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Construction Projects Planned Throughout the Irrigation District

Sunnyside Valley Irrigation District (SVID) has a long list of construction projects currently underway and many more planned for the winter season.

SVID will continue to work on enclosed conduit systems with flow meters on two projects planned this year. The two SVID sites are Lateral 34.10 and Lateral 34.99, which are partially funded by a \$203,000 Washington State Conservation Commission Grant. The affected landowners will notice improved water pressure and more flexible control of the deliveries after the enclosed conduit is installed. The projects include slightly more than 423 acres and 257 landowners. "Once enclosed the landowners will find it much easier to use and manage their water," adds Don Schramm, Assistant Manager Operations. The irrigation district plans to continue enclosing several miles of open laterals every construction season.

One of the most exciting projects this winter includes improvements to Drop 1 at Mile Post 2.92 on the Sunnyside Canal which includes the new Supervisory Control and Data Acquisition (SCADA) system. This is the final of three SCADA improvements funded in part by a grant from the Bureau of Reclamation. The site will be connected into the current SVID SCADA system using CDPD (Cellular Digital Packet Data) Modem technology. This wireless technology allows for real-time data to be transmitted in an economical manner. This additional SCADA device will add another set of automated gates to the delivery system.

The automated gates coordinate the flow throughout the conveyance system and hold constant upstream water levels, enabling accurate, timely response to demand fluctuations across the entire system. With the new technology the gates can be adjusted in increments as fine as 1/100th of a foot. The added responsiveness and water level stability enhances conservation by ensuring efficient water use and results in less water being diverted. SVID will continue adding 1 or 2 new SCADA drop gates and control stations each year as funding allows until all of the twenty-eight drop/check structures are automated.

Crews will be working on several lining projects planned for Snipes Lateral 7.84, Lateral 55.19 (outlet end of siphon), and below the Mabton Siphon Outlet. The lining projects are to increase the overall efficiency of SVID's delivery system by conserving water and reducing annual Operations and Maintenance costs. In addition to improved water conservation, this project will protect local groundwater from the canal's influence.

Piping projects include portions of Lateral 35.51, Lateral 51.18, Lateral 51.87B, and Lateral MB 6.40. Lateral piping conserves water and reduces annual operations and maintenance costs. Piped laterals are also much easier to farm around than open laterals.

The Drain Crew has several piping projects throughout the upper and lower divisions. The Joint Drains 31 West and 33.4 (be-



Construction has begun on Drop 1 SCADA project.

low Reeves Road) will be piped as part of an Roza Sunnyside Board of Joint Control (RSBOJC) project. The piping projects improve water quality through eliminating bank erosion and maintaining cooler water temperatures. Other drain projects will focus on improving access at various points in the system.

The Sunnyside Canal will undergo realignment approximately 2 miles downstream from the Sunnyside Dam and below Mile 19. Each year a section of the canal under goes rehabilitation and betterment work that includes channel shaping and bank stabilization. This will improve the canal efficiency due to less seepage and sediment deposition. Adjacent canal access roads will also be improved along the canal in those sections.

Various other projects will include Snipes Wasteway remote monitoring installation, weir blade reconstruction, weir box reconstruction, lateral maintenance, road crossing improvements for county road projects, walkway, screens, and silt removal from the main canal.

The budget for maintenance and improvements is evenly distributed between the upper and lower divisions with workload being factored into the equation. The Drain Crew is funded jointly by SVID and Roza Irrigation District in part by RSBOJC due their work on joint drains. ♻

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Soil Moisture Probe Demonstration Project



The two-year pilot of the RSBOJC Soil Moisture Probe Demonstration Project came to completion this fall. The purpose of the project was to increase on-farm water use efficiency while educating irrigators about the value of soil moisture probes as a water management tool. Many farmers have expressed interest in the project continuing and Cal Polytechnical Institute will continue to provide a mobile lab as long as there is demand for their services.

