

City of Edmond  
Water Resources  
2014 Annual Report



## Acknowledgement

The Water Resources Department wishes to acknowledge the efforts of several persons in the timely production of this document. Without their expertise, effort, and unique abilities this would not have been possible and certainly the document would not have been produced as the professional and attractive package it is.

**These persons are:**

***Earl Hall, Kris Neifing, Ron Birdsong, Sam Drain, Keith Stewart, Cynthia Moore, Susan Miller, Rae Reese, Jennifer Young, and Jennifer Slack.***

## City Information

### Population Estimate

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>*Edmond Population</b>	81,405	83,019	83,035	84,524	84,757

\*Source: Edmond Economic Development Authority

### Average Number of Active Accounts

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Water</b>	26,756	26,957	27,702	28,304	28,839
<b>Wastewater</b>	28,413	28,535	29,241	29,906	30,527
<b>Electric</b>	35,300	35,497	36,985	37,713	38,505

# Section 1

## Water Resources

## **Vision**

- ◆ Community Focused Water and Wastewater Utilities

## **Mission**

- ◆ To Meet the Needs of Edmond's Customers by providing Trustworthy Water and Wastewater Services

## **Goals**

- ◆ Maintain the Water Resources Infrastructure
- ◆ Maintain Market Competitiveness Through the Use of Technology and Qualified Personnel
- ◆ Continue to Provide Safe Water to Consumers and Return Clean Water to the Environment

## **Values**

- ◆ Quality Water and Wastewater Services
- ◆ Customer Satisfaction and Involvement
- ◆ Professional, Honest Relationships with our Customers and with One Another
- ◆ A Team-Created, Positive, Safe and Enjoyable Work Environment
- ◆ Trained, Empowered Employees
- ◆ Sincere, Straightforward Communication



The City of Edmond has three water sources, the Garber-Wellington Aquifer, Arcadia Lake and purchased potable water from Oklahoma City. The primary water supplies are groundwater from the Garber-Wellington aquifer and surface water from Arcadia Lake. Purchasing water from Oklahoma City is a secondary source of water that was used for the first time in 2001.

After treatment at the Edmond Water Treatment Plant (Arcadia Lake water) or after pumping from the wells (Garber Wellington aquifer water), potable water is conveyed to Edmond users via a city-wide distribution system. The distribution system includes storage tanks and water towers located in the Edmond area.

Wastewater is transported through the wastewater collection system to the Wastewater Treatment Plant. The collection system also has nine (9) pumping stations that move wastewater to the treatment plant. After treatment at the Coffee Creek Wastewater Treatment Plant, the plant effluent is discharged into Coffee Creek.

The City of Edmond's Water Resources Department is made up of the following divisions:

Water Production Division

Edmond Water Treatment Plant

Pumping Stations, Water Towers and Storage Tanks

Water Wells (Fifty-six wells located throughout Edmond)

Wastewater Treatment Division

Coffee Creek Wastewater Treatment Plant

Wastewater Lift Stations

**WATER PRODUCTION**

**EDMOND WATER TREATMENT PLANT**

The Water Treatment Plant Division is responsible for management, operations and maintenance of the water treatment plant, distribution system pumping stations, water storage tanks and water towers. Plant operators also monitor the distribution system water storage levels. Fifteen (15) full-time positions staff the Water Treatment Plant.

**WATER WELLS (GARBER-WELLINGTON WATER WELL FIELD)**

The Garber Wellington aquifer is the source for all Edmond well water. The well system is comprised of fifty-six (56) wells and associated equipment. The Wells Division is staffed by one (1) well crew leader, and five (5) well operators.

**WASTEWATER TREATMENT**

The Wastewater Treatment Plant Division (WWTP) is responsible for operation maintenance and management of Edmond's wastewater treatment plant and wastewater lift stations. Treated plant effluent is discharged into Coffee Creek, a tributary of Deep Fork Creek. The facility is regulated under the National Pollution Discharge Elimination System (NPDES), which is administered by the Oklahoma State Department of Environmental Quality. The WWTP Division also operates and maintains nine (9) collection system wastewater lift stations. Eight (8) full-time positions staff the WWTP Division.

**FIELD SERVICES GROUP, a DIVISION of the PUBLIC WORKS DEPARTMENT**

The Field Services Group is made up of the Water Line Maintenance, Wastewater Line Maintenance and Street Divisions. Sixty-six (66) personnel staff the Field Services Division.

Water Line Maintenance is responsible for maintaining Edmond’s 498 miles of water distribution lines. The following areas are functions of the division:

- Emergency repair of water main breaks and service line leaks
- Installation of new residential meters (upon request)
- Preventative maintenance of system valves and fire hydrants
- Utility line locates
- Meter change out program
- Sod and concrete replacement
- Updating utility maps
- Leak detection

Wastewater Line Maintenance is responsible for maintaining Edmond’s 446 miles of wastewater collection system. The following areas are functions of the division:

- Preventive maintenance of the collection system
- Collection system blockage removal
- Emergency point repairs
- Manhole inspections
- Wastewater taps

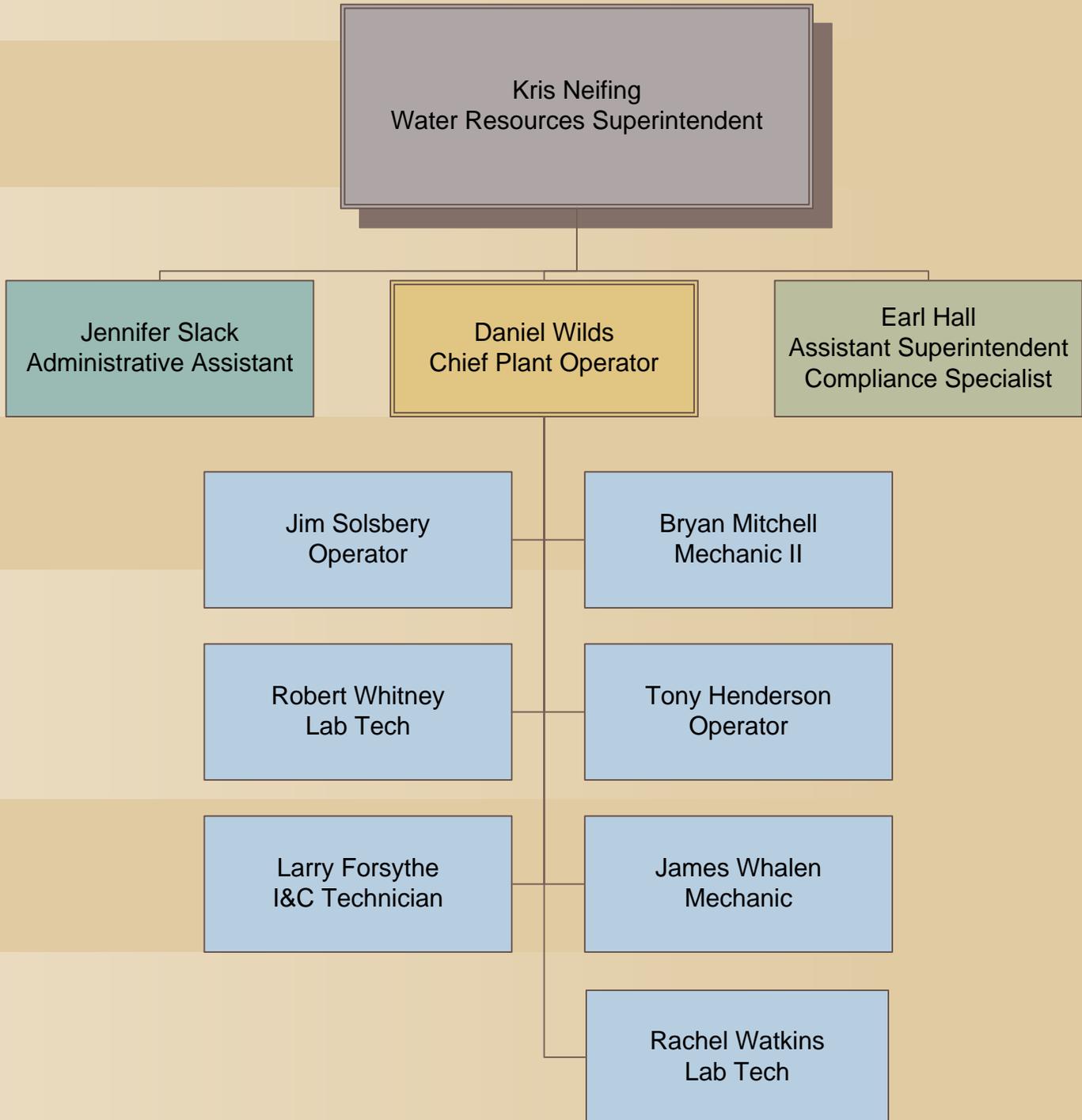
**WHO TO CALL**

<b>Water Resources Administration</b>	216-7675
<b>Water Treatment Plant</b>	
Superintendent	216-7696
Assistant Superintendent/Chief Plant Operator	216-7811
Operations Control Room/Lab	216-7690
<b>Wastewater Treatment Plant</b>	
Chief Plant Operator	216-7695
Operations Control Room/Lab	216-7697
<b>Public Works: Field Services</b>	
Superintendent	216-7674
Administrative Office	216-7770
Water or Wastewater Line Problems	216-7770
After Hours Water or Wastewater Line Problems	348-8830

# Section 2

## Water Resource Recovery Facility

# Wastewater Treatment Plant Organizational Chart 2014



## COFFEE CREEK WASTEWATER TREATMENT PLANT

Edmond's Coffee Creek Wastewater Treatment Plant (CCWWTP) is a continuous flow activated sludge process utilizing oxidation ditches and aeration tanks for secondary treatment. It has a total design capacity of nine (9) million gallons per day. The plant is operated under an Oklahoma Pollution Discharge Elimination System (OPDES) permit, issued by the Oklahoma Department of Environmental Quality (ODEQ). In 2009 the facility received a renewed OPDES permit effective May 1. In October 2013 a permit renewal application was filed with the ODEQ. The renewed permit will be in effect for five years. During 2013 ODEQ personnel conducted five plant inspections and did not note any significant issues.

The basic features of the wastewater treatment process are, screens to remove debris from raw wastewater entering the plant, aeration basins that provide for oxygenation and mixing of active microorganisms with raw sewage (the activated sludge process), a basin or clarifier to separate solids from the treated effluent, a system to return solids, also known as activated sludge, from the clarifiers back to the aeration basins and a system to waste or remove excess solids from either the basin or clarifier thus controlling the solids mass.

Operational controls include, controlling the oxygen level, the rate that activated solids are returned to the aeration basins and the rate that solids are withdrawn from the process. The treatment process is designed to remove carbonaceous organic material and oxidize ammonia to nitrate.

Treated water from the plant is also filtered to remove nearly all of the remaining solids, chlorinated to kill any potentially harmful microorganisms and then dechlorinated to eliminate excess chlorine that could be harmful to natural organisms in the receiving stream. The chlorination and dechlorination system is utilized for five months each year from May through September. These are the months most likely to have receiving stream recreational use.

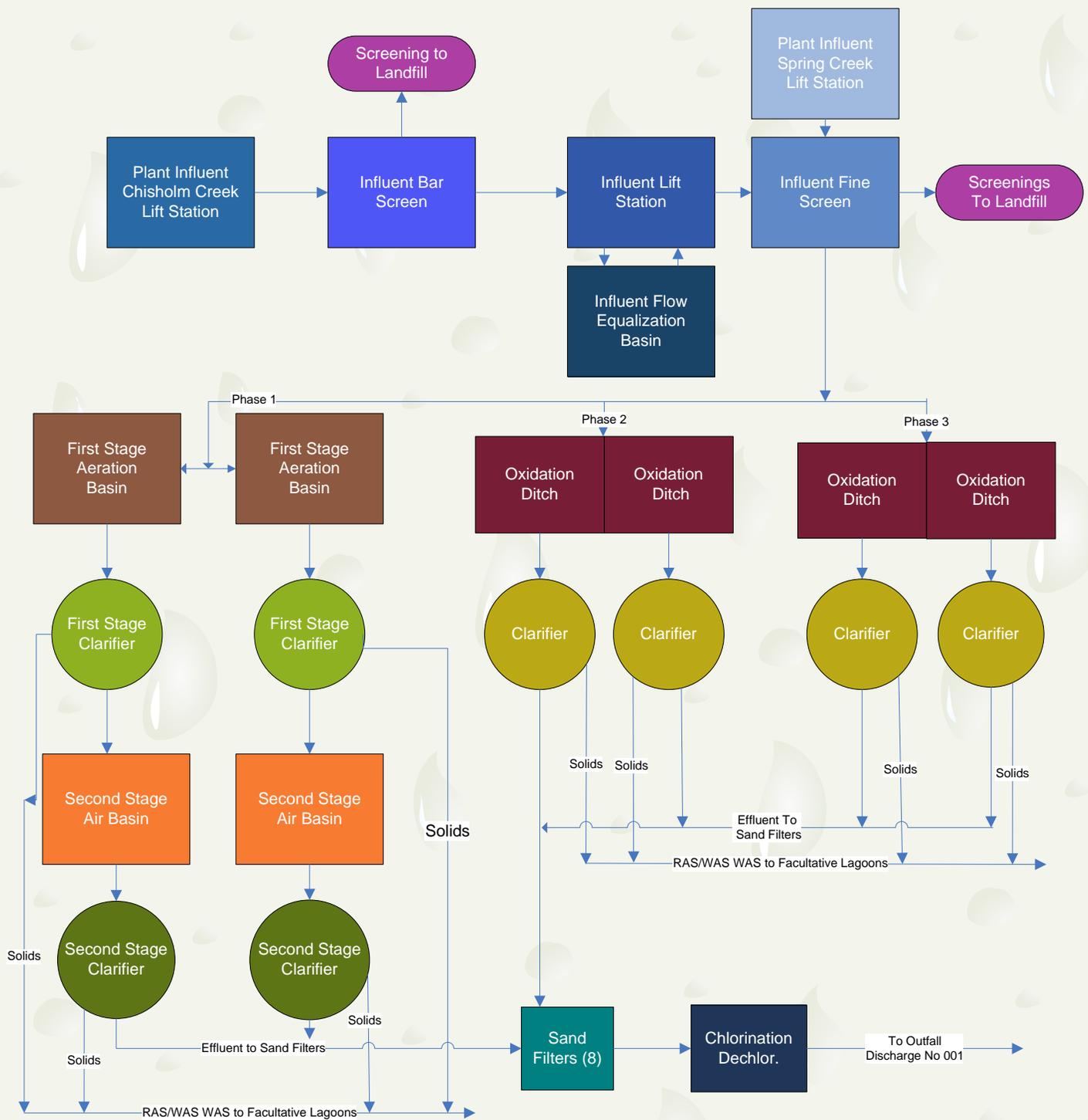
Biosolids, or sludge, that is wasted or removed from the wastewater treatment process is treated in facultative lagoons. After the sludge has spent a required amount of time in the lagoons it is tested for compliance with regulatory requirements and then land applied to local farmland for growth of second generation food crops, such as hay for stock feed. This program is defined in the plant Sludge Management Plan (SMP). The current SMP was approved by ODEQ in October 2006.

The facility also has a storm water discharge permit, issued by ODEQ. This permit was issued in May 2012 and expires on May 2016. A new permit is pending ODEQ action. The document requires Edmond to maintain best management practices for control and containment of materials that should not contaminate plant storm water run off. The CCWWTP Division is also responsible for the operation and maintenance of the City's nine (9) lift stations. The lift stations convey wastewater from the collection system to the CCWWTP. The stations are currently undergoing a rehabilitation effort to ensure that they remain at full operational capacity at all times.

The CCWWTP processed a total of 2,599,700,000 gallons of wastewater during 2014. Total operations and maintenance expenditures for 2014 were approximately \$1,663,024. The percent removal of our major permitted parameters was above 98.52%. In 2014, a total of 8,028,000 gallons (911 dry tons) of Biosolids were land applied on ODEQ approved farmland.

Seven (7) employees, One (1) Chief Plant Operator, One (1) Maintenance Mechanic II, One (1) Maintenance Mechanic, One (1) Laboratory Technician, two (2) Operators, and one (1) Instrumentation Technician operate and maintain the CCWWTP and the collection system lift stations. Staff is provided direction by the Water Resources Superintendent, Assistant Superintendent and the CCWWTP Chief Plant Operator.



