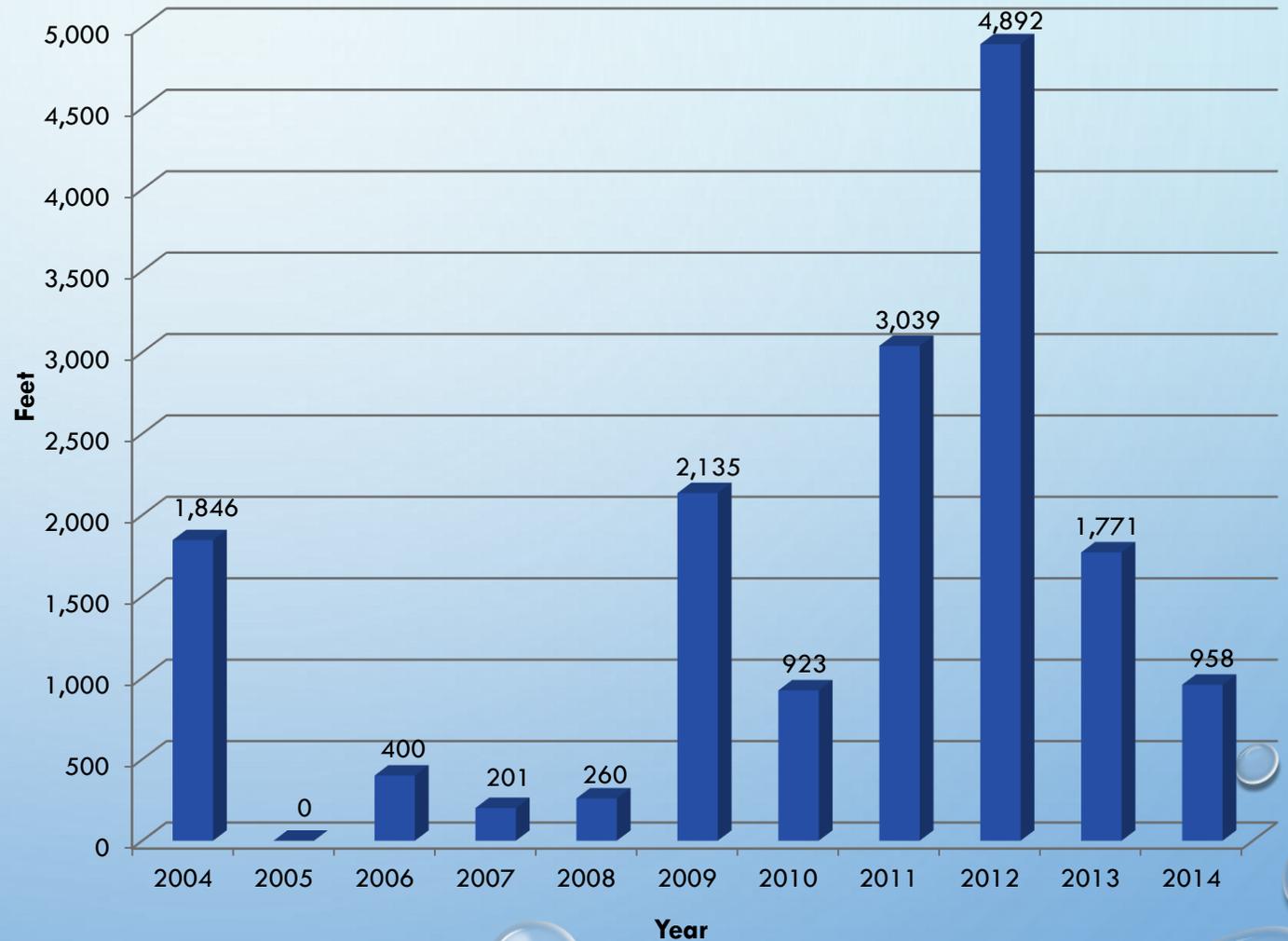
- THE VAPOR-ROOTER WAS PURCHASED IN 2010.
- TAKES ABOUT 3 YEARS TO COVER THE ENTIRE CITY
- HAS REDUCED SEWER BLOCKAGES

