

## BRIEFING NOTES

<b>NAME OF GROUP:</b>	PLANNING COMMISSION
<b>DATE, TIME AND PLACE OF MEETING:</b>	Wednesday, February 10, 2010, 12:00 p.m. Room 113, County-City Building, 555 S. 10 <sup>th</sup> Street, Lincoln, Nebraska
<b>MEMBERS IN ATTENDANCE:</b>	Michael Cornelius, Dick Esseks, Wendy Francis, Leirion Gaylor Baird and Tommy Taylor. Roger Larson, Jeanelle Lust, Jim Partington, Lynn Sunderman absent.
<b>OTHERS IN ATTENDANCE:</b>	Greg MacLean, Steve Masters, Nick McElvain and Jerry Obrist of Public Works & Utilities; Marvin Krout, Nicole Fleck-Tooze, Mike DeKalb and Michele Abendroth of the Planning Department; other interested parties.
<b>STATED PURPOSE OF MEETING:</b>	Lincoln Water System Facilities Master Plan

The meeting was called to order at 12:02 p.m. The Nebraska Open Meetings Act was acknowledged.

Nick McElvain began by stating that an update of the Lincoln Water System Facilities Master Plan is required every 5 years by bond covenants. This is a focus on the distribution system and a plan for growth of the community. They look for deficiencies in the existing system. This is a combined effort of several departments including Planning, Wastewater, Watershed Management, Engineering Services and County Engineering. Black & Veatch and Olsson Associates were the consultants for the update.

The long-term plan looked at major transmission and distribution concepts for the next 50 years. They are looking to see where the big conveyors of water are located. There is a phased improvement plan developed for the first 25 years. One of the things they observed is that there is more land available in Tier I than is required for the projected population. Once staff has population projections, water demand projections are done. These projections are from the 2002 Facilities Master Plan. Those design criteria were used for the 2007 update with minor adjustments based on recent usage data. Another factor is that there is a 20 year downward trend in per person water usage.

In looking at risk analysis, staff designs for a potential shortage once every 12 years. The Drought Management Handbook states that "...developing or affording water systems capable of fully supplying demands during serious dry year conditions may be unrealistic." The Water Management Plan addresses how to manage shortages.

McElvain stated that the hydraulic model is a computer model of nearly 10,000 pipes. It will analyze fire flow, and performance is evaluated under emergency conditions.

A map identifying pressure districts was shown. There are several pressure districts that divide the City. Ground elevations from lowest to highest is almost 300 feet.

Calculations on water system demands are done for an average day, a maximum day and a maximum hour. The reservoirs are designed to meet the maximum day, and the pumps are designed to meet the maximum hour.

During the update process, staff evaluated the current main replacement program and reviewed the historical main break information. The recommendations for the water main replacement program are to consider increasing the annual funding of the main replacement program and to develop a pipeline inspection program for large diameter mains.

McElvain then presented a map showing all the water mains that are 100 years old or older. There are 45 miles of pipes that are 100 years old or older. This is the average life expectancy of most of the mains. There are 115 miles of mains that are 80-100 years old. A chart showing water main breaks was presented. One of the things that concerns staff is there are several water main breaks in pipes that are less than 50 years old. A water main break can cost from \$2000 up to \$10,000.

Current projects in the Capital Improvement Program include a 60" transmission main, the ozone system upgrade, the SCADA system replacement and the Cheney District elevated reservoir. Future CIP projects include an enhanced main replacement program, infrastructure rehab and replacements, water distribution mains for growth, additional wells at Ashland, a transmission main from the northeast pump station to 88<sup>th</sup> & Holdrege, and treatment plan expansion at Ashland.

As we look at growth, it is very costly to get water to the southwest part of Lincoln because the water comes from the northeast. For the 25 year plan, Phase I costs are \$12.8 million, Phase II costs are \$54.2 million and Phase III costs are \$66.2 million. the total cost of growth by year 2032 is \$133.2 million.

McElvain noted several observations including: staff is looking further ahead than ever before; the average per person use is down more than 10%; reliable delivery of water depends on climate conditions, the condition of infrastructure, the capacity and reliability of the system, and well equipped and trained staff; the Water System needs to further develop information and technology to better manage infrastructure assets; the number of broken mains on pipes less than 50 years old is a concern; and the security of information is essential.

In summary, McElvain noted that the Facilities Master Plan is a roadmap for the future of the community. A stable financial plan is needed to sustain the built environment and provide for growth. A comprehensive asset management plan is needed to provide the least possible life cycle cost of ownership of water assets.

In conclusion, McElvain stated that water is used every day by every person and is essential for life. He asked if there were any questions.

Esseks asked if there could be an argument made for pushing development to the northeast based on the high cost to get water to the southwest. McElvain stated that he

believes it would be possible to assign a cost, but it is difficult to narrow the options. There is a limited amount of supply and demand, but he questioned where to draw the line. Jerry Obrist stated that the key is financial structure to support the growth. MacLean stated that when answering the question as to whether it is cheaper to grow east, it is cheaper to grow east than to grow west.

The meeting was adjourned at 12:52 p.m.

Respectfully submitted,

Michele Abendroth  
Planning Department

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