



Dave Heineman  
Governor

# STATE OF NEBRASKA

DEPARTMENT OF NATURAL RESOURCES  
Ann Bleed  
Acting Director

July 18, 2006

IN REPLY TO:

Alice Johns, Area Manager  
Bureau of Reclamation  
Nebraska-Kansas Area Office  
P.O. Box 1607  
Grand Island, NE 68802-1607

Dear Ms. Johns:

I am writing to you concerning Nebraska drought assistance proposals for consideration from the State of Nebraska. On June 23, 2006 Governor Heineman wrote Acting Commissioner William Rinne requesting temporary drought assistance under the Reclamation States Emergency Drought Relief Act of 1991.

Our proposals for projects are listed in priority order and include the following:

1. \$ 195,325 Assistance for Republican Basin Irrigation Districts for Increased Reservoirs Irrigation Storage
2. \$ 213,000 Mason City Village Well
3. \$ 193,000 Stratton Village Well *Done Construction*
4. \$ 316,000 Stockville Village Well
5. \$ 50,000 South Platte NRD Meter Cost Share
6. \$ 200,000 Upper Niobrara-White NRD Meter Cost Share
7. \$ 150,000 North Platte NRD Meter Cost Share

**Total \$1,317,325**

I have attached descriptions of each proposal to this letter. If you have any questions about the proposals, please contact me. Thank you for your consideration.

Sincerely,

Ann Bleed  
Acting Director

Attachments

docs/bleed

**ASSISTANCE FOR REPUBLICAN RIVER IRRIGATION DISTRICTS – 2007  
INCREASED RESERVOIR CARRYOVER STORAGE**

(7/17/06)

**Background**

Declining inflows throughout the Republican Basin have significantly reduced storage supplies for Reclamation Irrigation Districts in Southwest Nebraska. This area has suffered effects of the current drought since 2000.

Natural flows in the Frenchman Creek and storage water from Enders Dam and Réservoir provides the water supply for project lands of the Frenchman Valley Irrigation District and the H&RW Irrigation District. There have been no storage water deliveries in the districts since 2001 and no releases are projected for 2006. However, some natural flow was utilized in the Frenchman Valley Irrigation District in 2004 and 2005. In 2005 about 16% of the District's acres were irrigated with surface water and received about 3.6 inches per acre.

Natural flows in the Republican River and Red Willow Creek and storage water from Trenton Dam and Swanson Lake, Red Willow Dam and Hugh Butler Lake, and Medicine Creek Dam and Harry Strunk Lake provide the water supply for the Frenchman-Cambridge Irrigation District. Declining inflows led to reduced project deliveries in 2001 and 2002. In 2003 the Frenchman-Cambridge system did not deliver water to project landowners in the Meeker-Driftwood Unit and the Red Willow Unit (includes Red Willow and Bartley Canals) for the first time since the District began delivering water. In 2004 no deliveries were made from three of the District's four canal systems, which was the second consecutive year of no water deliveries to these systems. Water was delivered to the Cambridge Canal with the only storage water used coming from Harry Strunk Lake. In 2005 water was only delivered to the Cambridge Canal and the only storage water utilized was from Harry Strunk Lake. About 15,945 acres, or about 35% of the District's acres, were irrigated with surface water and received 7.3 inches per acre. In 2006 deliveries are projected to be about 8 inches to acres served by the Cambridge and Bartley Canals with no supply to Red Willow Canal and no release from Swanson Lake.

Natural flows in the Republican River and storage water from Harlan County Dam and Lake provide water supplies for both the Bostwick Irrigation district in Nebraska and the Kansas Bostwick Irrigation District No. 2. Declining inflows to Harlan County Lake resulted in reduced deliveries of approximately 6 inches per acre in 2003. In 2004, the estimated water deliveries were 1.5 inches per acre. 2004 was the first year that there was insufficient supply in Harlan County Lake to deliver water to project lands in the Bostwick Division. This resulted in no deliveries from Naponee Canal, Franklin Canal, or Franklin Pump Canal systems of the Bostwick Irrigation District in Nebraska. Superior Canal was able to make some deliveries by utilizing natural flows. In 2005 deliveries only natural flows to the Superior Canal were utilized, not irrigation storage.

and 2,800 acres, or about 12% of the District's acres, were irrigated with surface water and received 6.4 inches per acre. In 2006 deliveries are projected to be about 2 inches above Lovewell.

