

2008 ANNUAL REPORT TO THE CITY COUNCIL

NARRATIVE DESCRIPTION OF DEPARTMENT

The Water Department has: Seven full-time Employees a Utility Billing Clerk and part time receptionist, collections and data entry at City Hall.

Name	years of service		Certificate grade and type
1. Gayle Sitzmann	20 years		Grade IV Treatment / Grade IV Distribution
2. Jim Conley	20 years	24 Total	Grade IV Treatment / Grade IV Distribution
3. Terry Singer	20 years		Grade II Treatment / Grade I Distribution
4. Mike Haverhals	13 years		Grade IV Treatment / Grade IV distribution
5. Roger Weisharr	10 years		Grade III Treatment / Grade II Distribution
6. Rich Sudtelgte	3 year		Grade II Treatment / Grade II Distribution
7. Alice Krienert	8 years		Meter Reader
8. Angie Kneip	1 year		Utility Billing and Collections
9. Christi Kilker	1 year	5 Total	Receptionist, collections and Data Entry

The water department operates the City of LeMars water system. Which consist of over 70 miles of underground water main, 4269 meters, 1000 private meters, 600 fire hydrants, over 1100 main line valves, 1- one million gallon elevated water tank, 1 - 1.5 million gallon underground storage tank, Over 1 million gallons in the distribution system. A 6 MGD Filtration Plant, 1 - high service pump station with a total of 4 pumps, 1 underground booster pump station w/ 2 pumps run in alteration, and 6 - Dakota aquifer wells.

The Water Department also handles locates for water and Fiber optic cables that city shares. Over see Cellular companies at the LeMars water tower, Moves snow over 20 different locations in the downtown and surrounding areas, does small capitol projects, replaces valves and Fire Hydrants, changes water meters, customer service work orders, Water main breaks and many other maintenance in house tasks at a great cost savings to the Citizen's and customers of LeMars.

Information of interest

Total water pumped from the 6 wells for the year.....	990,927,000 gallons
Total pumped into the distribution system.....	919,926,000 gallons
Total used for backwash	69,001,000 gallons
Average daily water pumped.....	2,511,667 gallons

Annual flushing was 4 Million; new main and well flushing was 1 Million. This and all other City facilities, hydrant meter sales, contractors, leaks and street use accounts for 5% of the water pumped. Over 15 Million gallons of water were used at City facilities or 6 days of pumping capacity.

Number of Locates Total	1364
Fiber Locates	318
Water complaints	41
Work order completed	462
Water test done.....	5189
Meter replacements completed.....	182
Private meter sales.....	over 50
Shut-off and collections	375
Water main Breaks fixed	6
Fire Hydrants repaired from being hit	7
Hours of snow moved in City with 3 pieces of equip... ..	266
Hours Airport manager and Waste water used back hoe.....	60
Finals and applications done	732
Service taps completed.....	13
Service leaks	16
Frozen meters	17
Call Outs not including leaks.....	65
Superintendents after hour calls and contacts.....	285
Superintendents calls 7 days on Vacation	31
Collection letters in the last 6 months.....	1937
December letters alone	266

Review of water pumped monthly

	Average Daily Gallons	Monthly Gallons
2008		
January	2,111,000	71,651,000
February	2,205,000	69,603,000
March	2,177,000	69,841,000
April	2,333,000	76,107,000
May	2,582,000	86,464,000
June	2,966,000	97,184,000
July	3,443,000	111,915,000
August	3,289,000	107,651,000
September	2,710,000	90,126,000
October	2,385,000	78,307,000
November	1,997,000	66,024,000
December	1,942,000	66,054,000
Daily Average	2,511,667	
TOTAL		919,926,000

Information of interest

	‘07	’08	difference
Number of Locates done.....	1031	1364	+ 333
Fiber locates	179	318	+ 139
Water complaints hard to keep track of	79	41	- 38
Work order complete	1530	462	- 1068

Most of the difference came threw City hall with software and equipment improvements.

Water test done.....	4726	5189	+ 463
Meter replacements completed	48	182	+ 134
Private meter sales.....Less housing additions	60	50	- 10
Shut-off and collections	318	375	+ 57
Water main Breaks fixed	9	6	- 3
Hours of snow moved.....	195	266	+ 71
Finals and applications done	685	732	+ 47
Service taps completed.....	18	13	- 5
Service leaks ...Not all recorded or known of	22	16	- 6
Frozen meters	10	17	+ 7
Call Outs not including leaks.....	65	65	same
Superintendents after hour calls Not all recorded	192	285	+ 93
Collection letters (Landlord letters) and changed time frame	941	1937	+996