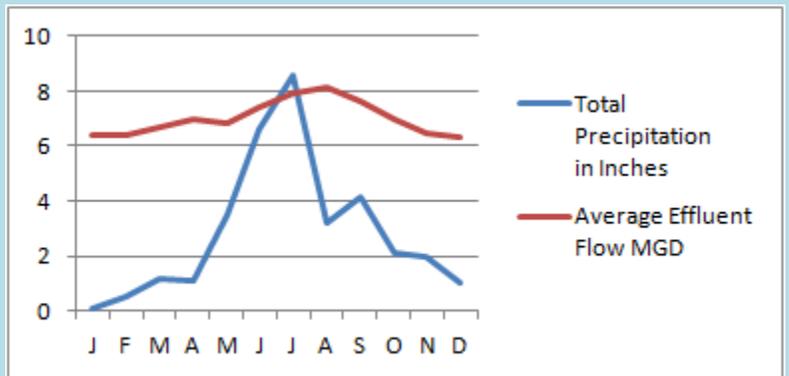


**City of Edmond**  
**Coffee Creek Wastewater**  
**Treatment Plant**  
 1600 N Midwest Blvd  
 Edmond, OK  
 Flow Schematic  
 March 1, 2011



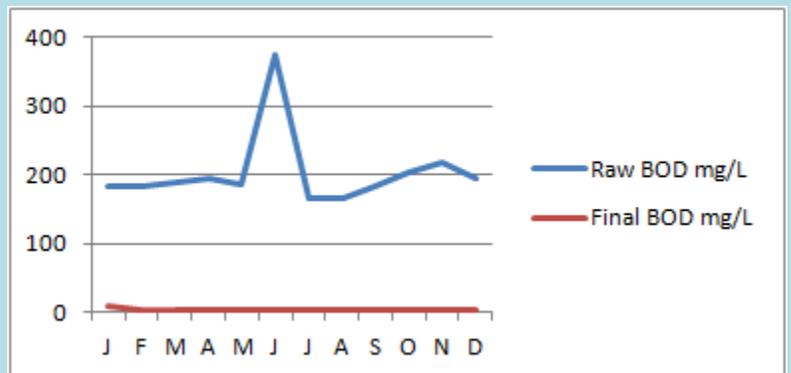
### Rain vs. Effluent Flow

	Total Precipitation in Inches	Average Effluent Flow MGD
January	0.09	6.4
February	0.5	6.4
March	1.15	6.7
April	1.06	7
May	3.46	6.8
June	6.64	7.4
July	8.58	7.9
August	3.22	8.1
September	4.13	7.6
October	2.13	7
November	1.97	6.5
December	1.05	6.3



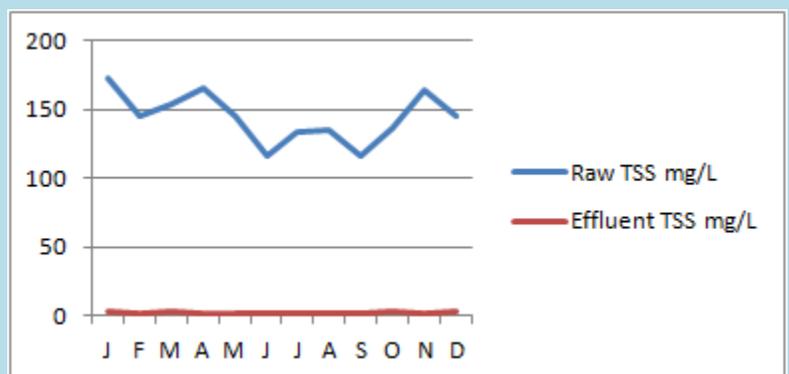
### Raw vs. Effluent BOD

	Raw BOD mg/L	Final BOD mg/L
January	183.7	9
February	182.9	3
March	189.5	2.5
April	195.2	2.5
May	184.8	2.5
June	375.2	2.5
July	164.8	2.5
August	165.3	2.5
September	182.5	2.5
October	202.8	2.5
November	217.2	2.5
December	193.7	2.6



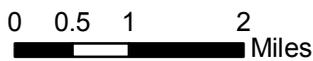
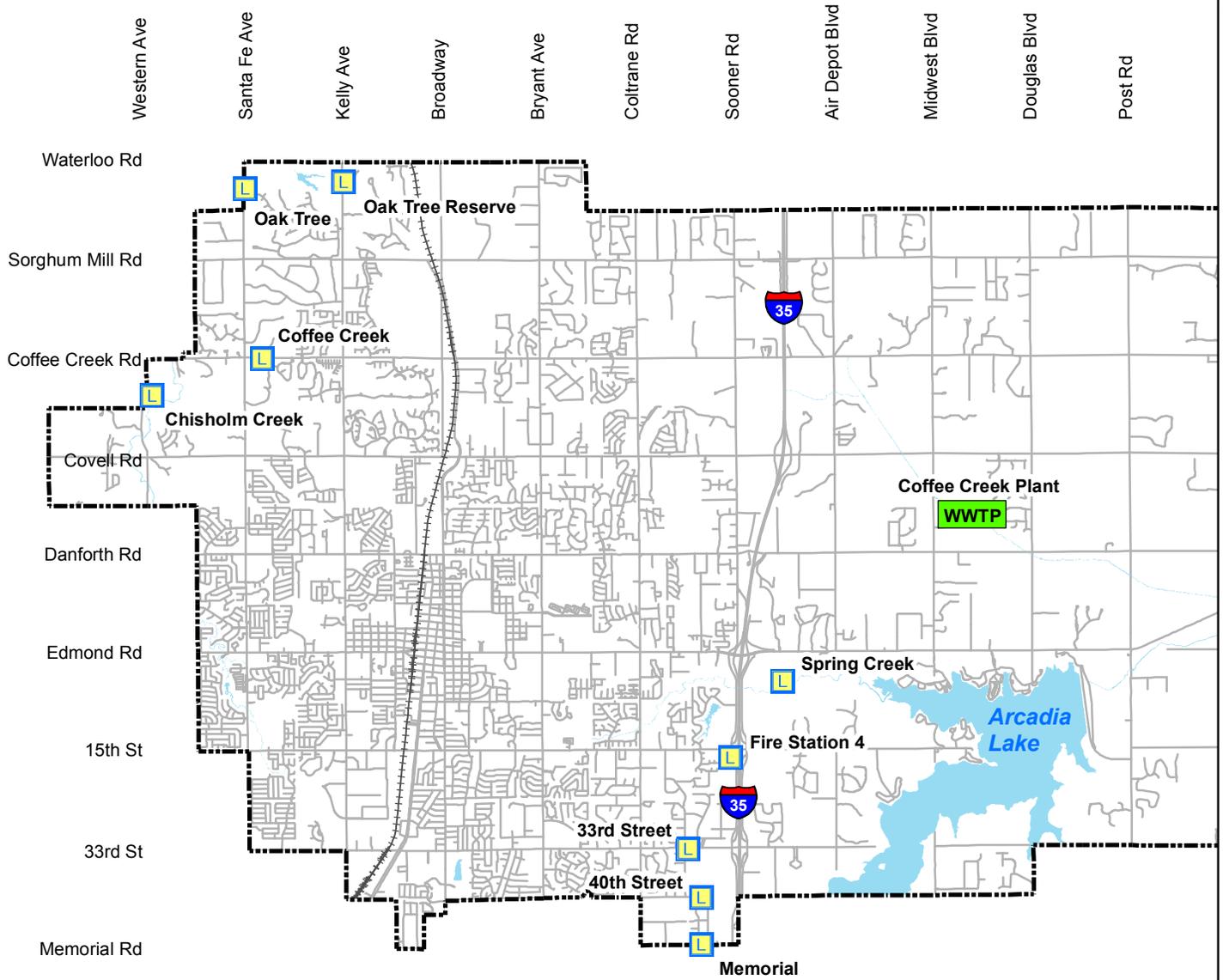
### Raw vs. Effluent TSS

	Raw TSS mg/L	Effluent TSS mg/L
January	172.4	3
February	144.8	2.1
March	153.3	3.2
April	165.6	2.1
May	146	2.3
June	115.7	2.1
July	134.3	2
August	135.1	2
September	116.3	2.1
October	137.1	2.4
November	164.4	2.2
December	145.6	2.6



# City of Edmond

## Lift Stations



### Legend

-  Lift Station
-  City Limits
-  Railroad
-  Streets
-  Waste Water Treatment Plant

January 14, 2009

The City of Edmond disclaims any warranty or merchantability or warranty for fitness of use for a particular purpose, expressed or implied, with respect to this data. Furthermore, the City of Edmond disclaims any responsibility for the accuracy or completeness of this data.

Lift Station Name	Location	Number of Pumps	Motor HP	Pump GPM
<b>CHISHOLM CREEK</b>	¾ Mile North of Covell on Western	2	150	1500
		1	300	3000
<b>COFFEE CREEK</b>	South side of Coffee Creek, ¼ mile east of Santa Fe Ave.	3	75	1500
<b>COFFEE CREEK TREATMENT PLANT</b>	Coffee Creek Plant grounds	2	75	1100
		1	60	3000
<b>MEMORIAL ROAD</b>	North side of Memorial, ½ miles west of I-35	2	3	75
<b>OAK TREE</b>	6340 North Santa Fe Ave	3	130	1100
<b>OAK TREE RESERVE</b>	East side of Kelly , ¾ mile past Sorghum Mill	2	20	450
<b>SPRING CREEK</b>	¼ mile east of I-35 on 66 Highway	1	30	1000
		1	75	2000
		2	125	3100
<b>33rd Street</b>	South side of 33rd St, ½ miles west of I-35	2	10	75
<b>40th Street</b>	40th St between Karen and Stevens Dr.	2	30	200



Stom Holding Pond

Supernate Pond

Chlorine Basin  
Sand Filter North  
Sand Filter South  
CL2 SO2 Building  
Administration Building  
MCC Building

Coffee Creek Plant Lift Station

Phase 1 Stage 2 West Clarifier  
Phase 1 Stage 2 East Clarifier

Phase 1 Stage 2 Aeration Basin West  
Phase 1 Stage 2 Aeration Basin East

Phase 1 Stage 1 West Clarifier  
Phase 1 Stage 1 East Clarifier

Thickener Building

Shop Building

Phase 3 West Clarifier  
Phase 3 East Clarifier  
Phase 2 West Clarifier  
Phase 2 East Clarifier

Phase 3 Oxidation Ditch 4  
Phase 3 Oxidation Ditch 3  
Phase 2 Oxidation Ditch 2  
Phase 2 Oxidation Ditch 1