## Chemical Treat



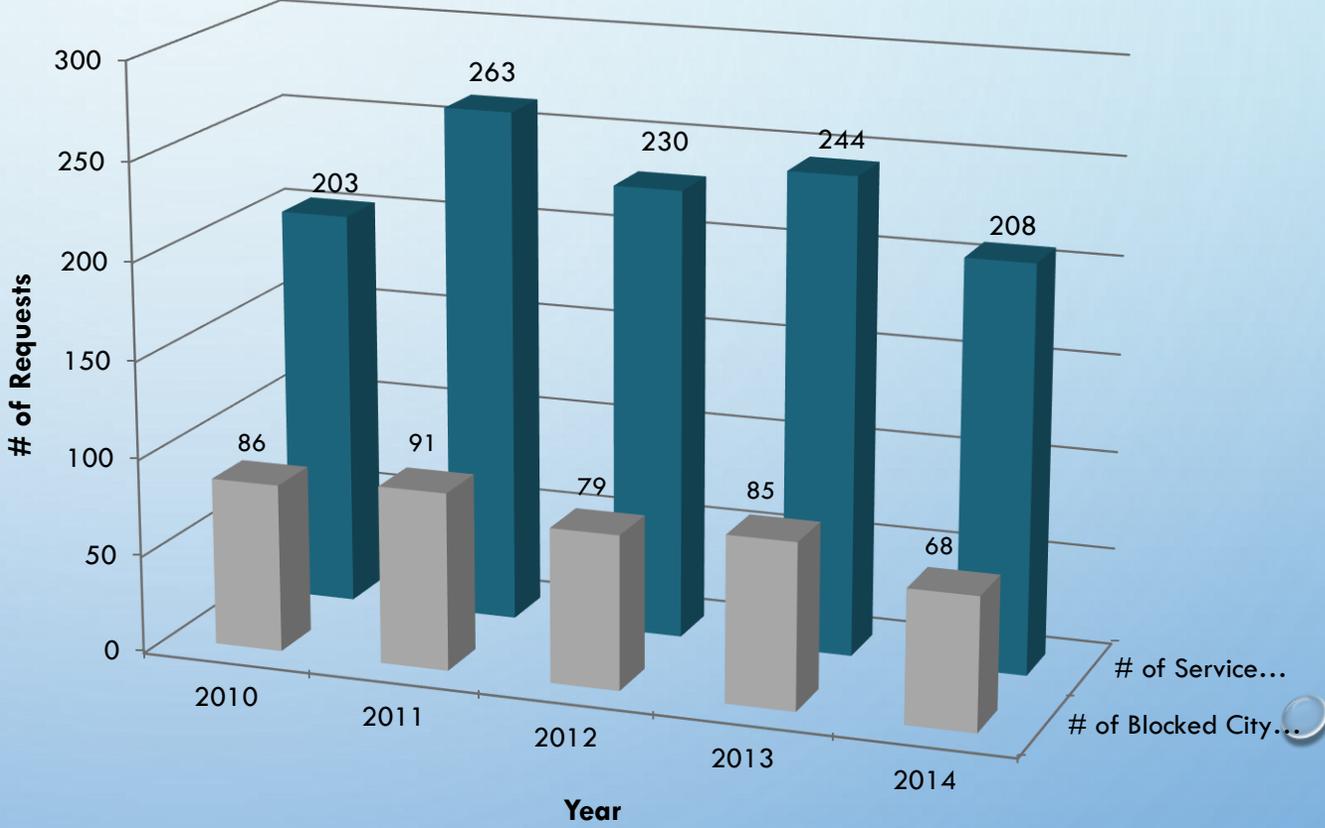
THE NECESSITY OF  
ROOT SAWING HAS  
DROPPED WITH THE USE  
OF VAPOR-ROOTING

## Root Saw



# Service Requests vs. Actual Blocked Lines

# of Blocked City Mains



- A SEWER CALLOUT DOES NOT ALWAYS MEAN A BLOCKED LINE
- IN 2014, WE WERE BLOCKED ABOUT 32% OF THE TIMES WE WERE CALLED OUT