In 2004 and 2005 these districts faced limited irrigation storage at Enders Reservoir, Swanson Lake, Hugh Butler Lake, and Harlan County Lake; but through the Reclamation States Emergency Drought Relief Act of 1991, Reclamation and the State of Nebraska provided drought assistance to these districts for leaving the limited amount of irrigation storage in the reservoirs in order to provide recreation and fish and wildlife benefits.

### **Statement of Need**

The recent drought has led to historic low inflows to the Republican Reservoirs, which in turn results in low lake levels. As lake levels drop, fish and wildlife habitat suffers. Lower lake levels can cause problems such as increased noxious weed and invasive species. As water levels recede, the bare soil provides optimum growing conditions for Canada thistle. Salt Cedar is a noxious weed that thrives in arid climates and prefers saline rich/nutrient poor soil. Salt Cedar can have severe impacts on ground water levels, surface water flows, and native vegetation. As lake levels drop, new shorelines continue to spread farther from existing park facilities. New shorelines are often extremely muddy and choked with vegetation, which reduces opportunities for bank fishing, swimming, dock mooring, etc.

Lower lake levels also caused increased water temperature and lower levels of dissolved oxygen. Swanson Lake (2001) and Harry Strunk Lake (2002) in Southwest Nebraska have suffered major fish kills due to low lake levels. Some have estimated that ½ of the total fish population in Swanson Lake was lost, including many trophy size sport fish.

Irrigation districts in the Republican basin must decide whether or not to take the small amounts of irrigation storage water in the reservoirs and deliver it to the project lands, or to leave the small storage supplies in the reservoirs for future years use.

### **Benefits to Nebraska**

This assistance will provide the Republican Irrigation Districts with an incentive for leaving irrigation storage water in the reservoirs during the 2007 season for future years use. Saving the irrigation storage water for future years use will result in higher carryover reservoir levels, which would provide fish and wildlife and recreation benefits to the reservoir areas.

By choosing to leave the storage in the reservoirs, the Districts are providing fish and wildlife benefits, as well as increased recreation opportunities. The higher reservoir levels will increase visitation to the parks surrounding these reservoirs. Higher reservoir levels also will keep water temperatures cooler and water temperatures higher, which will

be more beneficial to fish populations. Higher levels also will improve shoreline access for recreation.

### Budget

Drought assistance for irrigation storage left in reservoirs was computed on a graduated scale. The first 2500 acre-feet left in a reservoir was computed at a payment of \$10 per acre-foot, the next 2500 acre-feet was computed at \$5 per acre-foot, and anything over 5000 acre-feet was computed at \$2.50 per acre-foot. This is the same rate that was used to provide drought assistance in 2004 and 2005.

#### Preliminary 2007 Estimated Water Supply for Drought Assistance Request

Reservoir	Estimated Reservoir Elevation on 7/1/07	07 Estimated Irrigation Storage (AF)	Drought Assistance	Delivery Inch / Acre
Enders	3088.0	3,940	\$ 32,200	.5
Swanson	2734.0	21,390	\$ 78,475	5.5
Hugh Butler	2566.0	4,440	\$ 34,700	5.5
Harlan County	1929.0	9,980	\$ 49,950	2.0
		=====	=====	
TOTAL		39,750	\$195,325	

#### Notes:

Frenchman Valley Irrigation District's share of Enders storage is approximately 42 percent or \$ 13,525. H&RW Irrigation District's share of Enders storage is approximately 58 percent or \$ 18,675.

Irrigation Storage, Drought Assistance and Delivery listed for Harlan County Lake is for the Bostwick Irrigation District in Nebraska. Kansas Bostwick Irrigation District's share would be 5,500 acre-feet (total of 15,480 acre-feet) with an estimated delivery of 2.0 inches above Lovewell.