Diversion Box

Headworks

Facultative Treatment Lagoon North

Facultative Treatment Lagoon West

Facultative Treatment Lagoon East

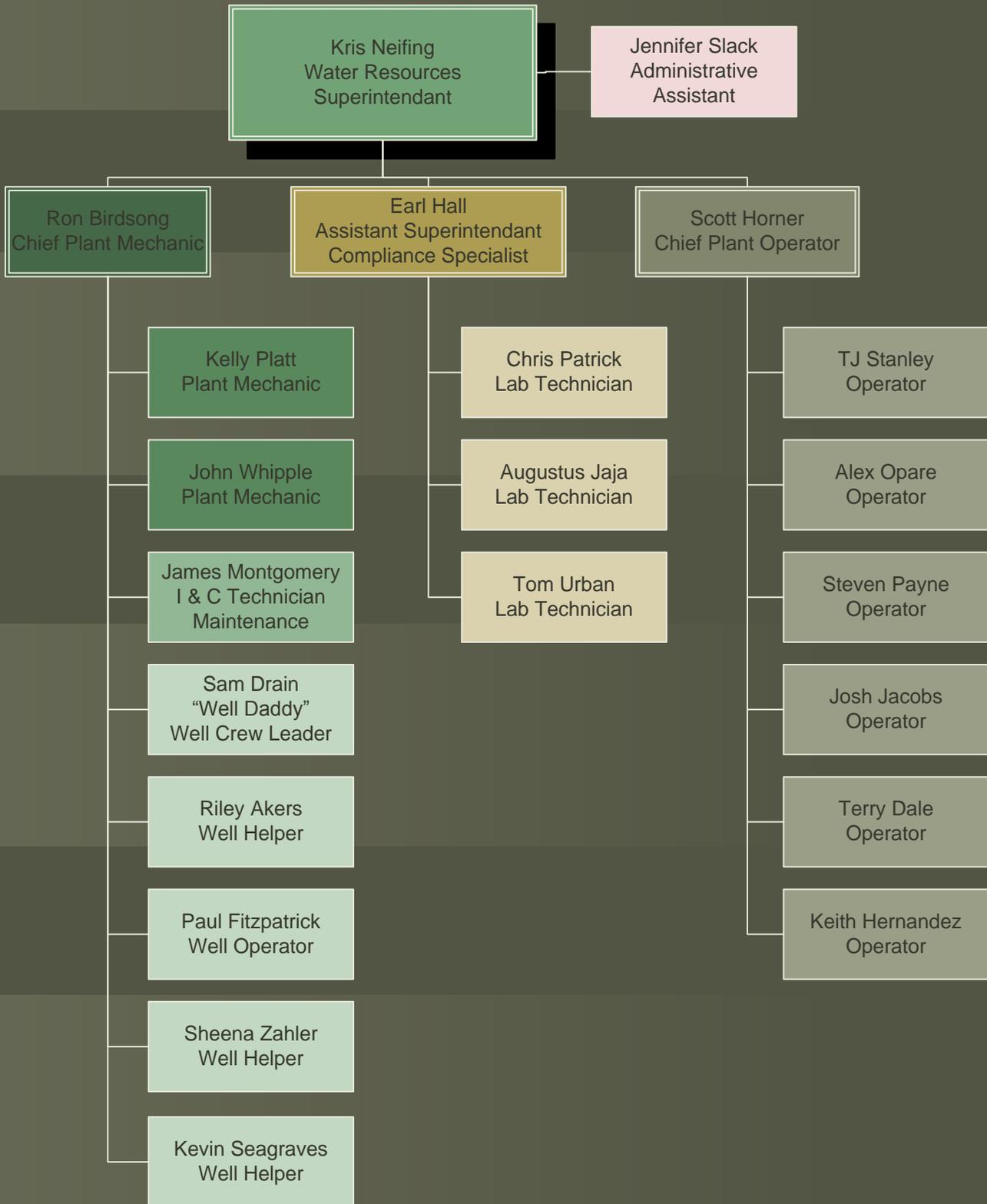
**BIOSOLIDS APPLICATION SITES**

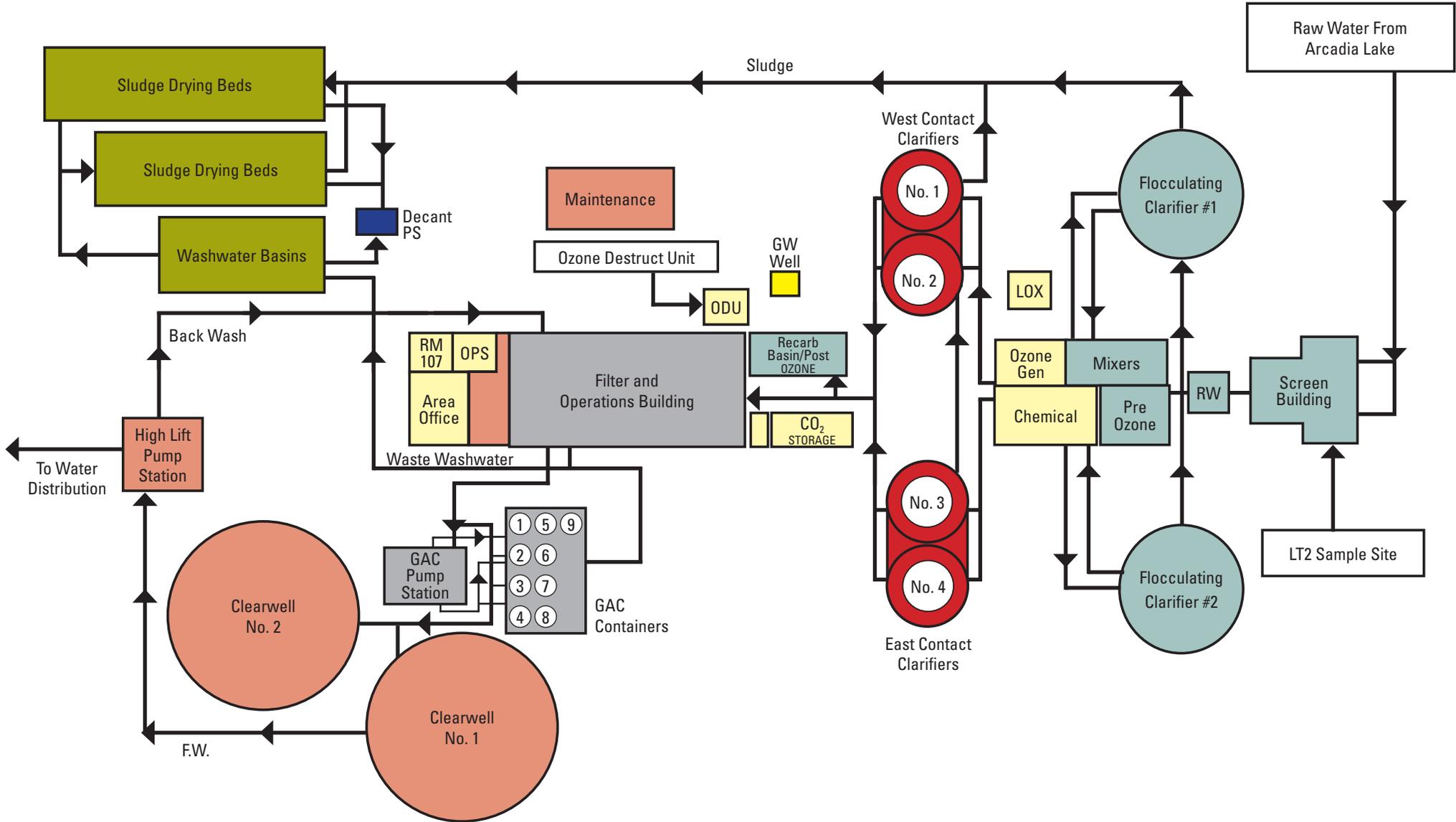
<b>Field Name</b>	<b>Legal Description</b>						<b>Latitude</b>	<b>Longitude</b>
<b>CR-1</b>		SW/4	SEC 26	T14N	R1W	35° 39' 28.613"	-97° 16' 44.667"	
<b>CR-2</b>	S/2	SW/4	SEC 26	T14N	R1W	35° 39' 13.342"	-97° 16' 35.11"	
<b>GM-1</b>	NE 1/4	NE 1/2	SE 1/4	SEC 8	T14N	R1W	35° 42' 12.803"	-97° 19' 9.387"
<b>GM-2</b>	NE 1/4	NE 1/2	SE 1/4	SEC 8	T14N	R1W	35° 42' 32.465"	-97° 19' 21.433"
<b>JG-2</b>		W/2	NE/4	SEC 30	T14N	R1W	35° 39' 56.94"	-97° 20' 34.022"
<b>JG-3</b>			NE/4	SEC 30	T14N	R1W	35° 39' 56.993"	-97° 20' 29.663"
<b>JG-4</b>		S/2	NE/4	SEC 30	T14N	R1W	35° 39' 38.531"	-97° 20' 34.857"
<b>JG-5</b>		W/2	NW/4	SEC 29	T14N	R1W	35° 39' 56.098"	-97° 20' 5.815"
<b>JG-6</b>		W/2	NW/4	SEC. 29	T14N	R1W	35° 39' 40.748"	-97° 20' 3.511"
<b>JG-13</b>		NW/4	NW/4	SEC 21	T14N	R1W	35° 40' 48.561"	-97° 18' 59.003"
<b>JG-14</b>		SW/4	SW/4	SEC 16	T14N	R1W	35° 41' 1.442"	-97° 18' 49.714"
<b>JG-15</b>		W/2	SW/4	SEC 16	T14N	R1W	35° 41' 7.379"	-97° 19' 3.689"
<b>JG-16</b>		NW/4	SW/4	SEC 16	T14N	R1W	35° 41' 13.657"	-97° 19' 4.669"
<b>JG-17</b>		N/2	SW/4	SEC 16	T14N	R1W	35° 41' 14.08"	-97° 18' 58.135"
<b>JG-18</b>		E/2	SW/4	SEC 21	T14N	R1W	35° 40' 11.561"	-97° 18' 44.847"
<b>JG-19</b>		NE/4	NW/4	SEC 35	T14N	R1W	35° 39' 2.845"	-97° 16' 36.389"
<b>JG-20</b>		N/2	NE/4	SEC 35	T14N	R1W	35° 39' 4.193"	-97° 16' 19.267"
<b>JM-1</b>		S/2	NW/4	SEC 8	T14N	R1W	35° 42' 28.745"	-97° 19' 29.088"
<b>JM-2</b>		S/2	NW/4	SEC 8	T14N	R1W	35° 42' 18.487"	-97° 19' 29.782"
<b>JM-3</b>		S/2	NW/4	SEC 8	T14N	R1W	35° 42' 7.524"	-97° 19' 31.045"
<b>JM-4</b>		S/2	NW/4	SEC 8	T14N	R1W	35° 42' 19.92"	-97° 20' 8.191"
<b>LS-1</b>			SW/4	SEC 24	T14N	R2W	35° 40' 5.795"	-97° 22' 5.878"
<b>LS-2</b>		W/2	SE/4	SEC 19	T14N	R1W	35° 40' 15.436"	-97° 20' 36.527"
<b>LS-3</b>		N/2	NE/4	SEC 28	T14N	R1W	35° 39' 59.139"	-97° 18' 20.074"
<b>LS-4</b>			NE/4	SEC 28	T14N	R1W	35° 39' 41.501"	-97° 18' 13.096"
<b>LS-5</b>		E/2	SW/4	SEC 21	T14N	R1W	35° 40' 23.184"	-97° 18' 57.692"
<b>LS-8</b>		W/2	NE/4	SEC 25	T14N	R2W	35° 39' 52.351"	-97° 21' 39.77"
<b>LS-9</b>		E/2	NE/4	SEC 25	T14N	R2W	35° 39' 44.149"	-97° 21' 23.639"
<b>LS-11</b>			SW/4	SEC 2	T14N	R2W	35° 40' 5.795"	-97° 22' 5.878"
<b>LS-12</b>		E/2	SE/4	SEC 19	T14N	R1W	35° 40' 2.498"	-97° 20' 28.158"
<b>LS-13</b>		W/2	SE/4	SEC 24	T14N	R2W	35° 40' 3.011"	-97° 21' 43.151"
<b>LS-14</b>		N/2	NW/4	SEC 25	T14N	R2W	35° 40' 1.465"	-97° 21' 46.087"
<b>LS-15</b>			NW/4	SEC 26	T14N	R2W	35° 39' 51.827"	-97° 22' 16.714"
<b>LS-16</b>			SW/4	SEC 35	T14N	R1W	35° 38' 18.751"	-97° 16' 52.775"

# Section 3

## Water Production

# Water Treatment Plant Organizational Chart 2014





## WATER TREATMENT PLANT AND WELLS

Water Resources, Water Division, personnel continued to perform sampling and monitoring work at well sites and water distribution sites to meet all regulatory parameters and we are happy to report a 100% compliance rate for 2014. The total gallons produced for the Water Plant and Wells was 3,736,965,609. Total operations and maintenance expenditures for 2014 were approximately \$4,706,408. We have completed a number of projects intended to reinvest in existing infrastructure. These include painting the plant lime silos, replacing media in the plant multi-media filters, and specifying and obtaining heavy equipment to provide the capability for staff to remove processed lime sludge from drying beds. The lime sludge removal was previously outsourced. Purchasing the heavy equipment will allow Edmond to bring the lime sludge removal process in-house where costs can be better controlled.

We have also completed a number of projects to enhance water production and supply for the future. These projects include: booster stations to help maintain good system pressure, improvements in water transmission and distribution lines to allow us to deliver water more effectively, the design and construction of the Breakpoint Chlorination Facility at Mitch Park (to convert Oklahoma City water to the same type of chlorine disinfectant as Edmond water), and the design and construction of the Northwest complex for water storage and distribution.

In addition to the measures noted above Edmond has negotiated with Oklahoma City and has secured an agreement that will provide for the purchase of millions of gallons (up to a maximum of 15.0 million gallons per day) of water produced at Oklahoma City's Hefner Road Water Treatment Plant. This water will be stored at, and distributed from, the Northwest complex.

The Edmond area experienced a hot dry late summer by recent standards. This resulted in a higher water supply demand than has been seen in recent years. We continued to experience an increase in consumer demand for water through the rest of 2014. Edmond's single day, peak demand, usage was 17,950,913 gallons on September 1, 2014. Mandatory water conservation was implemented last summer, and thanks to the cooperation of our water customers the residence addressing system was effective.

Edmond's Treatment Plant was constructed and completed in 1987. This facility treats water from Arcadia Lake, which provides flood control, water supply, and recreation for the Upper Deep Fork River Basin. Edmond's facility is equipped with many treatment processes to ensure a high quality of water is produced. The Edmond Water Treatment Plant is designed to treat 12.0 MGD. Major water treatment plant upgrades were completed in 2004.

The following is a brief description of the treatment process, after water from Arcadia Lake is pumped to the plant headworks:

**Screen building:** Screens remove leaves, sticks, fish, and other large debris.

**Air stripping:** Aeration is intended to remove certain dissolved gases in the water. It can also be used to increase the water's dissolved oxygen content, which is the first step in the removal of iron and manganese.

**Pre-ozone:** Ozone is a better virucide than chlorine. Unlike chlorine, there are no disinfection byproducts produced. Ozonation removes color, odor, and taste. This process also oxidizes iron, manganese, sulfide, and organics.

**Flocculation, Clarifiers:** This process gathers together the fine, light particles to form larger particles that will not readily settle or filter out of the water. The floc settles out the larger

particles. Arcadia Lake raw water quality has historically been good enough to allow Edmond to forego this systems use.

**Chemical Building:** Pebble quick lime is mixed with the water to form calcium hydroxide for softening purposes. Polymer is added as a coagulant aid.

**Solids Contact Clarifiers:** These units are designed to allow the lime and other solids to settle out of the water after hardness reduction.

**Post-ozone:** Ozone is a better virucide than chlorine. Unlike chlorine, there are no disinfection byproducts produced. Ozonation removes color, odor, and taste. This process also oxidizes iron, manganese, sulfide, and organics.

**Carbon Dioxide-Recarbonation:** This process is used to lower the pH and alkalinity. It is effective in doing this, particularly in lime-softened water.

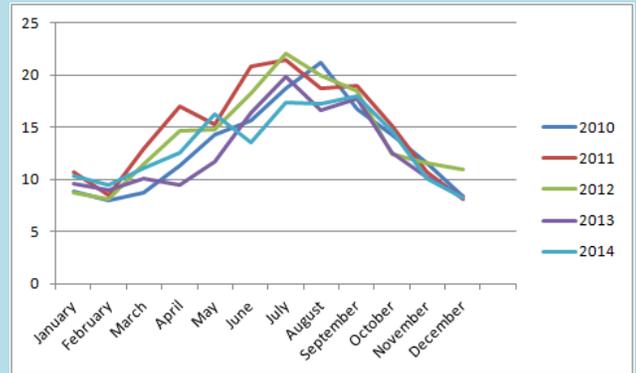
**Mixed Media Filters:** Filtration removes small solids from the water being treated. Filtration is the process of passing water through material, such as sand, coal, granulated carbon and/or other substances to trap particles.

**Granulated Activated Carbon (GAC) Filtration:** GAC filtration is effective for removal of many types of organic compounds, including those that can form potentially harmful byproducts after chlorination. This process removes synthetic organic compounds such as solvents, cleaning compounds, insecticides and herbicides.

The facility is operated twenty-four (24) hours per day, seven (7) days per week. Staff includes Nineteen (19) employees: One (1) Chief Plant Operator, One (1) Maintenance Supervisor, two (2) Mechanics, one (1) Instrumentation and Controls Technician, six (6) Operators, one (1) well crew leader, five (5) Water Well Operators, and three (3) Laboratory Technicians. The water plant is operated under the direction of the Water Resources Superintendent, Assistant Superintendent and Chief Water Plant Operator.

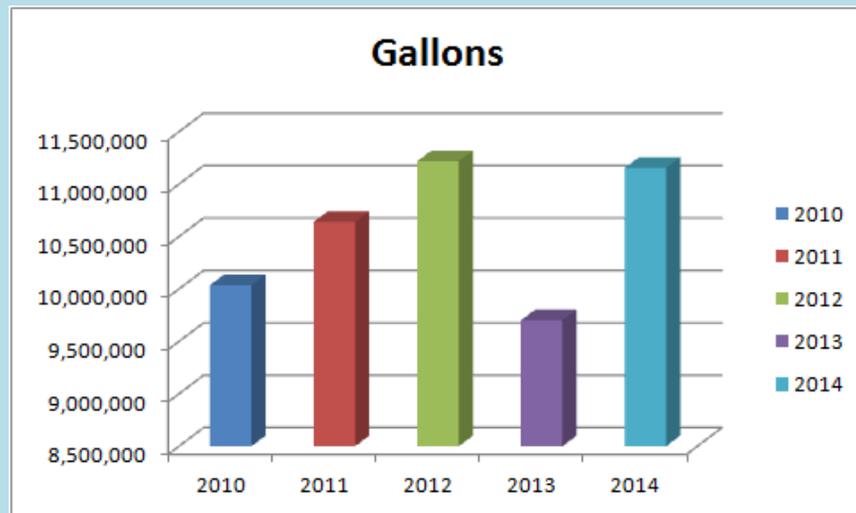
### Peak Flow During Month by Year

(In Million Gallons)	2010	2011	2012	2013	2014
January	8.8	10.7	8.7	9.6	10.3
February	8	8.5	8.1	9.0	9.5
March	8.7	12.9	11.4	10.1	11.1
April	11.3	17	14.6	9.5	12.6
May	14.3	15.3	14.8	11.7	16.3
June	15.6	20.8	18.2	16.4	13.5
July	18.7	21.4	22.1	19.8	17.4
August	21.2	18.7	20	16.6	17.2
September	16.8	19	18.5	17.7	18.0
October	14.3	15.2	12.4	12.6	14.6
November	11.6	10.7	11.6	10.2	10.04
December	8.3	8.1	10.9	8.4	8.2
Maximum for Year	21.2	21.4	22.1	19.8	18.0



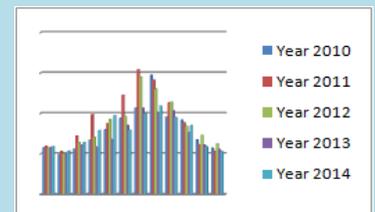
### Average Daily Flow by Year

Year	Gallons
2010	10,037,612
2011	10,640,288
2012	11,220,194
2013	9,701,952
2014	11,155,121



### Annual Comparisons

	2010	2011	2012	2013	2014
January	231,379,703	238,467,052	227,125,859	233,835,583	236,873,402
February	196,704,229	213,280,325	199,393,891	199,575,844	214,471,308
March	224,823,016	289,504,682	256,773,352	245,423,681	256,829,266
April	268,084,414	395,199,013	282,334,297	234,936,101	316,590,433
May	320,241,559	350,232,135	371,983,004	272,385,303	390,485,908
June	378,065,627	490,588,502	387,360,346	341,878,464	317,335,717
July	426,087,931	616,258,331	581,463,371	425,928,971	398,640,412
August	589,010,114	566,350,001	521,219,478	399,024,836	438,153,784
September	381,986,152	453,838,469	457,337,622	413,291,726	380,498,569
October	368,567,360	354,923,923	336,315,527	306,316,394	341,214,249
November	270,525,873	246,860,056	291,773,385	245,423,391	234,940,990
December	228,426,212	212,704,213	249,064,013	223,192,199	210,831,562