The project directly educated 40 landowners about Distribution Uniformity (DU) and irrigation scheduling as a way to reduce on-farm water delivery costs and increase crop yield. The project also helped the farmers to reduce the amount of field run off. The project helped landowners to improve irrigation scheduling by providing information on how much to irrigate and when to irrigate.

Each participant owner was provided with a Hansen Data Logger and three Irrrometer Watermark Soil Moisture Sensors. The data retrieved from the data logger was analyzed using a program called AG Water. The data from the individual soil moisture probes allowed the participants to see how long it takes the water to reach an adequate depth without creating the negative effects of deep percolation or field runoff.

Students from California Polytechnical Institute completed nonconformity evaluations for each participant as well as monitored the project, which offered timely feedback about their irrigation methods and how to improve.

Project insights. The project provided valuable insight to the causes of nonconformity on various types of irrigation methods. The most common for each type of irrigation is listed below:


- Some wheel lines experienced a lack of overlap uniformity. Problems contributing were pressure differences, worn nozzles, and using the wrong size of nozzle.
- Causes for nonconformity using overvine sprinklers were lack of overlap uniformity, dirty filters and nozzles.
- Undertree sprinklers required replacing old nozzles with 7/64" nozzles and frequent filter cleaning.
- Drip systems suffered from plugging and pressure differences as the primary causes of nonconformity. It was also recom-

mended that the pH level of the water be dropped to 6.5 by adding acid. The chemical injection should take place upstream of the filters. The drip systems were also hampered by organic growth in the lines, which occasionally need to be flushed with a chlorine solution.




Benefits of Irrigation Scheduling. Irrigation scheduling consists of applying the right amount of water at the right time. With a water stress sensitive crop, growers have incentives to make irrigation scheduling work well.

Incentives to growers for precise irrigation scheduling include the following:

1. Under-irrigation leads to a loss in market grade, crop quality, yield, and price.
2. Over-irrigation leads to a loss in water, electricity for pumping, leaching of nitrogen and wastes manpower. Over-irrigation increases fertilizer costs and nitrogen losses to groundwater. Soil losses in runoff can be aggravated by irrigation induced erosion.
3. Under-irrigation and over-irrigation can occur during the same season in a given field. 

Soil Moisture Sensor Lease Program

Thanks to an Ecology grant, in 2002 the South Yakima Conservation District was able to lease soil moisture data loggers and associated soil moisture sensors to 20 growers. District staff assisted the growers with installation and provided interpretations of the data throughout the growing season. Five growers made needed changes in their irrigation practices as a result of the data provided. The other 15 growers did not need to make changes. The leases are for two years. After the lease period ends, growers have the option to buy the equipment or return it to the district to be leased to another grower. Additional leases will not be available until 2004, when this first round of leases are completed. 




2003 Assessments Mailed

The Sunnyside Valley Irrigation District 2003 Water Assessments are being prepared for mailing in late December.

Assessment fees are used to maintain the irrigation system and provide landowners with the opportunity to obtain quality irrigation water. The assessments pay for operation and maintenance as well as the costs associated with SVID's continued efforts to improve water quality and increase water conservation.

Assessments for 2003 will include an increase of an average of \$1.50 per acre for both Levy I and Levy II. The SVID Board of Directors has set the 2003 assessments for beneficial use lands at \$65.75 per acre. The increase is due in part to ongoing system improvements such as enclosed conduit systems, open lateral systems, and drop modernization.

Please notify the office at (509) 837-6980 if you have sold property within the SVID service area. This will ensure that the water assessments reach the appropriate person. Also, if your contact information or mailing address has changed. 




Board of Directors Elections Held

Dave Michels and John Newhouse recently ran unopposed for two Sunnyside Valley Irrigation District Board positions. Michels and Newhouse will each remain on the SVID Board for another three-year term. John Newhouse represents Division 2, which covers an area from Fordyce to Washout/Sunnyside-Mabton Highway. Dave Michels represents Division 3, which covers an area bordered by Sunnyside-Mabton Highway to Euclid/Wilson Highway.

