



*A Vision for the Future*

Lewis & Clark Rural Water System

# EXPLORER

## \$9.4 MILLION CONTRACT AWARDED; RAW WATER PIPELINE MOVING FORWARD

The contract for the first segment of the treated water pipeline (TWP-1) was awarded on January 28 to S.J. Louis Construction of Waite Park, Minnesota. The \$9,460,560 million contract was well below the engineer's estimate. This nine mile segment of 48" and 36" diameter steel pipe will run along 467th Avenue from 12th Street west of Sioux Falls to 274th Street, just south of Tea. The contract has a substantial completion deadline of August 4, 2006. S.J. Louis expects to begin construction in late spring or early summer.

Related to TWP-1, 15 acres of land two miles north of Tea have been purchased for the future construction of two 7.5 million gallon storage reservoirs and a pump station. Lewis & Clark (L&C) is currently working with Lincoln County officials to obtain the necessary zoning approvals for the site.

Construction of the raw water pipeline near Vermillion continues to move forward. Winter Brothers Underground of Sioux Falls completed burying the 48" and 30" diameter pipe and valves in late November on the close to two miles of segment one (RWP-1). While the pipe and valves have been installed, work still remains. In addition to clean up and other minor work, the pipe has yet to be pressure tested.

The delay is the result of pipe deflection (pipe losing its roundness) exceeding specified values and joint grouting. Engineers at Banner Associates are working with the contractor to address these issues before pressure testing the pipe. The earlier problem with an insufficiently thick layer of protective coating on the pipe was resolved to L&C's satisfaction.

High Country Pipeline of Penrose, Colorado, finished installing the 54"

diameter pipe and valves just before Christmas on the three miles of segment two (RWP-2). Pipe and valve installation went very smooth and no problems were encountered. There is a little bit of clean up left to do, but this segment will be completed well before the deadline of September 30, 2005. RWP-2 will be pressure tested when RWP-1 is ready. High Country has already started construction on the third and final segment of the raw water pipeline (see story on page 4).



Lewis & Clark directors and officials from the member cities and rural water systems tour the construction on RWP-2 in late October.

## CHAIRMAN'S REPORT



Chairman  
Charlie Kuehl

Close races on both the state and national level marked this year's election. We can be thankful that our republic stands firm through these often contentious times.

The Lewis & Clark (L&C) Board and staff joins me in extending our congratulations to Rep. Stephanie Herseht, who was elected to a full-term in the House after being elected in June to serve out former Rep. Bill Janklow's term, and to Senator John Thune, who won election over Senator

Tom Daschle. Thune previously served six years in the House of Representatives. During that time, he led the charge to get our authorization approved in the House, so he is very familiar with and supportive of the project.

The Board and staff also joins me in expressing our heartfelt thanks and appreciation to Senator Daschle for everything that he has done to champion L&C through the years. Daschle played a vital leadership role in helping bring L&C to where it is today. We simply cannot thank Tom enough, and we wish him and his family the very best in whatever future public service

opportunities he chooses to pursue next.

We also extend our sincere congratulations to Senator Charles Grassley, Rep. Steve King of Iowa and Rep. Gil Gutknecht of Minnesota, who all handily won re-election. Each of these gentlemen has provided steadfast support and leadership.

As I have said many times, when it comes to providing quality drinking water to the region, there are no state lines or party lines. We look forward to continue working together with our outstanding tri-state congressional delegation in moving L&C forward.

## STATE LEGISLATIVE SESSIONS UNDERWAY

Lewis & Clark (L&C) has enjoyed strong support through the years from the South Dakota, Iowa, and Minnesota state governors and legislatures. The legislative sessions are underway in Pierre, Des Moines and St. Paul. Securing funds for L&C will again be a top priority.

**South Dakota** – Governor Rounds has included \$1.5 million for L&C in his budget, which is the amount recommended by the Board of Water and Natural Resources. Rounds and the State Legislature remain strong advocates for the project.

**Iowa** – The State is poised to make its final payment to L&C in 2005. Based on legislation passed in 2001, L&C will receive \$2.5 million unless a bill is enacted that rescinds the previous legislation, which is not expected to happen. By accelerating its funding levels to pay in advance, Iowa will shift its share of future inflationary expenses on the project to the federal government.

