

JOURNAL OF COMMISSION WORK SESSION
March 6, 2012

City Commission Work Session

Mayor Pro Tempore Jones presiding

CALL TO ORDER: 5:30 p.m.

ROLL CALL: City Commissioners present: Bill Bronson, Fred Burow, Mary Jolley, and Robert Jones. Mayor Winters was excused. Also present were the City Manager; Deputy City Manager; City Attorney; Directors of Fiscal Services and Public Works; Deputy Director of Planning and Community Development; Executive Director of the Housing Authority; Police Captain; and the Administrative Secretary.

1. WATER, SEWER, STORM DRAIN RATE INCREASES

Public Works Director Jim Rearden presented a PowerPoint presentation on the City of Great Falls 2012 Utility Rate Analysis. He introduced Dave Dobbs, City Engineer; Mike Jacobson, Water/Waste Water Plant Supervisor; Mike Judge, who is in charge of the piping systems; Mike Kynett, Project Engineer, probably the project manager for the wastewater plant upgrades; Fiscal Services Director, Melissa Kinzler, who has been an important part of the process; and Courtney Lyerly, a new addition to the staff. He also introduced Craig Caprara, HDR Engineering, Missoula, and Travis Meyer and Craig Nowak, Morrison-Maierle Engineering, Helena.

Mr. Rearden reported the City of Great Falls utilities customer base includes almost 19,000 residential properties and 2,300 commercial properties, over 64,000 total users, including Malmstrom and Black Eagle.

Mr. Rearden explained the rate adoption process which includes presenting the proposed rates at this Work Session; the regular City Commission agenda at 7 p.m. includes an item to set the public hearing date for April 17, 2012. In the interim, notices will be mailed out in the utility bills and public notices will be published three times. If adopted, the new rates would take effect at least 10 days later; the proposed date is May 1, 2012.

Mr. Rearden noted the rates pay for daily operation/maintenance and past projects (debt), and provide for future Capital Improvement Programs (CIP). He reviewed the water utility system. Since instituting a very aggressive water main replacement program in 1996, water main breaks have reduced from 122/year to the 40 range. However, about half of the system was installed from the 1950's to the early 1970's, one of the older water systems in the state.

Mr. Rearden reported that a five-year capital improvement program is considered when analyzing rates each year. Recent projects (the last three years) are separated from future projects (the next three years).

Mr. Dobbs provided a handout of recent capital improvement projects for 2009, 2010, and 2011, and a handout of future capital improvement projects for 2012, 2013, and 2014. The water system includes the water treatment plant, storage tanks/reservoirs, pump stations, and pipelines.

About three miles of water main replacement has been done each year for the last three years. Also, a series of rehabilitation projects at the water plant have been done. Over the next three years, the three miles per year water main replacement project will continue, maintenance will be done on the tanks, and upgrades made at the water treatment plant.

Commissioner Burow questioned if the improvements are required by DEQ. Mr. Dobbs responded the projects are being planned to keep the plant going because of an approaching end-of-service life or safety/inefficiency issues. Mr. Rearden added the capital improvement program for the water system is age-related. Early segments of the water plant still in service were built in 1916.

Mr. Rearden reviewed the water utility five year cash flow. The five year CIP, with the five year cash flow, determines rates. The proposed water utility rate increase is 5%.

Mr. Rearden reviewed recent storm drain utility projects. Storm drain is analyzed on a per basin basis, and a CIP is also done for the storm drain utility.

Mr. Dobbs reported the storm drain system includes pipelines, lift stations, and detention ponds. He reviewed several recent drainage projects, a large storm drain project (first phase of Valeria Way), and system deficiencies in northwest Great Falls revealed from recent wet summers. Over the next three years, the northwest Great Falls projects will be completed, the other two phases of Valeria Way will be done, and a major storm system on 18th Street South that is undersized. Remedies for recent localized flooding to the Upper/Lower River Road area are also planned.

Mr. Dobbs noted that as the City developed, the water and sewer systems followed but storm drain was an afterthought. While current water and sewer projects are second or third generation, in many places the first generation of storm drains is being done.

City Manager Greg Doyon questioned the progress of the current Skyline project. Mr. Dobbs responded the retention pond project should be completed within two weeks.

Commissioner Jolley questioned where the water would be pumped from the retention pond. Mr. Dobbs responded the water will go south to the existing system and to the Missouri River. She noted rules about what can go into the river. Mr. Rearden responded that two outfalls are required to be monitored twice a year, although nothing is currently done with those measurements. He added that if readings are high, they start looking for the source. Storm water may have to be treated in the future.

Mr. Doyon noted the attempt for Public Works to negotiate the purchase of land to the north to avoid the problem. Mr. Dobbs responded that the areas of Eagle's Crossing, Northview Addition, and Bootlegger Addition don't directly drain to the Missouri like Riverview and Valley View. Rather, they go to the north and then west into Watson Coulee, eventually to west Great Falls. A program to pipe the runoff and use detention ponds was planned, but talks with the landowners were unsuccessful. Therefore, the pond on 36th Avenue NE, which is a closed basin, was pumped south to the Missouri River.

Mr. Rearden noted most ponds are detention ponds which hold the water back and let it out at a controlled rate. A closed basin is a retention pond with no place for the water to go. The pond on 36th Avenue NE is the only retention pond in the system.

Mr. Rearden reported no increase is proposed for the storm drain utility. Some minor increases may be needed around 2015.

Mr. Rearden reported sections of the wastewater utility pipe in the West Bank area are being cleaned and a liner installed to rehabilitate the force main and gravity main. He noted that downstream force mains are a problem because of generation of more hydrogen sulfide (H₂S).