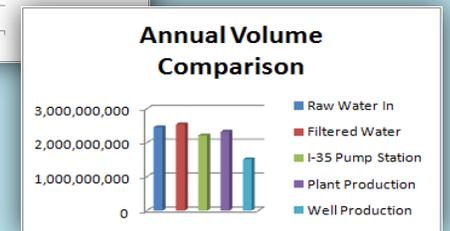
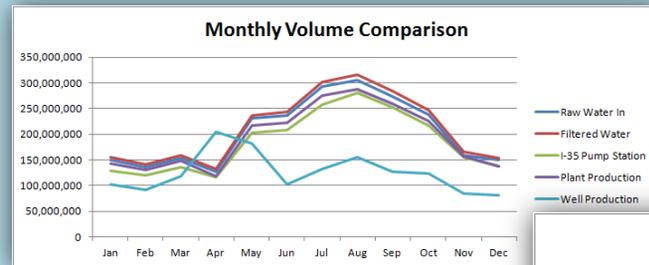
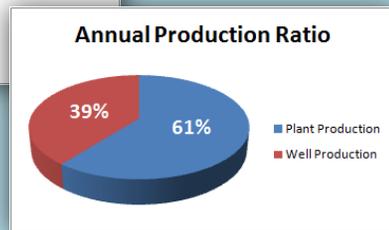
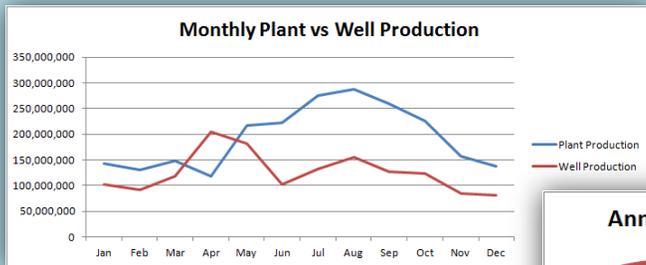




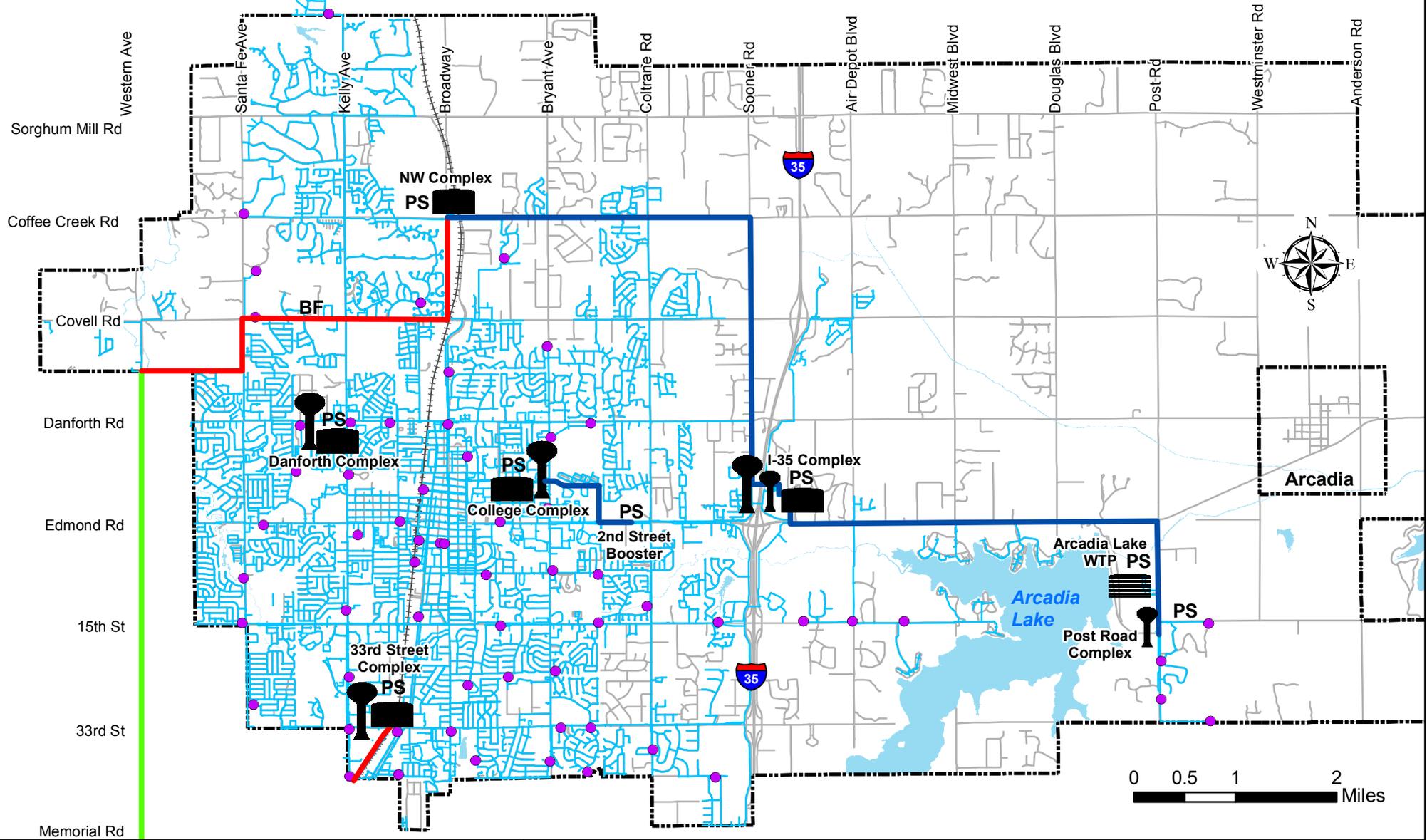
# Water Production 2014

Continued	January	February	March	April	May	June	July	August	September	October	November	December	Total
Well56	923,265	0	1,772,986	3,666,784	3,452,707	2,080,665	1,936,364	2,375,051	1,961,221	1,638,576	1,343,990	1,022,685	22,174,294
Well57	3,752,347	6,678,271	5,902,010	8,746,519	8,980,353	6,845,381	5,721,825	8,311,986	7,234,082	7,298,339	4,500,819	3,014,967	76,986,899
Well58	2,077,188	1,669,084	1,685,297	2,745,535	3,163,243	1,333,136	2,000,122	2,703,335	1,910,977	1,382,551	1,034,714	662,734	22,367,916
Well59	2,486,056	2,265,899	2,447,566	3,096,499	3,621,480	1,481,147	2,113,170	2,391,153	2,017,899	1,509,655	825,996	698,335	24,954,857
Well60	2,056,499	1,261,841	2,087,643	3,623,238	3,179,324	1,044,196	2,088,864	2,656,057	2,048,701	1,834,910	1,211,990	882,286	23,975,549
Well61	1,810,843	1,289,646	1,833,137	3,073,252	2,043,208	762,285	1,430,472	1,954,365	1,484,411	1,316,520	1,033,889	772,943	18,804,973
Well62	1,047,798	882,365	436,174	3,392,291	1,484,198	0	1,221,834	1,408,981	1,548,491	988,161	1,119,644	1,220,279	14,750,214
Well63	398,905	253,545	160,757	562,848	0	287	0	0	0	0	13,151	0	1,389,494
Well64	0	0	727,527	2,822,181	3,399,161	206,339	1,383,510	1,864,412	1,755,695	1,262,097	859,598	723,736	15,004,257
Well65	435,282	443,480	797,790	2,212,964	1,379,843	1,180,539	1,538,403	1,819,458	1,720,591	880,879	2,289,146	2,699,234	17,397,608
Well66	608,560	554,189	862,737	2,034,986	1,252,974	1,269,311	1,568,738	1,907,551	1,750,692	1,957,517	2,535,089	2,594,777	18,897,121
Well67	1,092,430	478,842	881,938	2,456,275	1,164,779	963,611	1,599,284	1,677,170	1,729,941	1,935,941	2,499,260	2,674,600	19,154,071
Well68	1,101,481	433,136	1,007,456	2,656,100	1,252,522	1,061,298	1,503,634	2,051,991	1,777,118	1,854,243	2,377,981	2,691,528	19,768,488
<b>Well Production</b>	<b>102,428,571</b>	<b>91,724,822</b>	<b>117,602,263</b>	<b>205,006,914</b>	<b>181,956,423</b>	<b>102,848,083</b>	<b>131,863,937</b>	<b>155,639,961</b>	<b>127,535,032</b>	<b>123,128,397</b>	<b>85,312,347</b>	<b>81,728,667</b>	<b>1,506,775,418</b>

	January	February	March	April	May	June	July	August	September	October	November	December	Total
<b>Raw Water In</b>	149,600,181	136,503,807	152,734,101	127,947,510	230,865,352	236,447,786	292,516,709	304,462,446	273,601,939	238,227,089	158,516,222	150,191,168	2,451,614,310
<b>Filtered Water</b>	154,862,955	141,493,789	158,776,804	132,886,210	237,327,417	243,987,783	301,337,353	315,473,857	283,650,775	246,430,469	166,386,607	153,216,163	2,535,830,180
<b>I-35 Pump Station</b>	128,868,696	119,341,505	136,791,987	116,214,324	203,015,617	207,893,414	256,934,343	281,260,172	251,470,940	217,791,928	155,226,256	138,223,861	2,213,033,040
<b>Plant Production</b>	142,604,072	129,948,859	147,821,875	118,926,182	217,368,711	222,921,722	275,371,608	287,183,926	258,728,620	225,748,994	156,666,588	137,802,647	2,321,093,805
<b>Well Production</b>	102,428,571	91,724,822	117,602,263	205,006,914	181,956,423	102,848,083	131,863,937	155,639,961	127,535,032	123,128,397	85,312,347	81,728,667	1,506,775,418
<b>Total Combined Production</b>	<b>245,032,644</b>	<b>221,673,681</b>	<b>265,424,138</b>	<b>323,933,096</b>	<b>399,325,135</b>	<b>325,769,805</b>	<b>407,235,545</b>	<b>442,823,888</b>	<b>386,263,652</b>	<b>348,877,391</b>	<b>241,978,936</b>	<b>219,531,314</b>	<b>3,827,869,223</b>



# City of Edmond Water System



January 14, 2009

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Elevated Storage Tank



Ground Storage Tank

**BF** Breakpoint Facility

**PS** Pumping Station

● Water Well

— Distribution Lines

— Transmission Line (Edmond Water)

— Transmission Line (OKC Water)

— Transmission Line (OKC Owned)

DISTRIBUTION SYSTEM FACILITIES

<b>DANFORTHWATER TOWER COMPLEX</b>	
<b>CLEARWELL CAPACITY</b>	2.0 MG
<b>CLEARWELL DIAMETER</b>	146'-0"
<b>CLEARWELL DEPTH</b>	17'-0"
<b>TOWER CAPACITY</b>	0.5 MG
<b>OVERFLOW</b>	1340
<b>GPM</b>	1500 each
<b>HORSEPOWER</b>	2 each at 75
<b>Chlorination provided to ground storage.</b>	
<b>Notes: Continuous monitoring provided.</b>	
<b>PLANT HIGH LIFT PUMP STATION</b>	
<b>CLEARWELL CAPACITY</b>	2 each at 4.0 MG
<b>CLEARWELL DIAMETER</b>	180'
<b>CLEARWELL DEPTH</b>	20'
<b>POST RD TOWER CAPACITY</b>	0.5 MG
<b>OVERFLOW</b>	1240
<b>NUMBER OF UNITS</b>	4
<b>GPM</b>	2 at 2,800; 2 at 5,560
<b>HORSEPOWER</b>	2 at 250; 2 at 500
<b>Notes: Continuous monitoring provided and required.</b>	
<b>33RD STREET WATER TOWER COMPLEX</b>	
<b>CLEARWELL CAPACITY</b>	2.0 MG
<b>CLEARWELL DIAMETER</b>	146' 0"
<b>CLEARWELL DEPTH</b>	17' 0"
<b>TOWER CAPACITY</b>	0.5 MG
<b>OVERFLOW</b>	1340
<b>GPM</b>	2 at 1800 each
<b>HORSEPOWER</b>	2 each at 100
<b>Chlorination provided to ground storage.</b>	
<b>Notes: Continuous monitoring provided.</b>	
<b>2ND STREET BOOSTER PUMP STATION</b>	
<b>NUMBER OF UNITS</b>	3
<b>GPM DESIGN CAPACITY</b>	2,000 GPM each
<b>HORSEPOWER</b>	3 each at 125

DISTRIBUTION SYSTEM FACILITIES CONTINUED

<b>COLLEGE TOWER COMPLEX</b>	
<b>CLEARWELL CAPACITY</b>	2.0 MG
<b>CLEARWELL DIAMETER</b>	88' 10" Inside Dia.
<b>CLEARWELL DEPTH</b>	42' 7.5" Liquid Depth
<b>TOWER CAPACITY</b>	0.5 MG
<b>OVERFLOW</b>	1340
<b>GPM</b>	650 each
<b>HORSEPOWER</b>	2 each at 60
<b>Chlorination provided to ground storage.</b>	
<b>Notes: Continuous monitoring provided.</b>	
<b>NORTHWEST COMPLEX</b>	
<b>CLEARWELL CAPACITY</b>	2.0 MG
<b>CLEARWELL DIAMETER</b>	125' Inside Diameter
<b>CLEARWELL DEPTH</b>	22' 6" Liquid Depth
<b>NUM. OF PUMP UNITS</b>	4
<b>GPM</b>	2 at 3,000; 2 at 5,000
<b>HORSEPOWER</b>	2 at 300; 2 at 450
<b>I-35 BOOSTER PUMP STATION</b>	
<b>CLEARWELL CAPACITY</b>	1.0 MG
<b>CLEARWELL DIAMETER</b>	94" Inside Diameter
<b>CLEARWELL DEPTH</b>	19' Liquid Depth
<b>SHORT TOWER CAPACITY</b>	0.5 MG
<b>OVERFLOW</b>	1240
<b>TALL TOWER CAPACITY</b>	0.5 MG
<b>OVERFLOW</b>	1336
<b>GPM</b>	2 at 1,530; 2 at 2,800; 2 at 6,000
<b>HORSEPOWER</b>	2 at 125; 2 at 250; 2 at 400
<b>15TH STREET BOOSTER PUMP STATION</b>	
<b>NUMBER OF UNITS</b>	3
<b>GPM DESIGN CAPACITY</b>	300 GPM
<b>HORSEPOWER</b>	7.5 HP
<b>PLANT LOW LIFT PUMP STATION</b>	
<b>GPM</b>	1 at 2,800; 4 at 2,080
<b>HORSEPOWER</b>	50 each

## WATER TOWER HEIGHTS

Water Tower Heights		
Location	Feet	PSI
College	115	50.945
Danforth	155	68.665
33 <sup>rd</sup> St	155	68.665
I-35 Tall	218	96.574
I-35 Short	124	54.932
Post Rd	159	70.437