**Minnesota** – As a result of a budget stalemate unrelated to the project, the State did not pass a bonding bill last year. Project organizers are taking another run at securing funding through the State's bonding bill. L&C officials met in St. Paul with Department of Revenue officials in late November to slightly modify last year's legislation. They had productive meetings with key state legislators in St. Paul and Worthington in January to coordinate activities for the coming session. Governor Tim Pawlenty has again included \$2 million for L&C in his budget, which is about

half of the State's share. Rep. Doug Magnus and Sen. Jim Vickerman are again the chief authors for L&C's legislation. Rep. Dan Dorman and Sen. Keith Langseth, who chair the House and Senate Capital Investment Committees, have already signed onto the legislation, which would provide L&C with \$2 million in general obligation bond proceeds. Elaine Harder, who represented the Worthington area, retired this year. Rep. Rod Hamilton now fills her seat. The

L&C Board and staff expresses their sincere thanks to Ms. Harder for her work on behalf of the project, and they have already enjoyed working closely with Mr. Hamilton.



Meeting at the Capitol in St. Paul.  
Rep. Magnus, Magnus Legislative Assistant Emily Johnson, Rep. Hamilton, Luverne Councilman Pat Baustian, Rep. Aaron Peterson, Director Red Arndt, Director Don Habicht, Rep. Dorman, Executive Director Troy Larson.

# CONGRESS APPROVES \$18.75 MILLION IN FY05 FUNDING

As part of an Omnibus Appropriations Bill passed on November 20, Congress approved \$18.75 million in FY05 funding for Lewis & Clark (L&C). This is less than project organizers had hoped, but it is \$1.75 million more than last year and will help keep construction underway.

The President had included \$17.5 million in his FY05 Budget and the House of Representatives subsequently approved that amount. On November 12, Senator Tim Johnson met with a group of L&C directors, Sioux Falls Mayor Dave Munson and Tea Mayor John Lawler. Johnson expressed the Senate's support for \$20 million and discussed the challenges of even including the Energy and Water Appropriations Bill in the omnibus budget package because of an ongoing dispute over the Yucca Mountain nuclear depository in Nevada. Had that occurred, a Continuing Resolution freezing L&C's funding at last year's level could have been enacted. Fortunately, the Energy and Water Bill was eventually included in the Omnibus Bill. During budget negotiations, a compromise to split the difference between the Senate and House funding levels was eventually reached.

One bright spot in the FY05

Budget is that Mid-Dakota Rural Water System, a large rural water project in central South Dakota, received

\$17 million in federal funding. This is the amount Mid-Dakota had requested in order to complete their construction. Mid-Dakota basically off the table will

A dozen L&C directors had the opportunity to meet with then Senator-Elect John Thune on December 7 in Sioux Falls to bring him up to speed on the



Roundtable discussion with then Senator-Elect Thune. Director John Buss, Director Roger Lamp, Director Dan Cook, Director Bill Heyer, Director Murray Hulstein, Chairman Kuehl, Reclamation's Ted Hall, Thune, Director Kevin Smith, Executive Director Troy Larson, Director Jim Hoye.

free up funds for other projects. L&C officials been told that its tri-state congressional delegation will work to redirect a good portion of those funds to L&C.

The Administration is nearing completion of its FY06 Budget. L&C is again requesting \$35 million for FY06. In support of L&C's funding request, Senators Johnson, Tom Daschle, Chuck

project and discuss our FY06 funding needs. Thune said he knows full well how important this project is to not only South Dakota, but also the entire region, and is willing to again roll up his sleeves and do whatever he can to help. After being sworn in, Thune joined Senator Johnson and Representative Stephanie Herseth in writing a joint letter on January 12 to President Bush in support of L&C's \$35 million FY06 request. While L&C officials have been forewarned that reaching the \$35 million level may not be possible this year, the tri-state congressional delegation has worked hard to ensure the Administration's FY06 Budget again includes L&C.

L&C's Board and staff express its sincere thanks and appreciation to the entire tri-state congressional delegation for its continued steadfast support and effective leadership.



Meeting and press conference with Senator Tim Johnson. Johnson, Chairman Kuehl, Mayor Munson & Director Kevin Smith.