Mr. Jacobson reported Montana Pollutant Discharge Elimination System (MPDES) permits, which dictate what can be discharged to the river, are issued in five year increments and must be applied for six months in advance. The last permit expired at the end of 2004, and an application for a new permit was made in June 2004. As of 2008, a new permit had not been received, so DEQ required a new application be submitted. A draft permit was issued in July 2009. Concerns about the permit requirements were discussed with DEQ, however, the permit was issued November 1st. The City appealed the permit. After meeting with DEQ in February and April of 2010, a fair amount of success was achieved and a second draft permit was issued in September and was effective December 1, 2010.

Mr. Jacobson reported DEQ would not give any ground on the issue of ammonia. Ammonia is toxic in the river, and the issue is whether it can be treated or diluted. The City wanted the first permit cycle to allow a mixing zone analysis, as was afforded both Missoula and Billings. Rather, DEQ required treatment by the end of the cycle.

Mr. Caprara reported problematic requirements in the permit include more restrictive limits on E. coli bacteria and total residual chlorine/ammonia, and metals. Also included were requirements to install continuous flow monitoring equipment that meet DEQ's requirements. By November 30, 2012, an engineering evaluation of the existing equipment is required. By November 30, 2013, a determination of required improvements must be made. By November, 30, 2015, the improvements must be completed and functional.

Mr. Caprara reviewed the E. coli bacteria disinfection evaluation including technologies, design, facility, and project cost. He recommended ultraviolet (UV) disinfection of wastewater. After comparing UV technology, Mr. Caprara reported the Trojan Signa system was recommended for an overall cost of about \$4.4 million.

Mr. Caprara reported the next steps for the disinfection evaluation. Commissioner Jolley questioned collimated beam testing. Mr. Caprara responded a sample is tested with UV light to determine the dosage required to meet the disinfection requirements. He noted every major community in Montana has UV disinfection installed.

Commissioner Jolley questioned UVT. Mr. Caprara responded ultraviolet transmittance (UVT) is the ability of ultraviolet light to penetrate fluid and inactivate bacteria. Ms. Jolley questioned the City's low UVT. Mr. Rearden responded most of that has been traced to the Malt Plant

effluent, and they are looking at other plants to determine if they have the same situation. Two years after installation, another cost of service analysis will need to be done. He noted that a new permit for the Malt Plant is in process and additional limits will be required.

Mr. Meyer reviewed the ammonia/metals removal evaluation including a mixing zone study and treatment upgrade. The mixing zone study showed there is plenty of water in the river to get the metals concentrations below any toxic levels. However, MDEQ requires data be collected from the river for the next 10-12 months so they can do a more detailed evaluation. When the data is collected, an application will be made for a major modification to the permit.

Commissioner Burow questioned the quantity of metals. Mr. Jacobson responded the majority comes from residential sources, and they assume plumbing. Valium can come from plumbing, but other sources include pharmaceuticals and pesticides. Selenium and arsenic are naturally occurring.

Mr. Meyer reported that ammonia will require a treatment upgrade because there is not enough dilution water in the river to reduce ammonia to below toxic levels. The recommended option is nitrification/denitrification for the wastewater plant that would allow recovery of oxygen that does not have to be added to the water with equipment that would use a lot of electricity. If the City receives nutrient limits, a minimal upgrade would be required. The estimated project cost is \$12.6 million.

Mr. Caprara reported a flow monitoring evaluation within the plant and the 6th Street pump station is currently being done, and the estimated cost is over a half million dollars.

Mr. Caprara provided an overall project cost summary for improvements at the wastewater treatment plant of \$18.7 million. Final design is on track to start April 1, 2012 to meet the December 1, 2013 permit requirement for the disinfection project and the December 1, 2014 deadline for the ammonia upgrade and flow monitoring. He also reviewed the next steps for the permit required upgrade project.

Mr. Caprara provided a chart of potential nutrient removal rates for the major cities in the state. He stated EPA would like communities to add about 2% of median household income for sewer rates before providing economic relief to meet the total nitrogen and phosphorus limits. Another method proposed to determine the percentage of household income would consider many economic factors. The City would have to be charging \$52.57 a month for sewer before receiving a variance, which is a long way from the current rate.

Mr. Doyon noted the methodology does not consider usage or user rates, rather decision making is based on household income. Mr. Rearden stated the basis is best available technology or household income. Mr. Caprara reported the proposed improvements will get the City to the current limits of technology long before the City would be charging \$52.57 a month. The proposed new sewer rates are \$20.82 a month.

Mr. Dobbs reported the sewer system is composed of the wastewater treatment plant, lift stations, and the pipeline system. The pipeline system has been in the process of rehab in recent

years. A liner is put into the sanitary sewer, which is much less expensive than water main replacement. That process will continue indefinitely at about two miles per year. There are about three dozen lift (pump) stations in the City, and two major repair projects were done in the last three years. Construction will start in the next couple weeks on three more lift stations. The lift stations should be in good shape for a number of years after that project.

Mr. Dobbs reported that over the last three years several maintenance projects were done at the wastewater treatment plant. Over the next three years, the disinfection, aeration, and flow monitoring projects will be done. The current aeration system has been running 24/7 for the last 36 years and is near the end of its service life.

Mr. Rearden reported bonding requirements will be approximately \$1.4 million for the sewer utility capital improvements. Two ten per cent increases will be needed this year and next year.

Mr. Rearden reported a \$1.27 per month increase is proposed for water, \$1.88 per month for sewer, and no increase for storm drain. With the proposed 5% water and 10% sewer increases, Great Falls is still well below the other cities in the state.

ADJOURN

There being no further discussion, Mayor Pro Tempore Jones adjourned the work session of March 6, 2012, at 6:46 p.m.