The incumbents were declared elected to the positions on November 5, 2002 for the following 3 years beginning January 1, 2003.

The election process consists of a qualified elector who resides within the division boundary filing a petition signed by 10 landowners in their director division. If more than one candidate files for a position, an election is held in which any person 18 years or older who holds title to SVID assessed lands and is a Washington resident can vote.

Board meetings are scheduled for the first Tuesday of each month at 1:30 P.M. at the SVID office. All SVID water users are welcome to attend the meeting located in the downstairs conference room. 

An New Water Season Starts With New Employees

As the 2002 water season ended and the new water season began, it brought with it four new employees to Sunnyside Valley Irrigation District in several departments. District Manager, James Trull adds, "Recruiting good personnel is an ongoing challenge for management. The four new employees add a lot of talent to our workforce and we look forward to many years of productivity from them." In mid-September, Cassandra Strickland joined the Water Quality Department as the Water Quality Specialist and Melodie Smith became the new Technical Writer/Publisher. Ron Cowin was the first of two new Engineering Technicians to join the Engineering Department when he started work at SVID in October. Eric Lucas is the newest employee who was hired as an Engineering Technician and started the beginning of November.



Cassandra Strickland became the new Water Quality Specialist for Roza-Sunnyside Board of Joint Control (RSBOJC) in September and was fortunate enough to participate in the sampling/testing at the end of the water season. "I'm looking forward to participating in such a successful program. What we do really does make a difference in the valley."

Cassandra was formerly a research scientist for Pacific Northwest National Lab in Richland. Cassandra currently teaches Geology and Geography at YVCC, Grandview Campus. She was raised in the Midwest and earned her BS in Geology at the University of Toledo (Ohio) and MS in Geology at Kansas State University. She currently lives in Prosser with her husband, Christopher. They are expecting their first child in February.

Also starting in September, Melodie Smith assumed the communications duties in the Technical Writer/Publisher position. Melodie grew up in Spokane and graduated from Eastern Washington University with a Bachelor of Science in Business Administration/Marketing and Fine Arts. Melodie was formerly the Marketing Director for Aether Systems/Sunpro of Zillah and is a co-owner of a Grandview business, SpottedInc Consulting. Prior to relocating to the valley four



years ago, Melodie worked for Inland Empire Girl Scout Council in Spokane as the Director of Membership and Volunteer Management. She currently lives in Grandview with her husband, Brad, who between them, have five children.

Ron Cowin joined the engineering department as an Engineer Technician in October. "It's nice to hear lateral numbers and actually know where some of them are located without looking at a map. The construction season is a hectic time for all of us at SVID and as I'm given more responsibilities. I enjoy the fast pace and am looking forward to learning more about the daily operations." Ron earned his Bachelor of Science in Horticulture from Washington State University and an A.A.S. Engineering Technology from Yakima Valley Community College. He grew up in Wapato and graduated from Wapato High School. Ron's wife Susan also grew up in Wapato and lives only a few miles from where he was raised. Ron and his wife, Susan, have two children.



Eric Lucas joined the engineering department at the beginning of November as an Engineer Technician. He earned his Associate Degree from Northeastern Oklahoma A&M in Miami, Oklahoma. "I am looking forward to the opportunity to work with this very professional group of people; from field divisions and maintenance crews, to the office staff at SVID. I am anxious to become a contributing member in this team oriented environment," said Eric during a recent conversation. He grew up in Oklahoma on the family ranch, where they raised cattle and horses. Eric lives in Prosser with his wife and three children.



Assistant Manager Operations Don Schramm comments, "I am very pleased with all four new employees. They have all hit the ground running and are making significant contributions to productivity every day." ❧

Doris Burma Retires After 16 Years



Doris Burma retired from Sunnyside Valley Irrigation District in July after 16 years of service. Doris plans to travel more, spend time with friends and family, and enjoy new hobbies.