Grassley, Tom Harkin, Mark Dayton, and Norm Coleman sent a joint letter on December 15 to President Bush.

## MEMBER PROFILE: SIOUX CENTER, IOWA

With about 6,500 residents and a strong and diverse local economy, Sioux Center is a leader in Sioux County and throughout northwest Iowa. As a result of steady population growth, a special census will be done this summer.

A \$7.6 million nursing home/Alzheimer's facility is being constructed, and a library to replace the one recently lost to fire is currently in the planning stages. Sioux Center is combining the strength of its agriculture economy with cutting edge technology. A cornerstone of this effort is the development of a Bio-Technology Park, which will house a new Trans-Ova Genetics facility. Trans-Ova has been granted \$9 million from the State for business development, and is planning \$30 million of development in the park. While agriculture is still a large part of Sioux Center's economy, it also has an expanding industrial base that employs over 2,400.

Sioux Center is a member of Lewis & Clark (L&C) for quality and quantity reasons. The water quality from L&C will be superior to the water from its shallow and deep well sources. The water quantity will not be affected by drought, as are their wells. For these reasons, and because the cost of L&C water will be very competitive, Sioux Center plans on using L&C as a baseload water source, and supplementing with its wells. The City's annual average use is 840,000 gallons a day, with a peak demand of 1.5 million gallons. Sioux Center has reserved 600,000 gallons a day from L&C.

Murray Hulstein serves as L&C's Secretary and has served on the Board since 1993. He is the Assistant Utility Manager and has been with the City for over



Murray Hulstein

15 years. Murray is a native of Sioux Center, graduated from nearby Northwestern College, and enjoys all kinds of sports. He and his wife Fonda have four daughters and enjoy following their activities.

## WORK BEGINS ON RWP-3

High Country Pipeline has begun work on the third and final segment of the raw water pipeline. RWP-3 will be four miles of 54" diameter steel pipe. High Country is subcontracting with



The cart used to excavate the dirt for a boring on RWP-3 is lowered back into place by a crane.

Horizontal Boring of Exeter, NE, to bore the various road and railroad crossings. Horizontal has completed the 240' bore under the Highway 50 and railroad crossing a mile west of Vermillion, as well as the 75' bore under Timber Road. A 72" diameter, 1" thick steel casing was installed at these two crossings. Weather permitting, the remaining two borings and the two open-cut stream crossings will be completed this winter. Completing the borings and stream crossings now will allow High Country to get a jump on installing pipe on RWP-3 this spring.

## EXECUTIVE DIRECTOR'S REPORT

Our focus in Washington, DC is on the FY06 Budget. President Bush will release his budget on February 7. We have been working with our tri-state congressional delegation to ensure that Lewis & Clark (L&C) is again included, and if possible, that the number be increased from last year's level of \$17.5 million.

While we remain hopeful, it is not expected that the President's Budget will include the full \$35 million. We will again be counting on our congressional delegation to improve upon the number when the House and Senate pass their budgets this fall. To discuss our FY06 funding, I was in Washington on January 26 and 27 for what turned out to be excellent meetings. Larry Kast, our lobbyist, and I met with Sens. Johnson and Thune, Reps. Herseth and Gutknecht, as well as staff members from Sens.



Rep. Stephanie Herseth

Grassley, Harkin, Dayton, and Rep. King. We also met with the staffs of Reps. Hoyer (Democrat Whip - MD) and Nussle (Budget Committee Chair - IA). Now that the Mid-Dakota Rural



Rep. Gil Gutknecht

Water System is for the most part off the table in terms of federal funding, we are encouraging them to support

reallocating a good portion of those funds to L&C. Steadfast support and a desire to do whatever possible to help were expressed by our tri-state delegation, as well as a willingness by Hoyer and Nussle to lend their assistance. While we were unable to meet with Sen. Coleman's office, he remains a strong supporter of L&C. A follow-up trip to DC with a larger delegation of L&C officials is being planned for this spring. We are very thankful for the continued bi-partisan, multi-state support and leadership of our elected officials.