3914

3890

TOC RAW

3892

West Flocculation Clarifier Tank

East Flocculation Clarifier Tank

3891

Ozone Basin  
Ozone Generation System

3893

Contact Clarifier 1

8418

Contact Clarifier 2

801 POST RD

PLANT WATER WELL

Plant Water Well

Post Ozone Basin

3894

Maintenance Shop

Filter Building

Administration Building

807 S POST RD

3900

3895

3897

GAC Building

North Clearwell

Drying Bed 9

Drying Bed 10

Drying Bed 11

Drying Bed 12

Drying Bed 13

Drying Bed 14

Drying Bed 15

Drying Bed 16

Drying Bed 17

Drying Bed 18

Drying Bed 1

Drying Bed 2

Drying Bed 3

Drying Bed 4

Drying Bed 5

Drying Bed 6

Drying Bed 7

Drying Bed 8

Wash Water Basin

3908

South Clearwell

HIGH LIFT BUILDING

High Lift Building

Decant Pump Station

3904

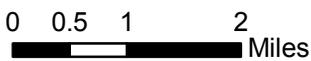
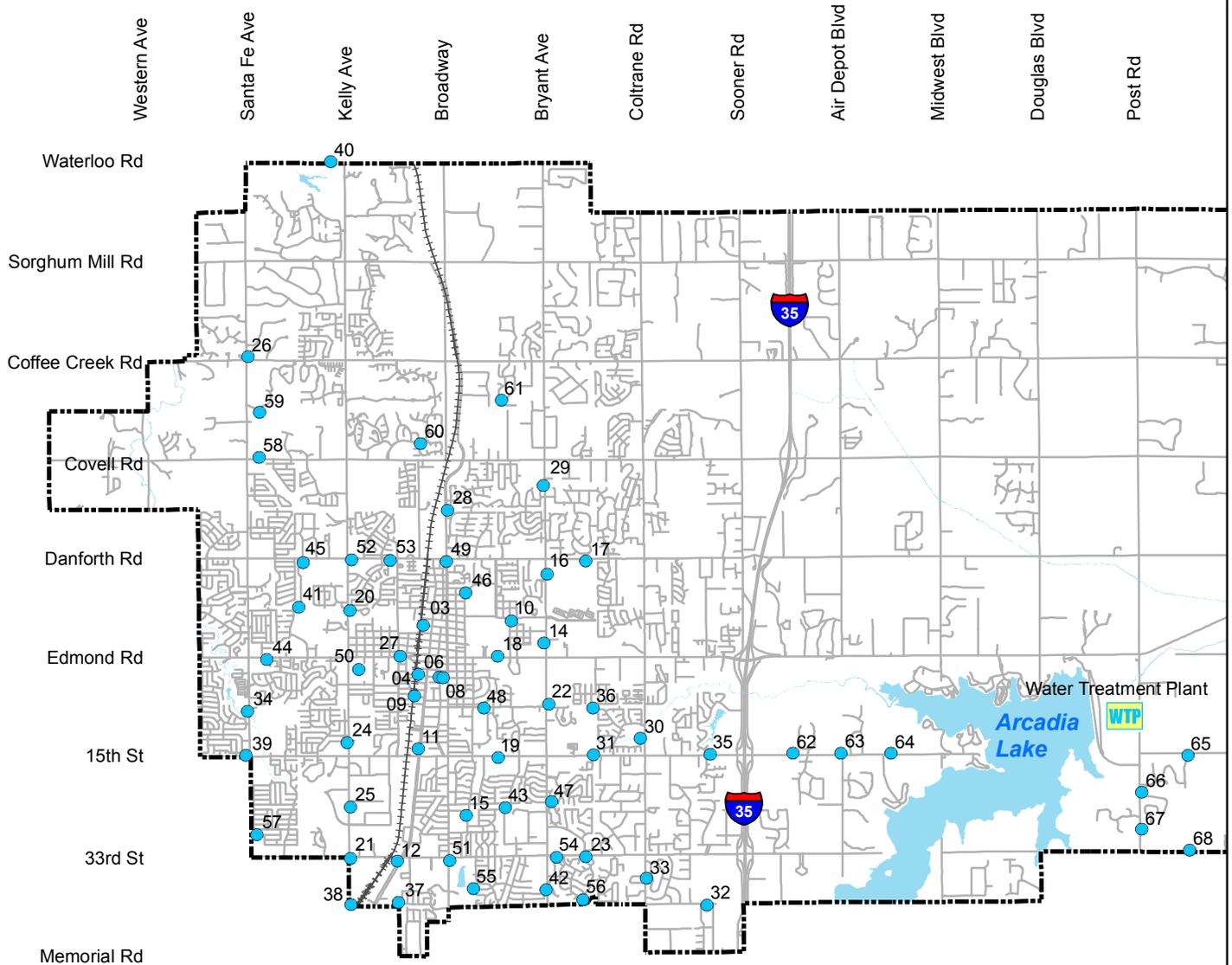
3903

3907

3913

# City of Edmond

## Water Well Locations



### Legend

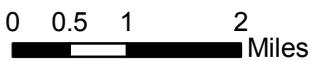
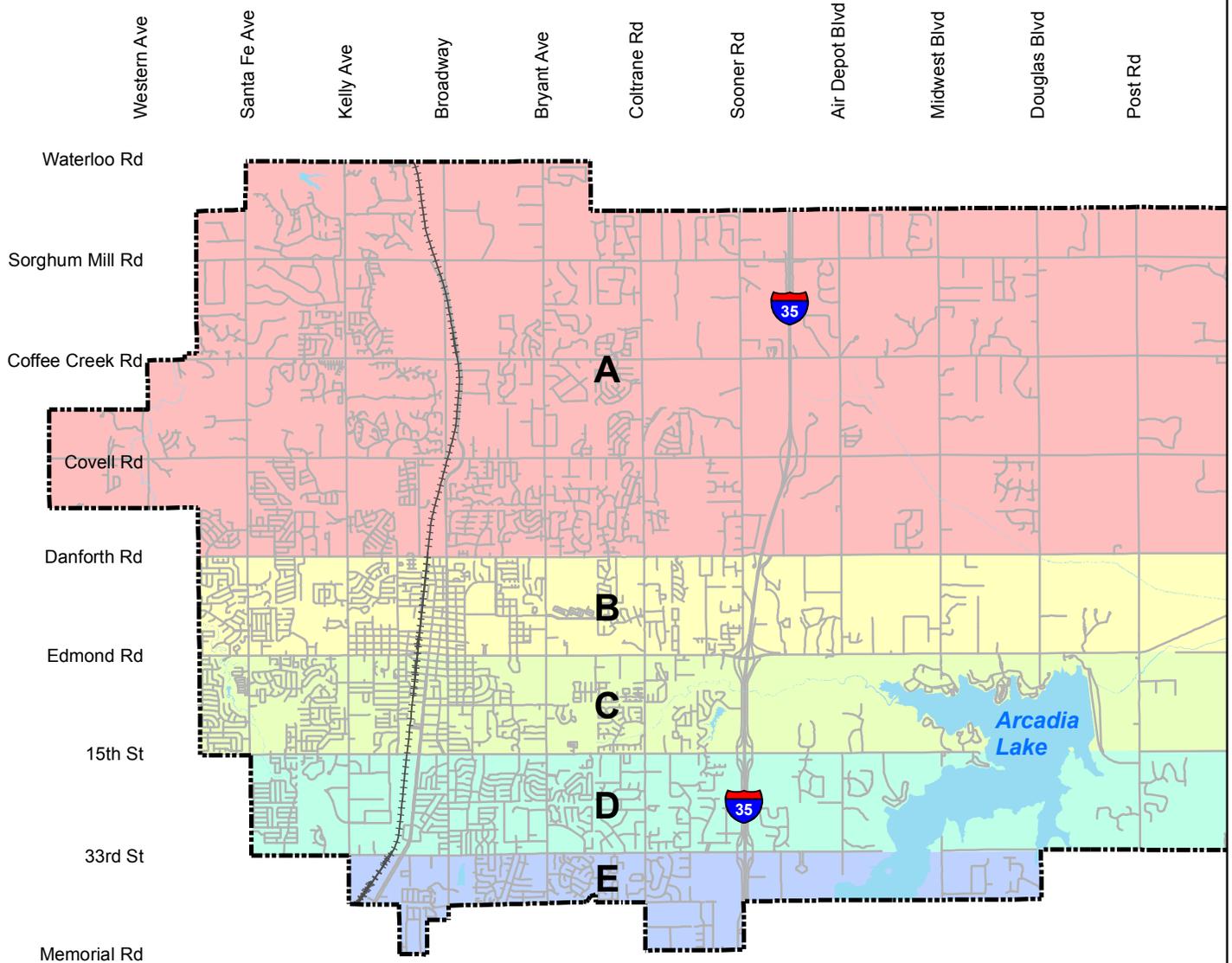
-  Water Treatment Plant
-  Water Well
-  City Limits
-  Railroad
-  Streets

January 14, 2009

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# City of Edmond

## Water Well Zones



### Legend

- City Limits
- Railroad
- Streets
- Water Well Zone A
- Water Well Zone B
- Water Well Zone C
- Water Well Zone D
- Water Well Zone E

January 14, 2009

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WELL STATISTICS

Well#	Date Drilled	Lat	Long	Flow (GPM)	Electrical Control	Pump	Stages	Motor	Horsepower	Pump Install	Elev.	Total Depth	Top Perf	Lower Perf	Pump Set	Method of Drilling	Driller	#Joints	Size of Casing	Size of Pump	PVC/Steel Pump
8	1952	35.65	97.48	120	ABB/VFD	Christiansen	6 inch 8 stage	Franklin	50 HP	1992	1190'	650'	252'	442'	540'	Cable Tool	Rouner		10.75"	4"	140'steel, 400'certilock
9	1954	35.65	97.48	170	ABB/VFD	Christiansen	8 stage	Franklin	50 HP	2008	1188'	554'	228'	425'	527'	Cable Tool	Statts		10.75"	4"	126' Steel, 400' PVC
10	1957	35.66	97.47	171	ABB/VFD	Christiansen	7walc/6 stage	Centripro	40 HP	2009	1224'	719'	317'	713'	580'	Cable Tool	Rouner	27	10.75"	5.5"	
11	1964	35.64	97.48	190	ABB/VFD	Christiansen	6CHC 10stage	Franklin	40 HP	2012	1183'	724'	355'	722'	622.4	Cable Tool	Rouner	36	10.75"	5.5"	29joints pvc 2joints steel
14	1969	35.65	97.46	119	ABB/VFD	Christiansen	7 stage	Franklin	40 HP	2011	1188'	747'	355'	694'	619.5	Cable Tool	Statts		10.75"	4"	21joints pvc 10 steel
15	1967	35.63	97.47	170	ABB/VFD	Centrilift	7 stage	PSM	60 HP		1187'	775'	281'	766'	660'	Cable Tool	Statts	33	10.75"	5.5"	
18	1979	35.65	97.47	173	ABB/VFD	Christiansen	8 stage	Franklin	50/3450	2011	1180'	684'	291'	662'	614'	Cable Tool	Statts		10.75"	4"	25joints pvc 10 steel
19	1971	35.64	97.47	120	ABB/VFD	Christensen/6CLC	16st/4.19 impellar	Franklin	60 HP/3450	2010	1150'	689'	230'	669'	620'	Cable Tool	Statts	30	10.75"	5.5"	
20	1972	35.66	97.49	135	ABB VFD	Centrilift	14 stage	Centrilift	40 HP		1170'	635'	109'	630'	550'	Cable Tool	Statts	27	10.75"	5.5"	
21	1972	35.62	97.49	160	Abb/VFD	Christenson	8 stage	Centripro	30 HP	2008	1165'	705'	240'		567'	Cable Tool	Statts	29	10.75"	5.5"	
22	1972	35.64	97.46	175	ABB/VFD	PSM	13 stage	PSM	45 HP		1100'	650'	130'	585'	602'	Cable Tool	Statts	28	10.75"	5.5"	
23	1973	35.62	97.45	210	ABB/VFD	Christenson	8stage	Franklin	50HP	2013	1145'	698'	114'	690'	445.2'	Cable Tool	Statts	21	10.75"	5.5"	
24	1973	35.64	97.49	210	ABB/VFD	Christenson	09stage	Franklin	50HP	2013	1150'	604'	114'	604'	551'	Cable Tool	Statts	26	10.75"	5.5"	
25	1975	35.63	97.49	230	ABB/VFD	Centrilift	6 stage	Centrilift	57 HP/3600		1150'	705'	356'	680'	483'	Cable Tool	Statts		10.75"	5.5"	
26	1977	35.69	97.51	150	ABB/VFD	Centrilift	19 stage	Centrilift	50 HP		1055'	475'	154'	398'	361'	Cable Tool	Statts	17	10.75"	5.5"	
27	1978	35.65	97.49	210	ABB/VFD	PSM	8 stage	PSM	60 HP		1190'	710'	200'	585'	550'	Cable Tool	Statts	27	10.75"	5.5"	
28	1977	35.67	97.48	180	ABB/VFD	Christiansen	7stage	Franklin	40 hp	2011	1150'	478'	235'	406'	391	Cable Tool	Sequoyah		10.75"	4"	19joints pvc
29	1978	35.68	97.46	210	ABB/VFD	Christensen	9st/6CHC	Franklin	50 HP/3450	2009	1140'	532'	186'	464'	420'	Cable Tool	Statts	20	10.75"	5.5"	
31	1978	35.64	97.45	166	ABB/VFD	PSM	7 stage	PSM	60 HP		1100'	715'	250'	695'	525'	Cable Tool	Statts		10.75"	5.5"	
32	1978	35.62	97.43	285	ABB/VFD	Christensen	5 stage	Franklin	60HP	2013	1120'	523'	193'	632'	469.7	Cable Tool	Statts		10.75"	5.5"	22 joints steel
33	1978	35.62	97.44	160	ABB/VFD	Christiansen	5 stage	Franklin	50hp	2011	1140'	700'	212'	560'	462'	Cable Tool	Statts		10.75"	5.5"	
34	1978	35.64	97.51	300	ABB/VFD	Christensen	5st/7WAHC	Franklin	50 HP/3450	2009	1125'	527'	110'	472'	407'	Cable Tool	Statts		10.75"	5.5"	407' 4" PVC
35	1978	35.64	97.43	185	ABB/VFD	Christensen	7 stage	Centripro	50 HP	2008	1100'	625'	198'	518'	475'	Cable Tool	Statts	19	10.75"	5.5"	
36	1979	35.64	97.45	200	ABB/VFD	7WAHC	6 stage	Franklin	60 HP	2007	1100'	599'	132'	595'	446'	Cable Tool	Statts	24	10.75"	5.5"	

WELL STATISTICS

Well#	Date Drilled	Lat	Long	Flow (GPM)	Electrical Control	Pump	Stages	Motor	Horsepower	Pump Install	Elev.	Total Depth	Top Perf	Lower Perf	Pump Set	Method of Drilling	Driller	#Joints	Size of Casing	Size of Pump	PVC/Steel Pump
37	1979	35.62	97.49	200	ABB/VFD	Christensen	6stage	Franklin	60HP	2013	1160'	700'	192'	694'	599'	Cable Tool	Statts	29	10.75"	5.5"	
38	1980	35.62	97.49	175	ABB/VFD	7WAHC	6 stage	Franklin	60 HP	2009	1160'	797'	116'	772'	636'	Cable Tool	Statts	30	10.75"	5.5"	
39	1980	35.64	97.51	200	ABB/VFD	Christensen	6 stage	Centripro	40 HP	2010	1125'	515'	182'	460'	404'	Cable Tool	Statts	18	10.75"	5.5"	420' PVC
40	1980	34.72	-97.5	185	ABB/VFD	PSM	5 stage	PSM	40 HP		1080'	465'	160'	437'	340'	Cable Tool	Statts	16	10.75"	5.5"	
41	1981	35.66	-97.5	225	ABB/VFD	Christensen	8 stage	Franklin	50 HP	2009	1150'	583'	200'	490'	508'	Cable Tool	Statts		10.75"	5.5"	Certiloc
42	1981	35.62	97.46	175	ABB/VFD	Centrilift	13 stage	Centrilift	46 HP		1160'	690'	294'	676'	600'	Cable Tool	Statts	29	10.75"	5.5"	
43	1981	35.63	97.47	225	Toshiba	Christensen	6 stage	Centripro	40 HP	2008	1130'	700'	210'	632'	560'	Cable Tool	Statts	29	10.75"	5.5"	
44	1981	35.65	97.51	270	ABB/VFD	Christiansen	7stage	Franklin	60HP	2013	1105'	510'	202'	466'	438	Cable Tool	Statts	20	10.75"	5.5"	
45	1982	35.67	-97.5	133	ABB/VFD	Christensen	8 stage	Centripro	30 HP	2010	1160'	570'	265'	542'	509'	Cable Tool	Statts	24	10.75"	5.5"	
46	1982	35.66	97.47	150	ABB/VFD	Christensen	11st/6CLC	Centrapro	40 HP	2008	1180'	590'	200'	585'	525'	Cable Tool	Statts	36	10.75"	5.5"	
47	1984	35.63	-97.6	150	ABB/VFD	Christensen	6CHC9stage	Franklin	50H/3450	2012	1125'	720'	180'	620'	540	Rotary	Hemphill	27	10.75"	5.5"	
48	1984	35.64	97.47	175	ABB/VFD	Christensen	6st/7WAHC	Franklin	60 HP/3450	2010	1130'	720'	180'	620'	605.2'	Rotary	Hemphill	28	12.75"	5.5"	
49	1985	35.67	97.48	185	ABB/VFD	Christiansen	10stage	Franklin	40 HP/3600		1205'	600'	210'	534'	529'	Air Rotary	Henkle	22	12.75"	5.5"	
50	1985	35.65	97.49	150	ABB/VFD	Christensen	10st/6CLC	Centripro	40 HP/3450	2008	1160'	600'	200'	500'	515'	Air Rotary	Henkle	25	12.75"	5.5"	
51	1985	35.62	97.48	225	ABB/VFD	PSM	22 stage	PSM	60 HP		1170'	670'	200'	670'	610'	Air Rotary	Henkle	29	12.75"	5.5"	
52	1986	35.67	97.49	140	ABB/VFD	Christensen	9 stage	Centripro	30 HP/3450	2008	1180'	590'	210'	486'	491'	Air Rotary	Henkle	24	12.75"	5.5"	
53	1986	35.67	97.49	250	ABB/VFD	Christensen	6CHC 7 stage	Franklin	40 HP/3450	2013	1190'	535'	210'	520'	490'	Air Rotary	Henkle	20	12.75"	5.5"	
54	1986	35.62	97.46	215	ABB/VFD	Christensen	14 stage	Centripro	50 HP	2008	1160'	652'	210'	638'	557'	Air Rotary	Henkle	24	12.75"	5.5"	
55	1992	35.62	97.47	225	ABB/VFD	Christiansen	10 stage	Franklin	60 HP		1162'	675'	248'	590'	650'	Rotary	Henkle	65	12.75"	4"	
56	1992	35.62	97.45	175	ABB/VFD	Christensen	9 stage	Franklin	60 HP	2008	1130'	640'	226'	620'	567.7'	Rotary	Henkle	63	12.75"	5.5"	
57	2001	35.63	97.51	350	ABB/VFD	Christensen	6st/7WAHC	Franklin	60 HP/3450	2010	1120'	525'	220'	490'	475'	Rotary	Henkle		10.75"	4"	
58	2001	35.68	97.51	140	ABB/VFD	Christensen	9 stage	Centripro	30 HP	2008	1100'	425'	256'	405'	340'	Rotary	Henkle		10.75"	4"	
59	2001	35.69	97.51	120	ABB/VFD	Christensen	10 stage	Franklin	50 HP	2005	1140'	425'	254'	396'	387'	Rotary	Henkle		10.75"	4"	
60	2002	35.68	97.48	171	ABB/VFD	PSM		PSM		2006	1167'	385'	216'	360'	320'	Rotary	Henkle		10.75"	4"	