Congratulations, Doris Burma, you will be missed! We all wish you the very best and hope you enjoy your retirement, travels, and new adventures. ❧

Winter Reservoir Status

Winter has arrived in the valley and the weather started off colder and drier than normal. This dry weather trend has been hard on the mountain reservoirs. Eastern Washington is currently rated at the lowest level of drought by the National Weather Service.

The storage for the five reservoirs serving the Yakima Basin was at 76.7% of normal at the end of November. The precipitation for the month of November was 12.78 inches, which is 36.8 % of average. A two-month average of precipitation was 13.53 inches, which is 26.9 of average for the months of October and November. The averages are derived from records kept from the years 1961 to 2000. Inflow to the five reservoirs for November was 18.5 % of average while the outflow was 70% of average. Releases are being made to maintain target flows on the Yakima River, Naches River, and Tieton River.

It is important to keep in mind when looking at the precipitation and storage averages that it is early in the season and small amounts of precipitation can effect the average. With winter just beginning, an increase in precipitation in the mountains over the next several months will be required to improve the water levels in the reservoirs. ❧

Yakima Project Reservoir Statistics

As of December 2, 2002

| RESERVOIR | CONTENT AF | CAPACITY AF | PERCENT CAPACITY | INFLOW CFS | RESERVOIR RELEASES |
|--------------|----------------|------------------|------------------|------------|--------------------|
| Keechelus | 18,007 | 157,800 | 11% | 98 | 181 |
| Kachess | 111,472 | 239,000 | 47% | 50 | 24 |
| Cle Elum | 151,082 | 438,900 | 35% | 166 | 223 |
| Bumping | 6,226 | 33,700 | 18% | 52 | 102 |
| Rimrock | 63,284 | 198,000 | 32% | 138 | 32 |
| Total | 350,071 | 1,065,400 | 33% | 503 | 562 |

El Niño Influences Our Weather...Again

National Oceanic & Atmospheric Administration (NOAA) officials recently updated its winter outlook that was first issued in September and said El Niño remains a key influence. "This is a classic El Niño pattern," said retired U.S. Navy Vice Admiral Conrad C. Lautenbacher, Ph.D., under secretary of commerce for oceans and atmosphere and NOAA administrator. "El Niño is one of the driving forces behind these kinds of winter storm systems, which develop in the South and head east. But in some cases this winter, these storms could bring more rain to parts of the East." Lautenbacher added, "El Niño will shape weather patterns through spring 2003."



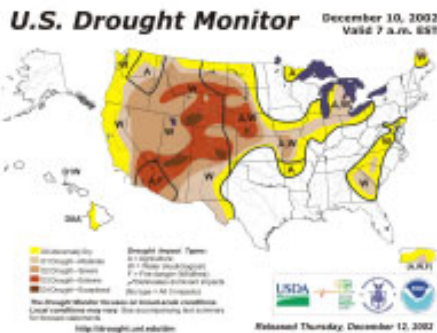
El Niño occurs when sea surface temperatures in the equatorial Pacific Ocean remain above average for more than several months. This usually triggers a chain reaction of atmospheric and weather changes around the globe.

Based on NOAA's latest El Niño forecast and its updated December-February winter outlook, forecasters said the nation can expect warmer-than-normal temperatures across the northern half of the country, wetter and stormier-than-normal weather across the south from California through the Carolinas, and drier-than-normal conditions in the northern Rockies and Midwest.

"El Niño most strongly impacts U.S. weather patterns during the winter by shifting the jet stream and storm track toward the southern tier of the country," said Jim Laver, director of the NOAA Climate Prediction Center.