Review of water pumped monthly

	Average Daily Gallons 2007	Monthly Gallons 2007	Monthly Gallons 2008	Average Daily Gallons 2008
January	2,248,000	69,691,000	71,651,000	2,111,000
February	2,259,000	63,243,000	69,603,000	2,205,000
March	2,530,000	78,423,000	69,841,000	2,177,000
April	2,713,000	81,379,000	76,107,000	2,333,000
May	3,276,000	101,543,000	86,464,000	2,582,000
June	4,069,000	122,081,000	97,184,000	2,966,000
July	4,489,000	139,150,000	111,915,000	3,443,000
August	3,196,000	99,063,000	107,651,000	3,289,000
September	2,674,000	80,229,000	90,126,000	2,710,000
October	2,384,000	73,918,000	78,307,000	2,385,000
November	2,093,000	62,777,000	66,024,000	1,997,000
December	1,865,000	57,820,000	66,054,000	1,942,000
Daily Average	2,816,333			2,511,667
TOTAL		1,029,317,000	919,926,000	

The difference in gallons per day is 304,666 gallons less in 2008 than in 2007 out into the system.

We billed 3,817,000 gallons more in 2007 than we pumped to the system in 2008.

The water treatment plant continues to operating very well. Jim and all the operators do a fantastic job and take pride in the plant. It is maintained and kept clean in a manner the entire city can be proud of.

Projects completed and worked on in 2008

1. Water main installed 2400 ft. of 12 in. main along the recreation trail at the Airport to 18th Street SW
2. 2500 ft. of 2 in. for services on 195th.
3. Change 16 in. incoming water meter at the water treatment plant.
4. Start rehabilitate and other considerations for well #7.
5. Meter maintenance.
6. Replaced a motor and rebuilt one of the booster pumps
7. Replaced 4 fire hydrants and valves.
8. Received new Water Supply Permit.
9. NE, NW and SW quadrants of town have been GPS on hydrants, valves and curb boxes. (not all resident boxes found)
10. Spring and fall flushing has been completed.
11. Hydrant maintenance has been completed
12. All required tests and forms are completed and sent to the IDNR
13. Maintenance, logging, mapping, data entry, and requested scenario were completed.



Council Approved water main considerations and work to be done in 2009 & 2010

1. Extend 3000 ft. of 12 in. main north to Madison Ave. (old 60)
2. Extend 1200 ft. 10 in. to 6 in of Leland heights
3. Extend 500 ft. 6 in. to Leland Heights
4. Extend 1700 ft. of 10 in. to Northwest Crossings
5. 12in. loop on Business 75 North to across river by Waste Water.
6. Loop 12 in. across business 75 to Airport (needs approved?)
7. 12 in. loop across By-Pass on C-38 (needs approved?)
8. Change several broken valves and replace fire hydrants.
9. Start GPS on SE quadrant of town.
10. More backflow awareness, compliance, testing and checks
11. Monitor and set guidelines using codes for irrigation installation.(**Council update**)
12. Valve turning program and hydrant maintenance.
13. Water study
14. Resume part of 5 year plan
15. Meter maintenance and some Radio read installs.
16. Spring and fall flushing.
17. Work on backflow program.
18. Work with contractors, Plumbers, and residents on some of the new fee structures implemented for 2009. **Service Charges.**

History of the LeMars Water System

In 1887, the first water plant started in LeMars. This venture was started by an organization of whom John M. Dunn was president and Peter Egan served as Secretary. The Plant was started at the location previously know as the North pumping station and reservoir, which is now O'Toole Park. This ground was formerly part of a brick plant. They started with a few shallow wells but as demand grew they kept putting down more wells, until they had over 50 – 2" wells about 50' deep. The original wells were connected to a 10" wood water main through a tunnel to a reservoir that was built in 1890.

It was believed that the first water works office was located at 38 Central Ave NE. The Original capitalization was for \$40,000 started by Mr. Dunn, who very suddenly left town after receiving a check for \$20,000. The plant was taken over by John Winchell, who invested \$20,000 in equipment in addition to a loan of \$32,000. At this time, in the year of 1891, a local bank had invested \$40,000 and made an additional loan of \$4,500 and in order to protect their interests took over the Water works.

The Bank wanted to be relieved and on order by the banking department to divorce the water works from other banking operations disposed of their interest to Mr. Bert Bush. After two years of unsuccessful operation, Mr. Bush was forced out by a creditor who, in turn, interested Mr. Jim Rogers in taking over the plant. After running the plant a few years, Rogers was taken over by Knorr & Schafer, who operated the plant until 1922. In 1922, it was purchased by Iowa Light and Power Company, Later known as the Iowa Public Service Company. In 1925 the old wooden reservoir was replaced with brick walls 8" thick faces with cement on the inside and concrete floor 6" thick. A cement walkway was constructed around the inside edge of the reservoir. Inside measurements of the reservoir are 38'x 88'x 14' with a capacity of 350,000 gallons. In 1927 a water tower was erected on one of the higher pieces of ground in southeastern LeMars, Fifteen blocks from the ground where the reservoir and wells are located. This is now the corner of 6th St. & 4th Ave. SE. Of steel construction the bowl's diameter is 30' and from the bottom of the bowl to the top measuring 48', with a capacity of 307,000 gallons, rest on six steel legs that gives the tower an overall height of 138'.