WELL STATISTICS

Well#	Date Drilled	Lat	Long	Flow (GPM)	Electrical Control	Pump	Stages	Motor	Horsepower	Pump Install	Elev.	Total Depth	Top Perf	Lower Perf	Pump Set	Method of Drilling	Driller	#Joints	Size of Casing	Size of Pump	PVC/Steel Pump
61	2002	35.69	97.47	200	ABB/VFD	Christensen	5 stage	Centripro	40 HP/3450	2013	1193'	475'	232'	460'	366'	Rotary	Henkle		10.75"	4"	
62	2005	35.64	97.42	100	ABB/VFD	Christensen	6st/7WALC	Franklin	40 HP/3450	2010	1083'	442'	300'	412'	340.8'	Air Rotary	Layne	16	10.75"	4"	
63	2005	35.64	97.41	90	ABB/VFD	Christensen	6st/7RAHC	Franklin	25 HP/3450	2010	1075'	420'	214'	392'	340.8'	Air Rotary	Layne	16	10.75"	4"	
64	2005	35.64	-97.4	200	ABB/VFD	Christensen	6st/WALC	Franklin	40 HP/3450	2010	1085'	420'	214'	416'	362.1'	Air Rotary	Layne	17	10.75"	4"	
65	2007	35.64	97.34	130	ABB/VFD	Layne	9 stage	Centripro	25 HP		500'		192'	470'	451'	Air Rotary	Layne		10.75"	4"	
66	2007	35.63	97.34	130	ABB/VFD	Layne	9 stage	Centripro	25 HP		500'		200'	466'	451'	Air Rotary	Layne		10.75"	4"	
67	2007	35.63	97.35	130	ABB/VFD	Layne	9 stage	Centripro	25 HP		540'		220'	510'	493'	Air Rotary	Layne		10.75"	4"	
68	2007	35.62	97.34	130	ABB/VFD	Layne	9 stage	Centripro	25 HP		540'		222'	494'	493'	Air Rotary	Layne		10.75"	4"	

**2015 WELL MAINTENANCE PERFORMED AND 2016 RECOMMENDATIONS**

<b>Well Number</b>	<b>Well Address</b>	<b>Work Performed 2014</b>	<b>General Condition</b>	<b>Recommendations for 2015</b>
8	109 E 5th St	Painted wellhouse for television program, performed routine maint. Installed new VFD	Good	Perform routine maintenance
9	37 W 8th St	Perfomed routine maintenance, painted inside of well house	Good	Perform routine maintenance
10	326 N Baumann Ave	Performed routine maintenance, pulled pump and motor and installed new equipment	Good	Perform routine maintenance
11	1335 S Broadway	Performed routine maintenance and installed updated variable frequency drive	Good	Perform routine maintenance
14	17 N Bryant Ave	Performed routine maintenance	Fair	Perform routine maintenance
15	2335 S Rankin St	Performed routine maintenance	Good	Perform routine maintenance
18	817 E 2nd St	Performed routine maintenance	Good	replace vfd, re-work electrical,perform routine maint.
19	916 E 15th St	Performed routine maintenance	Good	Perform routine maintenance
20	580 N Kelly Ave	Performed routine maintenance	Good	Update the variable frequency drive
21	3308 S Kelly Ave	Performed routine maintenance	Good	Perform routine maintenance
22	840 S Bryant Ave	Performed routine maintenance	Good	Perform routine maintenance
23	2016 E 33rd St	Performed routine maintenance	Good	Perform routine maintenance
24	1309 S Kelly Ave	Performed routine maintenance, installed heat pump for keeping variable frequency drive cool	Good	Perform routine maintenance
25	2400 S Kelly Ave	Pulled pump and motor and installed new equipment. Replaced well head.	Good	Perform routine maintenance
26	4116 N Santa Fe Ave	Performed routine maintenance	Good	Replace mainline from well to valve. Perform maint.
27	216 S Fretz Ave	Performed routine maintenance	Good	Perform routine maintenance
28	1932 N Boulevard	Performed routine maintenance	Good	Perform routine maintenance
29	2301 N Bryant Ave	Performed routine maintenance	Good	Perform routine maintenance
31	2201 E 15th St	Performed routine maintenance	Good	Perform routine maintenance
32	3740 E 40th St	Performed routine maintenance	Good	Perform routine maintenance, work on access road
33	3650 S Coltrane Rd	Performed routine maintenance	Good	Perform routine maintenance
34	941 S Santa Fe Ave	Installed new heat pump to keep drive cool, performed routine maint.	Good	Perform routine maintenance
35	3809 E 15th St	Pulled pump and motor and installed new equipment, performed routine maint.	Good	Perform routine maintenance

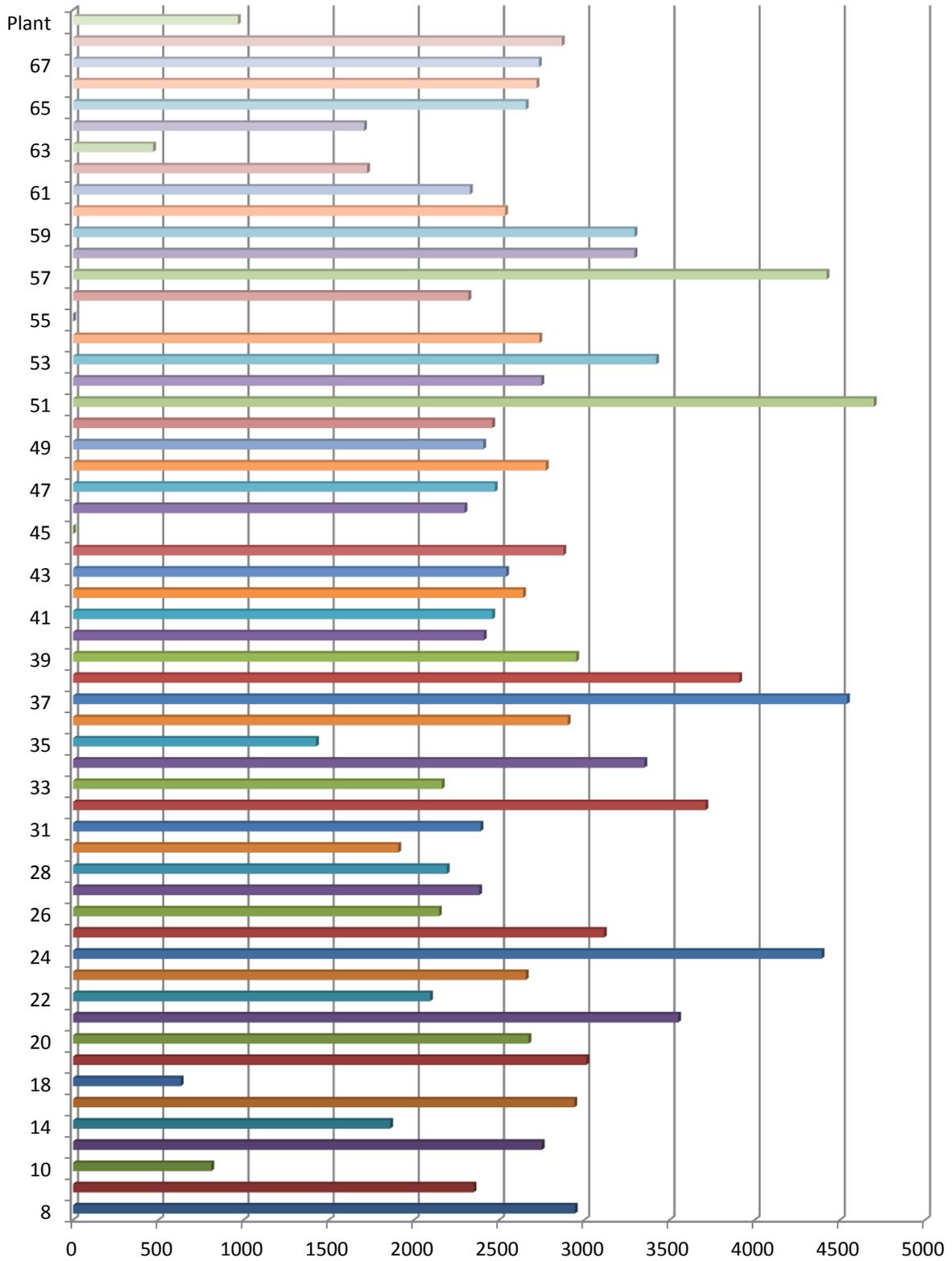
**2015 WELL MAINTENANCE PERFORMED AND 2016 RECOMMENDATIONS**

<b>Well Number</b>	<b>Well Address</b>	<b>Work Performed 2014</b>	<b>General Condition</b>	<b>Recommendations for 2015</b>
36	906 S Bryant Ave	Performed routine maintenance	Good	Perform routine maintenance
37	3840 S Broadway	Performed routine maintenance	Excellent	Perform routine maintenance
38	4016 S Kelly Ave	Performed routine maintenance	Good	Rehabilitate well head, Paint interior walls
39	2337 W 15th St	Performed routine maintenance	Good	Perform routine maintenance
40	1045 W Waterloo Rd	Performed routine maintenance	Good	Pull pump and motor to clean down hole perfs. Install new equipment.
41	1516 W Danforth Rd	Performed routine maintenance	Good	Perform routine maintenance
42	3721 S Bryant Ave	Performed routine maintenance	Good	Update the variable frequency drive
43	2524 Hidden Valley Rd	Performed routine maintenance	Good	Install variable frequency drive and a sump pump
44	2008 W Edmond Rd	Performed routine maintenance and installed heat pump to keep drive cool	Good	Perform routine maintenance
45	1508 W Danforth Rd	Performed routine maintenance	Good	Pull pump and motor and install new equipment
46	709 N University Dr	Performed routine maintenance	Good	Perform routine maintenance
47	1601 Ridgecrest Rd	Performed routine maintenance	Good	Perform routine maintenance
48	520 E 9th St	Performed routine maintenance	Good	Perform routine maintenance
49	1122 N Boulevard	Performed routine maintenance	Good	Perform routine maintenance
50	720 W Edmond Rd	Pulled pump and motor and installed new equipment	Good	Perform routine maintenance
51	3308 S Boulevard	Performed routine maintenance	Good	Perform routine maintenance
52	850 W Danforth Rd	Performed routine maintenance	Good	Perform routine maintenance
53	326 W Danforth Rd	Performed routine maintenance	Good	Perform routine maintenance
54	1640 E 33rd St	Performed routine maintenance	Good	Perform routine maintenance
55	501 Pepperdine Ave	Plugged well with grout, stripped wellhouse in preparation for demolition	Good	Perform routine maintenance
56	3831 Marked Tree Dr	Performed routine maintenance	Good	Perform routine maintenance
57	2204 Aurora Rd	Performed routine maintenance	Good	Perform routine maintenance
58	2175 W Covell Rd	Performed routine maintenance	Good	Perform routine maintenance
59	3336 N Santa Fe Ave	Performed routine maintenance	Good	Perform routine maintenance
60	2932 Shortgrass Rd	Performed routine maintenance	Good	Perform routine maintenance
61	828 Ascot	Performed routine maintenance	Good	Perform routine maintenance

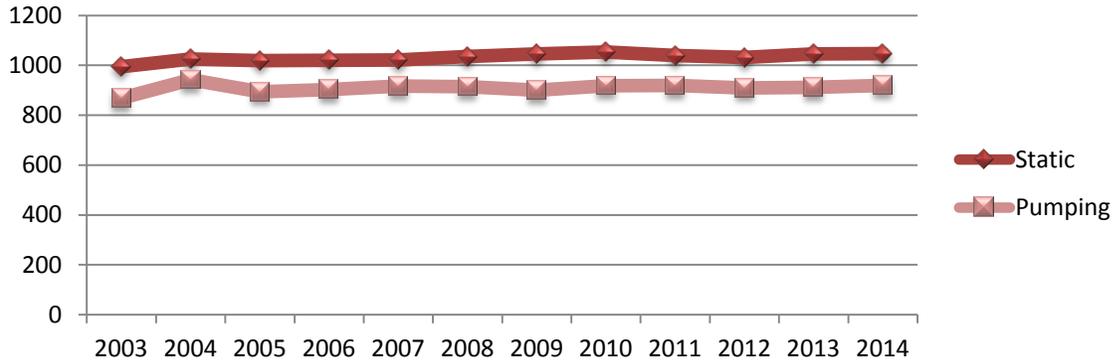
2015 WELL MAINTENANCE PERFORMED AND 2016 RECOMMENDATIONS

Well Number	Well Address	Work Performed 2014	General Condition	Recommendations for 2015
62	5001 E 15th St	Painted the eaves top and doors with 25 year vinyl coating and performed routine maintenance	Good	Perform routine maintenance
63	5655 E 15th St	Painted the eaves top and doors with 25 year vinyl coating and performed routine maintenance	Good	Perform routine maintenance
64	6401 E 15th St	Pulled pump and motor and installed new equipment, performed routine maint. Painted roof and eaves with coating	Good	Perform routine maintenance
65	10570 E 15th St	Performed routine maintenance and painted the top and eaves and doors with 25 year coating	Good	Perform routine maintenance
66	2200 S Post Rd	Performed routine maintenance and painted the top and eaves and doors with 25 year coating	Good	Perform routine maintenance
67	2900 S Post Rd	Performed routine maintenance and painted the top and eaves and doors with 25 year coating	Good	Perform routine maintenance
68	10539 E 33rd St	Performed routine maintenance and painted the top and eaves and doors with 25 year coating	Good	Perform routine maintenance
Pleat Well	801 S Post Rd	Went through and changed all the electrical wiring, added a window unit, painted walls and ceiling refurbished well head	Good	Install new equipment and perform routine maintenance