The climate of 2002 in the United States was characterized by warmer than normal temperatures and below average precipitation that led to persistent or worsening drought throughout much of the nation, according to National Oceanic & Atmospheric Administration (NOAA) scientists. Working from the world's largest statistical weather database, NOAA scientists at the National Climatic Data Center also found that 2002 is very likely to be the second warmest year on record for the globe.

The year 2002 began with another atypical warm winter, the fourth much warmer-than-average winter in the last five years, and the summer season was one of the warmest since the 1930s. Overall the contiguous United States temperature has risen at a rate of 1.0-degree F/Century (0.6 degrees C/Century) since 1895. Much of that increase has occurred in two periods, 1910-1940 and again from the 1970s to the present.



As the year began, moderate to extreme drought covered one-third of the contiguous United States, including much of the eastern seaboard and northwestern United States. The combination of generally warmer- and drier-than-average conditions led to the total drought area growing to slightly more than 50 percent during the summer months, largely due to a rapid intensification of drought in the Southwest. This value fell to 36 percent by the end of November as precipitation from landfalling tropical systems and a more active storm track helped alleviate drought in much of the eastern part of the country.

The most extensive national drought coverage during the past 100 years (the period of instrumental record) occurred in July 1934 when 80 percent of the contiguous United States was in moderate to extreme drought. Although the current drought and others of the 20th century have been widespread and of lengthy duration, tree ring records indicate that the severity of these droughts was likely surpassed by other droughts, including that of the 1570s and 1580s over much of the Southwest and northern Mexico.

In the western United States where precipitation for 2002 is on pace to set record or near record lows in many states, the lack of adequate rain and snow and the resulting low snowpack stressed water supplies and caused devastating impacts on agriculture. Severe drought in Montana that began in some places more than four years ago forced farmers to abandon more than 20 percent of the winter wheat crop for the second consecutive year, the first such occurrence since the Dust Bowl era of the 1930s. The extremely dry conditions also contributed to an extremely active wildfire season that included the largest wildfires of the past century for the states of Colorado, Arizona and Oregon. Central and Eastern Washington continues to be under a drought watch by the NOAA National Weather Service.

The Sunnyside Valley Irrigation District publishes **THE WATERFRONT** biannually for landowners. All articles, letters and other items submitted to Sunnyside Valley Irrigation District (SVID) for use in SVID's landowner newsletter become the property of SVID which is authorized to use any item submitted, without payment or compensation to the person submitting the item, in any newsletter or other publication of SVID. SVID reserves the right to edit all items submitted. Douglas Simpson, Chairman. Robert Golob, Dave Michels, John Newhouse, Douglas Vining, Directors. Officers: James W. Trull, District Manager; Donald Schramm, Assistant Manager; Patricia Bailey, Secretary-Treasurer. Address comments to: Melodie Smith, Editor, P.O. Box 239, Sunnyside, WA 98944.

DON'T MISS OUT! 1% INTEREST RATES

This deal won't last forever! Don't miss out on the opportunity for 1% funding. The Roza-Sunnyside Board of Joint Control (RSBOJC) is currently accepting applications for the On-Farm Loan Program until November 9, 2004. The objective of the program is to assist farmers in upgrading their irrigation application type to achieve better utilization of their water. The program will help farmers secure funding to modify their current irrigation systems to improve water conservation and further comply with the current RSBOJC water quality policies.

The basic structure for the On-Farm Loan Program includes the low interest rate of 1% with a four-year repayment cycle. The yearly payments are included in the waterusers annual irrigation assessments. Currently, the On-Farm Loan program assists farmers in the transition from rill irrigation to a more effective application practice such as drip or sprinkler irrigation.

RSBOJC encourages all qualified landowners to take advantage of the loan program. Currently approximately \$3 million dollars is still available in the program for Sunnyside Valley Irrigation District landowners.

For more information, please contact, Theresa Johnson, Sunnyside Valley Irrigation District (SVID) at (509) 837-6980, or Mark Barnett, Roza Irrigation District (RID) Engineer at (509) 837-5141.