# WATER MAIN REPLACEMENT PROGRAM

- SINCE 2010 OUR CREWS HAVE REPLACED AND/OR ELIMINATED 18,353 FEET OF UNDERSIZED 2" AND 4" PIPE

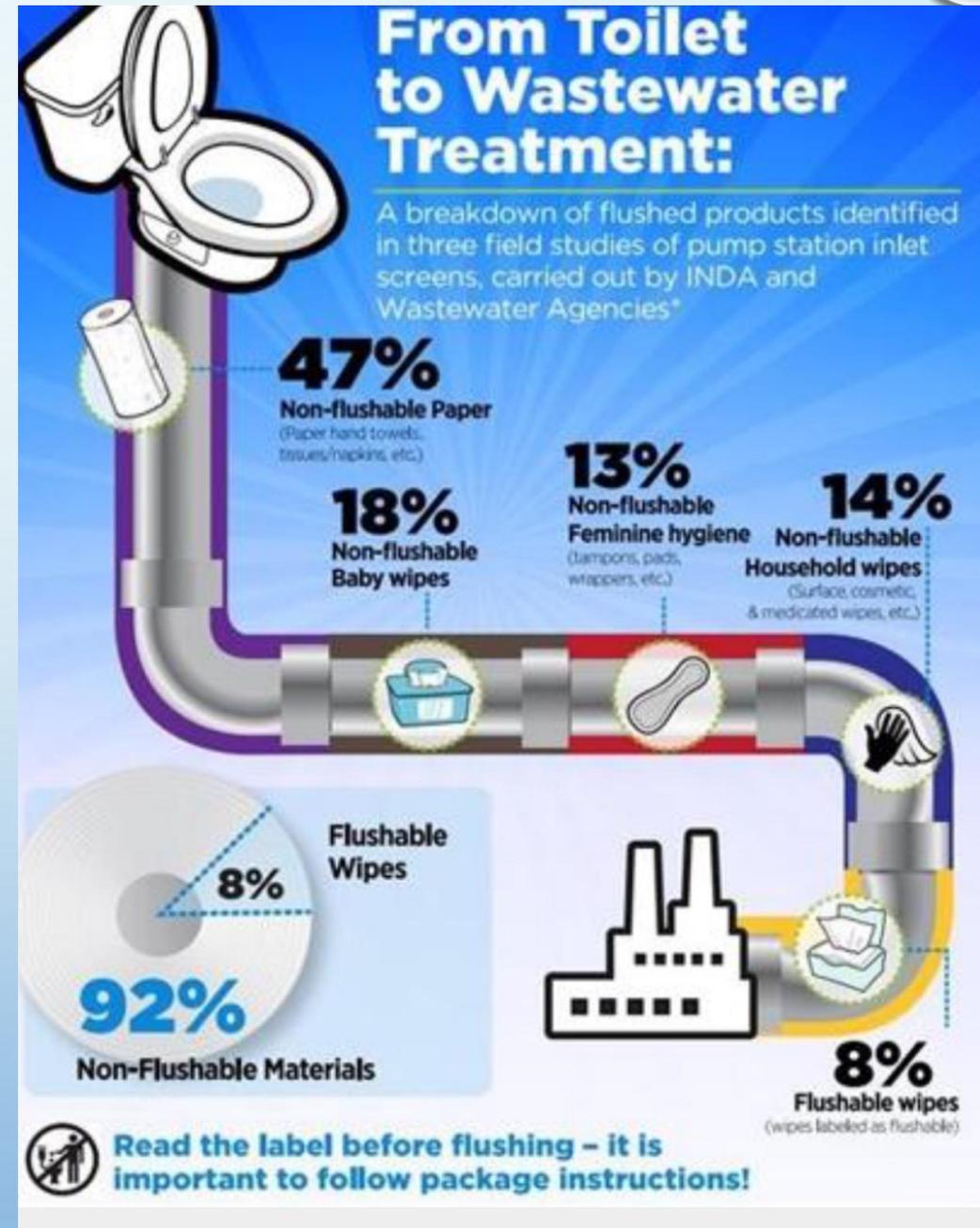
# “FLUSHABLE” WIPES ARE NOT REALLY FLUSHABLE

- WE ARE SEEING AN ALARMING INCREASE IN THE SEWER BLOCKAGES CAUSED BY SO-CALLED FLUSHABLE WIPES.
- WHILE THESE WIPES FLUSH, THEY BUILD UP IN SEWERS AND CAUSE SEWER BACKUPS



# DISPOSE OF WIPES IN THE TRASH TO PREVENT SEWER BACKUPS

- MANY OTHER PRODUCTS CAN ALSO CAUSE SEWER BACKUPS.
- A GOOD RULE – IF IT'S NOT TOILET PAPER, DON'T FLUSH IT



# WELCOME TO EL DORADO WETLANDS & WATER RECLAMATION FACILITY



COMPLETED IN 2007

- COST: \$10 MILLION
- CAPACITY: 6 MGD WITH 25 ACRES OF CONSTRUCTED WETLANDS FOR INFILTRATION & INFLOW



## RECOGNITION

- 2008 - KANSAS APWA ENVIRONMENTAL PROJECT OF THE YEAR
- 2008 - NATIONAL APWA ENVIRONMENTAL PROJECT OF THE YEAR
- 2009 - KANSAS PLANT AWARD...MORE ON THIS...



## MORE RECOGNITION

- KANSAS WATER ENVIRONMENT ASSOC. AUDITS PLANTS FOR PROCEDURES, SAFETY, EFFLUENT QUALITY, MAINTENANCE, ETC.
- AWARDS ONE FACILITY THE BEST RUN PLANT IN THE STATE.



# ENVIRONMENTAL EDUCATION & PUBLIC OUTREACH

- BOY SCOUTS, GIRL SCOUTS, 4-H, HOMESCHOOLS, EL DORADO 6<sup>TH</sup> GRADERS AND MANY OTHERS ENJOY THE FISHING OPPORTUNITY
- THE WALNUT RIVER WATER FESTIVAL TOURS THE FACILITY EACH FALL