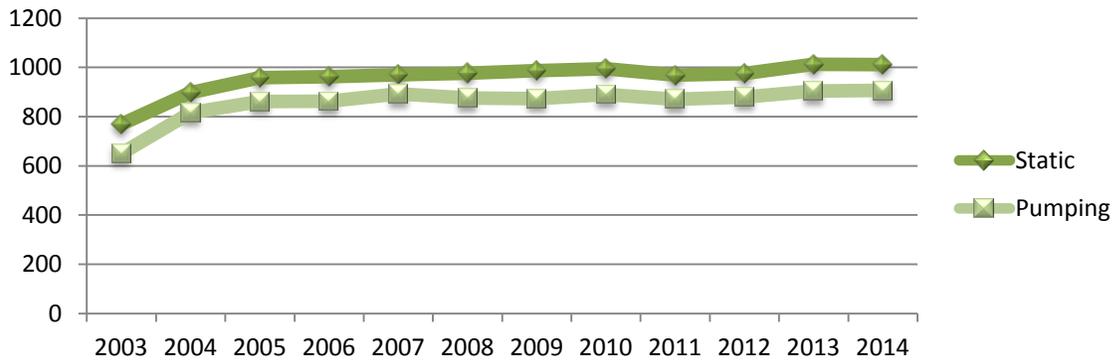
# Annual Well Usage by Hour



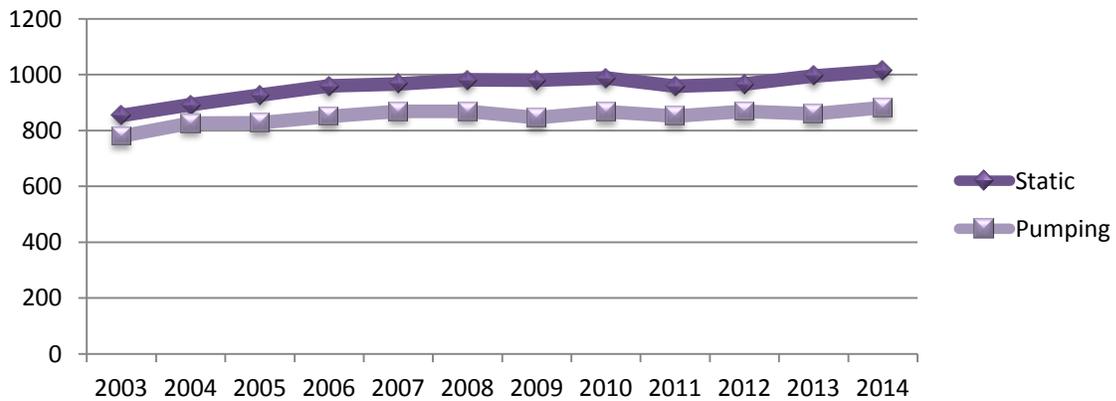
### Zone A (North of Danforth Road)



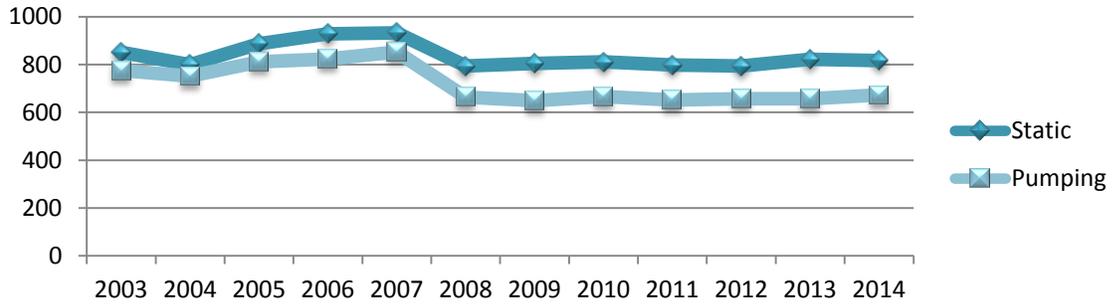
### Zone B (Danforth Road to Edmond Road)



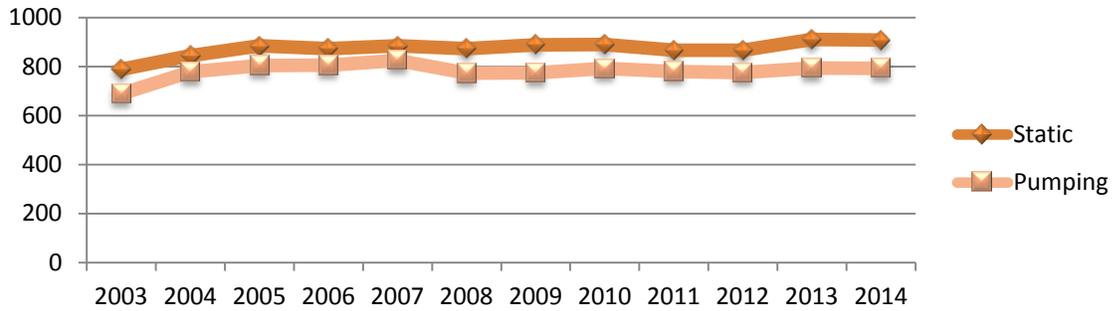
### Zone C (Edmond Road to Fifteenth Street)



### Zone D (Fifteenth Street to Thirty-Third Street)

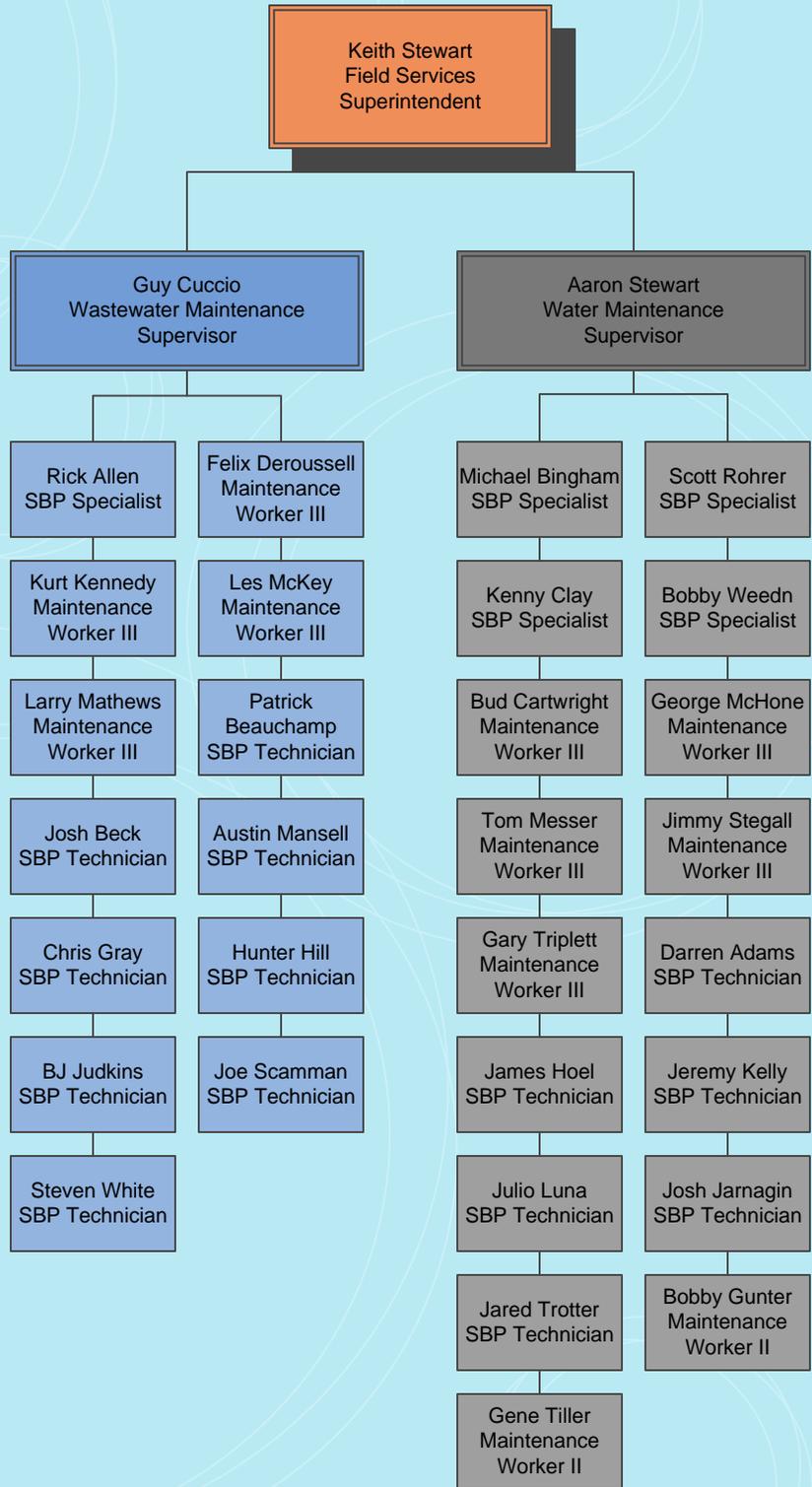


### Zone E (Thirty-Third Street to Memorial Road)



Section 4  
Field Services  
Utility Line Maintenance

# Public Works Field Services Organizational Chart 2013



## **PUBLIC WORKS FIELD SERVICES**

Field Services is made up of four divisions; Water Line Maintenance, Wastewater Line Maintenance, Street Maintenance and Traffic. The department as a whole employs 67 individuals, with the Field Services Superintendent's responsibilities being split between the divisions. The water, wastewater and street groups have been cross trained in the various job functions of each group. This has allowed the department to staff for normal demand, but be able to respond, in force, to peak demand. The Administrative staff, which has also been consolidated, functions much the same way as operations. Field Services is still responsible for the health and well-being of City of Edmond customers by providing quality water and removing wastewater in a safe, efficient manner.

Field Services prides itself on its excellent customer service. It is never a pleasant experience to have a water leak in your front yard or have a blockage in the wastewater line, but through excellent customer service and positive attitude we strive to make these experiences as painless as possible.

## **WATER LINE MAINTENANCE**

History of the Water Line Maintenance Division goes back to 1889 when the first water well was hand dug in Edmond. The first tower was constructed in 1909 at 27 W. Third Street. Beginning with only a couple of people, the Water Line Maintenance Division grew to 28 employees in 1984. Since then the area of responsibility has continued to expand but manpower has been downsized through better management practices and technological advances.

Water Line Maintenance Division is comprised of twenty (19) positions, which includes eighteen (18) public health professionals and one (1) supervisor. The Water Line Maintenance Division's function is maintaining Edmond's 513 miles of water distribution system, 4524 hydrants in the fire protection system and 27,702 residential and commercial meters. In the last year there were 11.52 miles of new water line added to the distribution system. The Division is responsible for the following main areas:

Emergency repair of water main breaks and service line leaks - Every call Water Line Maintenance receives is treated as an emergency, until crews are on site and make an informed decision of the severity of the leak. If the leak is an immediate threat to health or property, emergency locates will be called in and the repair will be made as quickly and safely as possible. If the leak is not an immediate threat to health or property, forty-eight (48) hour locates will be called in, and the leak scheduled as time permits. Water Line Maintenance repaired 55 main breaks in the last year.

Installation of new residential meters - There are currently two options for new services to be installed in the City of Edmond. Contractors can choose to have Water Line Maintenance install the service line; setter and meter can or have a contractor install the service. All parts installed for new services must be purchased from and approved by Utility Line Maintenance. If the resident chooses to have a contractor install the service, Utility Line Maintenance inspects the quality of work and physically installs the meter after the inspection. Last year Water Line Maintenance installed 375 new meters and contractors installed 183 new residential and commercial meters.

Preventative maintenance of system valves and fire hydrants – Preventative maintenance is the backbone of any good water distribution system. Currently Water Line Maintenance has two employees performing preventative maintenance on valves and one employee performing preventative maintenance of fire hydrants. In the last year numerous valves have been found buried, missing or non-functional. Water Line Maintenance is working diligently to rectify the valve situation throughout the system. Throughout the previous year Water Line Maintenance has inspected and operated 9,992 valves and 1,808 fire hydrants.

Perform utility line locates to minimize the damage to City of Edmond's water and wastewater utilities due to excavation around the utilities. In the last year, Water Line Maintenance actually located 4,859 requests for utility line locates.

Maintain fifteen (15) year meter change out program. In the last year 81 meters were changed out. Water Line Maintenance is currently conducting testing on the meters that are removed to ascertain what time frame would provide the lost/benefit ratio.

Street Maintenance continues to replace sod and concrete that is removed by the Water Line Maintenance crews. It was determined the department could perform the work more efficiently, productively and maintain a better-finished product than an outside contractor.

Continue updating of all utility maps. Accurate mapping is one of the most useful tools at our disposal. When working with maps on a daily basis, the employees are constantly finding discrepancies between the maps and what is actually in the system. When these problems are found it requires a joint effort with Management Information System (MIS) to make the corrections to ensure that we have the best possible data.

Leak detection is a large part of the preventative maintenance program conducted throughout Water Line Maintenance. Numerous leaks have been located while they are still small and repaired that would normally not have been found until they were large enough to be noticed. This also aids in tracking unaccounted water.

### **WASTEWATER LINE MAINTENANCE**

Wastewater Line Maintenance history started when the division was created in 1972. Before then, the Sanitation Department was responsible for taking care of problems in the collection system. The line maintenance division worked out of the old City Garage barn at 27 W. Third Street, which is now demolished. Over the years three buildings were constructed at 100 N. Kelly, which became the site for the Wastewater Line Maintenance Division. In 1994 the division was moved back to 27 W. Third. Wastewater Line Maintenance is comprised of (14) positions, which include thirteen (13) public health professionals and one (1) supervisor.

The function of the Wastewater Line Maintenance Division is maintaining Edmond's 427 miles of gravity mainline, 22 miles of force main, 3 siphon sewers, and 11,057 manholes. The surface area of the collection system is 36,591 acres. In the last year there were 11.15 miles of new wastewater lines added to the collection system. The division is responsible for the following main areas:

Wastewater Line Maintenance performs preventative maintenance of the collection system daily by four (4) basic methods, hydraulic cleaning, video inspection, mechanical root removal and chemical root control. Wastewater Line Maintenance strives to be proactive in its preventative maintenance program. In the last year Wastewater Line Maintenance hydraulically cleaned 442,470 feet of collection system, performed video inspection of 183,253 feet of collection system and performed mechanical root removal on 35,429 feet of wastewater lines. In addition, 122,183 feet of the collection system was chemically treated for roots. The chemical treatment was performed by an outside contractor.

Collection system blockage removal is treated as an emergency on every call that is received.

Wastewater Line Maintenance treats blockages as emergencies because crews need to be on site to determine what the problem is and what needs to be done to rectify the situation. There are a number of ways to remove blockages in the collection system, but the two most common are hydraulic cleaning and mechanical sawing. In the last year Wastewater Line Maintenance removed 102 blockages from the collection system, and had a total of 60 Sanitary Sewer Overflows or 14.29 per 100 miles of collection system.

Emergency and point repairs are also made throughout the collection system. Point repairs are sometimes as simple as a cracked joint of pipe to slight offsets in the bells of the pipes where they go together to emergency repairs which usually constitute a total failure in the system (collapsed line). In the last year Wastewater Line Maintenance made 44-point repairs.

Manhole inspections are conducted to ensure the integrity, stability and cleanliness. Manholes should be free of any waste and grit that may accumulate in the opening. There were 1,440 manholes inspected during the year, and 84 manholes were either raised or repaired.