In 1934 it became necessary to add greater capacity to pump from the reservoir in to the water mains, another centrifugal pump of 750 GPM was installed in #2 pump house. This pump was driven by a 60 hp, 3460 rpm, 220 volt, 3-phase motor.

In 1945, it was necessary to rebuild the roof of the reservoir as same caved in from excessive weight of snow. In the early days of the water plant there were very few mains and consequently very few fire hydrants installed. During 1893 there were about 20 hydrants, later in about 1925 as more mains were laid, about 50 hydrants were installed. As more mains were added, more hydrants were also added so that in 1950 there were 159 hydrant and 92,259' of water main. At the end of October 1950 IPS had 1435 metered 170 flat rate and 1 municipal hydrant customers. Average pumping per day ran around 800,000 gallons per day.

In 1966 Iowa Public Service Company added the south well field, which consisted of Well # 6 and a New High service pumping station and 100,000 gallon reservoir on Industrial Road SW. Then in 1967 they added Well # 7, just east of well # 6.

In 1983 the water works was sold to a private owner from Woodstock, Ill named Matt Stahl. He ran the water work under the name of LeMars Water Company for around five years. After many complaints from the Citizen of LeMars, the City began condemnation proceedings against the Private Company, and received ownership on the water works in June of 1988.

The City of LeMars water department was formed with one water superintendent and three water operators and began operated at its former north well field and reservoir at O'Toole Park. Many Improvements needed to be made from the beginning, starting with well # 4, which had broken down the day the City, took over operations. There were 60 non functioning hydrants and two other wells in bad condition. In the spring of 1990 water operations were moved the south well field in a new building at the present location of 1298 18th St. SW. In the fall of 1990 well #9, a new 1,000 GPM well, was added at the south well field. Then in the spring of 1992 the new high service pumping station and 1.5 million gallon underground reservoir, at 1298 18th St. SW. and was put into service. Then in the fall of 2000, a new One million gallon elevated tower was constructed at a site on the old Westmar college property. The new tower has a height of 162' and a bowl diameter of 72' with a side wall height of 40'. This increases the City's water pressure by around 10 psi. In January of 2002 well # 10 located 750 south of well # 9 was added. In February of 2002 the old water tower was cut up in pieces and lowered down to the ground and removed. The next major work was adding 2 more wells # 11 & 12. These wells are located at the 2100 block of Lincoln SW and 24th street SW. In 2005 a new Water treatment plant was built and put on line in September. After start up it was noticed that the sanitary sewer system needed to be updated to the plant so in the meantime a retention basin was built south of well # 10 to hold backwash water and use percolation and evaporation to save water having to ever go to the waste water plant. In 2008 a new sewer line was put on line so if need be all backwash water could go to the Waste water plant. In August of 2005 Well # 8 at the North pump station went down. It was decided not to rehabilitate the well. Well # 4 was still working and the pump station so we kept them maintained in case of future needs. It was decided to discontinue any future use of the North plant in 2006 and in 2007 the North well field, reservoir and pump station were plugged and torn down at the original site from the start in 1887. The tenure at the original site was 108 years of use. At the present time the water system consists of 600 Fire hydrants, 4,250 water meters, over 1150 main line valves and 70 miles of water main. We are also in the process of locating and GPS as much of the hydrants, valves, new taps and private curb boxes as we can. We have the southeast part of town left to do.

4 in	-	95,118 ft.
6 in	-	79,000 ft.
8 in	-	113,000 ft.
10 in	-	3,640 ft
12 in	-	80,000 ft.
16 in	-	9,040 ft.

In 2007 the average water pumped per day was 2,811,000 gallons. In 2008 we had an average day of 2,511,000 gallons per day. Most of the change was due to a wetter spring and cooler summer.

In conclusion I would like to thank the mayor, council, city staff, news media and the citizens here in LeMars. All of you effect what we do on a day to day basis at some point in our day. There are some days I literally change the compass of work 3 times with in the first ten minutes before we get out the door. We get pulled different directions and work threw them during our day. Very seldom are we on one project all day unless working on a specific project. Even then we do send operators off to do calls that come up. We work with city staff, contractors, plumbers, citizens and customers big and small. We get all the good calls too like wanting to know when their garbage will be picked up or why they did not; their sewer has a problem, What is the number to the court house or a business, sink holes appear all over. These also break up the day and make you smile. We try to accommodate anyone who calls or comes threw our doors. None of this would be possible without the staff here at the water department and also city wide staff. I personally want to thank them for all they do. All water department staff helps me accomplish many things. They work in inclement weather, in dangerous conditions and put up with things out of there control at times. They don't let me down or the city when asked to do what is needed. They do many things at a great savings to the city. They learn new skills needed as changes come about and again I thank them for this.

Thank You

Gayle Sitzmann

Water Superintendent