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# ENGINEERING NEWS AND NOTES

By David Odens, Project Engineer

Some of the member utilities of the Lewis and Clark Rural Water System (L&C) have recently had some questions regarding the water treatment process provided by L&C and what their responsibilities might be when the water is delivered to the meter at their service connection. This article will provide an overview of the treatment process at the water treatment plant and a summary of what an individual utility can expect when the water is delivered to their service meter.

First, the system is designed to deliver treated water to all of the member utilities. The water treatment process will utilize lime softening for removal of a portion of the hardness in the water, providing a finished water hardness in the range of 150-160 mg/l or about 10 grains per gallon. The water will be filtered using conventional sand filters and disinfected using combined residual chlorination (chloramines). Chloramines are a form of chlorine formed when small quantities of ammonia are added to the chlorinated water. Chloramine is more persistent, meaning it does not decay as rapidly and maintains the chlorine residual for longer periods of time. Chloramine is also significantly less likely to form disinfection byproducts, which are a regulated water quality parameter.

Delivery of treated water through a system with 337 miles of pipeline and approximately 30 million gallons of storage capacity in reservoirs within the system presents some challenges that are unique to regional water systems. One of the issues of concern is the potential for changes in water quality in the distribution system, particularly the loss of chlorine residual and the formation of disinfection byproducts. The loss of chlorine residual is a function of time, temperature, and the form of chlorine present in the water. Use of combined residual chlorination for the distribution system permits use of lower concentrations of chlorine in the distribution system. The

goal is to keep the concentrations as low as practical, while maintaining an adequate residual to protect the quality of the water delivered.

The use of combined residual chlorination is a fairly common practice among larger water systems that treat surface water or groundwater under the direct influence of surface water. For example, the City of Sioux Falls uses this method of disinfection for the water distributed through the municipal water distribution system. Use of this method of disinfection has significantly reduced the concentration of disinfection byproducts in the water delivered to the customer tap.



Minnehaha Community Water Corps' meter house at Garretson shows an example of a typical meter house.

Second, it is important to recognize how the water delivered by L&C may affect current disinfection practices. If the member system is planning to utilize L&C as their primary source of water, the local water supply system will discontinue operation and all water will be supplied from L&C. In those cases, if the member system is currently using free chlorination for disinfection, it will be necessary to notify the customers of the change in disinfection practice because the presence of chloramines will require some changes in the method of dechlorination of water for aquariums and other uses. If the member system is planning to blend L&C water with water produced locally, it is recommended that both systems use combined residual chlorination

for disinfection. If the locally produced water has free chlorine residual and it is blended with water having a combined residual, there is a potential for formation of compounds that would impart a taste or odor to the water. There is also a potential for a loss of chlorine residual due to chemical reactions between the free residual and combined residual chlorine. If the member system is currently using combined residual chlorine for the disinfectant in the distribution system, no changes should be necessary.

Finally, in response to the question of what will be required at the point of delivery of the treated water and whether or not additional treatment will be necessary, the L&C system will provide treated water to the metering facility at the point of connection between the L&C system and the member utility. At the meter location, L&C will monitor flow, pressure, and certain water quality parameters, typically chlorine residual and pH. The meter building will include provisions to add chlorine, if necessary, to provide a disinfectant level necessary to maintain appropriate concentrations of disinfectant throughout the distribution system of the member water utility.

The initial construction cost and the cost of operation and maintenance of the chemical feed systems at the member meter houses are a part of the L&C construction and operations budget. The member utility will have the responsibility to continue to operate their water distribution system and monitor water quality within their system. If an adjustment to water quality is necessary to maintain the water quality in the member's distribution system, operating staff from the utility should advise L&C of the need and an appropriate adjustment can be made. If the member utility is also producing a portion of their water with their own facilities, utility staff should consult with L&C and their engineers to determine the most effective means for blending the water.

# RAW WATER PIPELINE CONSTRUCTION



Trench packer waits for a joint to be sealed before packing the bedding material on RWP-2 along Highway 19.



The tapered mining grade bucket, used to excavate the trench on RWP-2, holds 7 1/2 yards of material.



SD Assoc. of Rural Water Systems Executive Director Dennis Davis and Chairman Kuehl stand next to a section of 54" diameter pipe on RWP-2.



A sideboom crane lowers a 40 foot section of 54" diameter pipe into the 11 foot deep trench on RWP-2.

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