## 2014 STOP UP REPORT

<b>Date</b>	<b>Stop Up Address</b>	<b>Manholes Inspected</b>
1.3.14	3804 Baird Dr.	Manhole # 26219
1.4.14	1104 East Dr.	Manholes # 25555 & 25556
1.6.14	1318 W. Aries Rd.	Manhole # 18567
1.9.14	2216 Marshall Dr.	Manhole # 20667
1.10.14	1804 Whispering Creek Dr.	Manholes # 20342 & 20345
1.13.14	716 Littler Place	Manhole # 22210
1.14.14	801 E. Danforth Rd.	Manhole # 24937
1.21.14	608 Nimrod Rd.	Manhole # 21169
1.21.14	1631 Squirrel Tree Place	Manholes # 24978 & 24979
1.22.14	840 W. Danforth Rd.	Manhole # 21543
1.23.14	901 W. 15th St.	Manhole # 26638
1.28.14	109 E 10th St.	Manhole # 21986
2.4.14	408 Mohawk Trail	Manhole # 77742
2.6.14	2100 Turtlecreek Rd.	Manhole # 24350
2.6.14	2410 W. Edmond Rd.	Manhole # 19072
2.6.14	1809 Foxfire Rd.	Manhole # 21362
2.7.14	1100 Raleigh Circle	Manhole # 21247
2.17.14	2004 Rolling Creek Rd.	Manhole # 26170
2.26.14	1206 W. Gemini Rd.	Manholes # 18574 & 18576
3.4.14	1404 Fox lake Ln.	Manhole # 22988
3.7.14	1301 E. Danforth Rd.	Manholes # 23759 - 23758
3.12.14	1704 Edgewood Dr.	Manholes # 26007 - 26017
3.12.14	808 Rockhollow Rd.	Manhole # 24966
3.20.14	300 S. Rankin	Manholes # 21610 -21603
3.21.14	624 Centennial Blvd.	Manhole # 20145
3.27.14	1813 Woodside Dr.	Manhole # 20261
3.27.14	900 S Broadway	Manholes # 22221 & 22222
3.31.14	1113 Hunter Glen Cir.	Manhole # 19249
4.4.14	1417 Cordgrass Ct.	Manhole # 20125
4.9.14	153 Brad St.	Manhole # 21897
4.9.14	2204 Gebron Dr.	Manhole # 18756
4.10.14	1805 Del Simmons	Manhole # 20340
4.11.14	1901 Cedar Pointe Ln.	Manholes 20727 & 20730
4.11.14	2641Michael Dr.	Manhole # 26047
4.11.14	525 W. 10th St.	Manhole # 21967
4.11.14	2nd & Garland Godfrey	Manhole # 25202
4.14.14	605 N. Broadway	Manhole # 21561
4.23.14	2101 Lazy Brook Trl.	Manhole # 20267
4.28.14	1905 Woodside Dr.	Manhole # 21882
4.30.14	2212 Whispering Creek Dr.	Manhole # 20125

## 2014 STOP UP REPORT

<b>Date</b>	<b>Stop Up Address</b>	<b>Manholes Inspected</b>
5.7.14	28 E 8th St.	Manhole # 22206
5.11.14	2417 Valley Brook Dr.	Manhole # 24787
5.13.14	1313 New Stem Rd.	Manhole # 21167
5.21.14	1716 Chaparral Ln.	Manhole # 24381
5.25.14	201 Elwood Dr.	Manhole # 25866
5.28.14	237 E 30th St.	Manhole # 26124
5.29.14	1900 Woodland Rd.	Manhole # 24376
6.2.14	204 E. 14th St.	Manhole # 22097
6.20.14	511 Meadow Lake Dr.	Manhole # 21675
6.26.14	1802 Canyon Park Cir.	Manhole # 24425
6.30.14	1200 Pepperdine	Manhole # 26241
7.1.14	341 Whitman Ct.	Manhole # 21340
7.2.14	705 Quail Ridge Rd.	Manhole # 24968
7.15.14	2401 Huntwick Dr.	Manhole # 23988
7.17.14	1509 N. Canary Dr.	Manholes # 23533 & 23531
7.20.14	1804 Pine Oak Dr.	Manhole # 26155
7.20.14	2217 Brookwood Place	Manhole # 22580
7.24.14	3504 Banner Ct.	Manholes # 26305 & 26304
7.29.14	1305 S Broadway	Manhole # 21563
7.31.14	1201 W. 15th St.	Manhole # 18561
8.6.14	415 Winding Ln.	Manhole # 21712
8.10.14	101 Woodbridge Cir.	Manhole # 18996
8.14.14	1017 S Broadway	Manhole # 27070
8.20.14	2104 Whispering Creek Dr.	Manhole # 20124
8.25.14	2413 Bent Trail Rd.	Manhole # 19043
8.28.14	1020 East Dr.	Manhole # 25555
8.29.14	1302 W. Aries Rd.	Manhole # 18581
8.29.14	1405 Eagle Dr.	Manhole # 23553
8.29.14	336Tullahoma Dr.	Manhole # 26941
9.4.14	721 Swan Lake Rd	Manhole # 19952
9.6.14	1421 Creston Way	Manholes # 19334 & 19335
9.17.14	1406 Pine Oak Place	Manhole # 25714
9.17.14	2nd St & Air Depot	Air Relief Valve
9.18.14	1215 E 9th St.	Manhole # 25486
9.19.14	617 Hawthorne Pl.	Manhole # 21541
10.2.14	1625 Kings Rd.	Manhole # 20632
10.2.14	1515 Oak Tree Dr.	Manholes # 29552 & 19551
10.14.14	735 S. Littler Ave.	Manhole # 27091
10.16.14	604 Cinnamon Dr.	Manhole # 21183

## 2014 STOP UP REPORT

<b>Date</b>	<b>Stop Up Address</b>	<b>Manholes Inspected</b>
10.16.14	508 Cherryvale Rd.	Manhole # 21201
10.19.14	1601 Apian Way	Manholes # 21159 & 19798
10.29.14	1206 W. Gemini Rd.	Manhole # 18574
11.6.14	1120 Bankside Circle	Manhole # 19261
11.12.14	421 Albany Dr.	Manhole # 21323
11.18.14	3506 Wynn Dr.	Manholes # 20450 & 20451
11.18.14	1301 Homestead Blvd.	Manhole # 18759
11.20.14	2905 N. Trail Ridge Rd.	Manholes # 18953 & 18987
11.24.14	637 E 9th St.	Manhole # 25614
11.25.14	1913 Running Branch Rd.	Manhole # 24355
11.25.14	915 Crown Dr.	Manhole # 25143
12.2.14	308 Countryside Trail	Manhole # 19185
12.2.14	2613 Bent Trail Rd.	Manholes # 19034 & 19066
12.3.14	1709 Canary Ct.	Manhole # 23535
12.7.14	3000 Wanetta Ave.	Manhole # 26103
12.11.14	2108 Smiling Hill Blvd.	Manhole # 26294
12.12.14	400 W. 8th St.	Manhole # 27088
12.13.14	1413 Folkstone	Manhole # 24232
12.13.14	1717 S Boulevard	Manhole # 20636
12.13.14	1412 Shalamar Rd.	Manhole # 25883
12.16.14	2901 Trail Ridge Rd.	Manhole # 18991
12.17.14	809 Cogswell Circle	Manhole # 26258
12.22.14	510 Erinblu	Manhole # 21729

## 2014 BYPASS REPORT

ADDRESS	MANHOLE/LOCATION	DATE	ESTIMATED GALLONS	REASONS	DURATION (HOURS)	WET/DRY WEATHER EVENT	REACHED "WATERS OF THE STATE"
3804 Baird Dr	cleanout	1.3.14	50	Broken pipe	6	Yes/dry	Ground
1104 East Dr	inside house	1.4.14	150	Roots and grease	3	Yes/dry	Ground
801 E. Danforth Rd	manhole # 24937	1.14.14	2,400	Roots and repaired main	4.75	Yes/dry	Ground
840 W. Danforth Rd.	cleanout	1.22.14	400	Roots	1.25	Yes/dry	Drainage channel
2100 Turtlecreek Rd.	cleanout	2.6.14	100	Debris	4	Yes/dry	Ground
2410 W. Edmond Rd.	manhole # 19072	2.6.14	1,000	Grease	1.75	Yes/dry	Drainage channel
1809 Foxfire Rd.	manhole # 21362	2.6.14	300	Debris	2	Yes/dry	Ground
2004 Rolling Creek Rd.	cleanout	2.17.14	200	Roots	2	Yes/dry	Ground
1404 Fox lake Lane	manhole # 22988	3.4.14	3,000	Debris	1.75	Yes/dry	Ground and creek
1301 E. Danforth Rd.	cleanout	3.7.14	50	Grease	1.25	Yes/dry	Ground
4001 NE 143rd St	OKC	3.23.14	4,000	Broken pipe	2.75	Yes/dry	Creek
1813 Woodside Dr.	manhole # 20261	3.27.14	2,000	Roots	2	Yes/dry	Drainage channel
1417 Cordgrass Ct.	manhole # 20125	4.4.14	10,000	Roots and debris	2	Yes/dry	Ground and creek
153 Brad St.	manhole # 21897	4.9.14	100	Grease and debris	0.5	Yes/dry	Ground
2204 Gebron Dr.	cleanout	4.9.14	500	Grease and debris	2.5	Yes/dry	Ground
1805 Del Simmons Dr.	manhole # 20340	4.10.14	1,000	Grease and debris	3.5	Yes/dry	Ground
2641 Michael Dr	manhole # 26047	4.11.14	200	Roots	1.5	Yes/dry	Ground and drainage channel

## 2014 BYPASS REPORT

ADDRESS	MANHOLE/LOCATION	DATE	ESTIMATED GALLONS	REASONS	DURATION (HOURS)	WET/DRY WEATHER EVENT	REACHED "WATERS OF THE STATE"
525 W. 10th St.	manhole # 21967	4.11.14	100	Roots and debris	1.75	Yes/dry	Ground
2nd St. & Garland Godfrey	manhole # 25202	4.11.14	500	Debris	1	Yes/dry	Ground and drainage channel
2101 Lazy Brook Trail	cleanout	4.23.14	40	Roots	0.5	Yes/dry	Ground
1905 Woodside Dr.	manhole # 21882	4.28.14	1,000	Debris	1.5	Yes/dry	Ground
2212 Whispering Creek Dr	manhole # 20125	4.30.14	30,000	Debris	6.5	Yes/dry	Ground and creek
2417 Valley Brook Dr.	cleanout	5.11.14	150	Debris	1.5	Yes/dry	Ground
1313 New Stem Rd.	manhole # 21167	5.13.14	3,000	Roots, grease and debris	2.5	Yes/dry	Ground
1716 Chaparral Ln.	manhole # 24381	5.21.14	1,500	Roots	1.5	Yes/dry	Ground
1900 Woodland Rd.	manhole # 24376	5.29.14	900	Roots	1	Yes/dry	Ground
2217 Brookwood Place	manhole # 22580	7.1.14	10,000	Roots	6.5	No	Creek
2401 Huntwick Dr.	manhole # 23988	7.15.14	500	Debris	2	No	Ground
1804 Pine Oak Dr.	manhole # 26155	7.20.14	2,500	Roots	2.5	No	Drainage channel
705 Quail Ridge Rd.	manhole # 24968	7.20.14	200	Roots	1.5	No	Ground
415 Winding Ln.	manhole # 21712	8.6.14	3,000	Roots	2	No	Street storm drain
Corners of Danforth & Douglas and Post	WW Treatment Plant	8.6.14	20	Sludge truck lid loose	0.5	No	Street
101 Woodbridge Circle	manhole # 18996	8.10.14	5,000	Roots and grease	2.75	No	Drainage channel
2204 Lytal Lane	broken pipe	8.19.14	200	Broken pipe	2.25	No	Broken pipe
2104 Whispering Creek Dr.	manhole # 20124	8.20.14	11,250	Debris and rags	2.75	No	Drainage channel
2413 Bent Trail Rd.	manhole # 19043	8.25.14	2,000	Roots and grease	4	No	Drainage channel & creek

## 2014 BYPASS REPORT

ADDRESS	MANHOLE/LOCATION	DATE	ESTIMATED GALLONS	REASONS	DURATION (HOURS)	WET/DRY WEATHER EVENT	REACHED "WATERS OF THE STATE"
2204 Lytal Lane	broken pipe	8.26.14	300	Broken pipe	2.25	No	Drainage channel
2nd St. & Air Depot	air relief valve	9.17.14	100	Equipment problems	2.5	No	Street
1215 E. 9th St.	manhole # 25486	9.18.14	105,000	Debris, rags & bags	1.5	No	Drainage channel
617 Hawthorne Place		9.19.14	100	Roots	0.75	No	Ground
735 S. Littler Ave.	inside of house	10.14.14	75	Debris and rags	1.25	No	Floor drain in garage
604 Cinnamon Dr.	manhole # 21201	10.16.14	7,000	Roots	1.5	No	Ground
508 Cherryvale Rd.	creek crossing	10.16.14	500	Roots and repair crossing	4	No	Drainage channel
1601 Apian Way	manholes # 21159 & 19798	10.19.14	1,500	Roots and grease	2.75	No	Creek
1120 Bankside Circle	manhole # 19261	11.6.14	1,200	Grease and debris	1.25	No	Drainage channel
3506 Wynn Circle	cleanout	11.18.14	50	Roots	0.75	No	Ground
1301 Homestead Blvd.	manhole # 18759	11.18.14	250	Grease	1.25	No	Drainage channel
2905 N. Trail Ridge Rd.	cleanout	11.20.14	100	Roots	1	No	Ground
915 Crown Dr.	cleanout	11.25.14	75	Grease	1.5	No	Ground
1913 Running Branch	cleanout	11.25.14	50	Debris	1	No	Ground
1709 Canary Ct.	manhole # 23535	12.3.14	2,500	Grease	1	No	Creek
3000 Wanetta Ave.	manhole # 26103	12.7.14	20	Roots	1	No	Ground
2108 Smiling Hill Blvd.	manhole # 26294	12.11.14	5,500	Debris in OKC line	2	No	Drainage channel

## 2014 BYPASS REPORT

ADDRESS	MANHOLE/LOCATION	DATE	ESTIMATED GALLONS	REASONS	DURATION (HOURS)	WET/DRY WEATHER EVENT	REACHED "WATERS OF THE STATE"
1413 Folkstone	cleanout	12.13.14	50	Grease	2.25	No	Ground
1717 S Boulevard	cleanout	12.13.14	30	Roots and grease	2	No	Ground
1412 Shalamar Rd.	cleanout	12.13.14	20	Roots	4.25	No	Ground
510 Erinblu Place	cleanout	12.22.14	70	Grease	1.5	No	Ground

**2014 Water and Sanitary Sewer Maintenance Bonds Accepted**

New Projects	Project Nbr.	Water Line					Sanitary Sewer				
		14"	12"	10"	8"	6"	15"	12"	10"	8"	6"
Abel Retail Center	SP100002					177					
Acts 2 Methodist Church	SP12-00019					670					
Aldi Foods/Kelly Crossing	SP13-00018				1,035	38				358	
Asheford Oaks SS	EP14-00012									215	
Centennial 2 at Iron Horse Ranch	PR13-00031		1,106		4,593			1,656		2,470	
COE FY13 SS Rehab Phase 1 (new lines)	CD12-00008						425			1,569	
Cottage Grove	PR13-00060		702		3,255					4,590	
Creekside Village 2	SP110015		30			23				358	
Cross Timbers Park SW	CD13-00002		1,427		212	15			656	539	
Cypress Point Estates	PR13-00059				2,400					2,128	
Edmond Recreation & Aquatic Center	CD110006				214					889	
Fairway Park 1	PR13-00035					690				320	
Fallbrook 3	PR13-00038		780		1,640				1,430	987	
Golden Gate 4 at Twin Bridges	PR13-00030		4,338		1,974	247				5,573	
Hampden Hollow 3	PR13-00053		852		3,750					3,174	
Heritage Village	PR13-00023				1,860				456	540	
Hidden Prairie 3 at Kelley Pointe	PR13-00012		1,350		2,082	648				3,303	
Inspirada	PR12-00016				2,744	493				3,302	
La Fitness	SP13-00001			424		48					5
Leavitt's North Park - Lot 6 & 7, Blk 2	EP110028									115	
Mercy Health Facility	PR110002			1,907	650	100				2,952	
Meritage Park	PR13-00058				2,922					2,659	
Qdoba at Market Square	SP13-00014				240						
Seven Oaks at Oak Tree	PR13-00011				1,136	770		978		1,168	
Thornbrooke Manor 3	PR12-00031				4,617					7,521	
Thunder Canyon 1	PR13-00020		985		4,785					4,895	
Town Square 1	PR13-00010		1,746		1,112					3,620	

<b>Subtotals</b>	<b>0</b>	<b>13,316</b>	<b>2,331</b>	<b>41,221</b>	<b>3,919</b>	<b>425</b>	<b>2,634</b>	<b>2,542</b>	<b>53,245</b>	<b>5</b>
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**60,787 Total Liner Feet of Water Line**

**58,851 Total Liner Feet of Sanitary Sewer**