The estimated 2006 delivery for Cambridge and Bartley Canals (with no supply to Red Willow Canal and no release from Swanson Lake) was 8 inches. It appears that acres served on Cambridge Canal will get 8 inches, however, we may not be able to deliver 8 inches to all the acres served by Bartley Canal. Uncertain as to how Frenchman-

Cambridge Irrigation District might deliver water next year. It is possible that they may try and deliver Swanson Lake storage to Meeker-Driftwood Canal and Hugh Butler Lake storage to Red Willow Canal with no delivery to Bartley Canal (since received water this year).

**DROUGHT CONDITION EVALUATION  
PUBLIC WATER SUPPLY SYSTEM  
VILLAGE OF MASON CITY  
JULY 11, 2006**

Mason City, Nebraska, located in Custer County, is situated in the Lower Loup Natural Resources District. The water system is composed of one well. Well #59-1, constructed in 1959, is located in the northeast part of town and typically produces 340 gallons per minute. The village has been operating with one well for many years with the thoughts of developing another well if funding was available. The cost associated with hauling water to this system on a daily basis would be very costly to the village and to the State of Nebraska. The health and well being of the residents of the community could be greatly affected should they lose their only well.

The water table continually decreases during the summer due to natural precipitation shortfalls and associated impacts from nearby irrigation. The Village has imposed water use restrictions, limiting lawn watering to (3) days per week and is monitoring water levels in the wells and in the elevated tank in order to maintain adequate pressures and fire protection capabilities. Mason City has been on the Nebraska Health and Human Services System drought impact report for the past several years. Estimated costs for needed improvements consisting of one well and associated transmission line are as follows:

**Needs Survey for 2006  
Preliminary Opinion of Probable Construction Cost**

Item	Description	Quantity	Unit	Unit Cost	Total
1	Municipal Well	1	each	\$ 150,000	\$ 150,000.00
2	Test Well	1	each	\$ 15,000	\$ 15,000.00
3	Transmission Main	150	l.f.	\$ 20.00	3,000.00
4	Electrical (3-phase)	1	l.s.	\$ 5.00	25,000.00
5	Controls	1	l.s.	20,000	20,000.00
				<b>Construction Total</b>	<b>\$213,000.00</b>
<b>Project Total</b>					<b>\$213,000.00</b>

Estimated Costs by: Tagge & Associates,  
Consulting Engineers, P.C.  
July 11, 2006

Respectfully submitted,

A handwritten signature in cursive script that reads "Jack L. Daniel".

Jack L. Daniel, Administrator  
Environmental Health Services Section  
Department of Health and Human Services  
Regulation and Licensure

JLD/RGF

**DROUGHT CONDITION EVALUATION  
PUBLIC WATER SUPPLY SYSTEM  
VILLAGE OF STRATTON  
JULY 11, 2006**

Stratton, Nebraska, located in Hitchcock County, is situated in the Republican River Valley at the confluence of the Republican River and Frenchman Creek. The water system is composed of three wells. Well #68-1, constructed in 1968, is located just north of the Republican River, and typically produced 130 gallons per minute. This well is under a regulatory requirement to be replaced by 12-31-06 for being deemed Groundwater under Direct Influence of Surface Water. Well #75-2, constructed in 1975, is located south of the Republican River and typically produces approximately 60 gallons per minute. This well is under a regulatory requirement to be replaced by 12-31-06 for being deemed Groundwater under Direct Influence of Surface Water. This well has occasionally produced air during usage when nearby irrigation wells are operating. Both wells #68-1 and #75-2 are located on rural table lands and loess hills. Well #92-1, constructed in 1992, is located north of the Republican River valley. This well is under a regulatory requirement to be replaced by 12-31-06 for being deemed Groundwater under Direct Influence of Surface Water. This well has occasionally produced air during usage when nearby irrigation wells are operating. When new, well #92-1 had an estimated capacity of 115 gallons per minute. Well capacity in well #92-1 dropped significantly during the past years and has never fully recovered. Currently, this well is producing approximately 80 gallons per minute.

The water table continually decreases during the summer due to natural precipitation shortfalls and associated impacts from nearby irrigation. The Village has imposed water use restrictions, limiting lawn watering to every other day and is monitoring water levels in the wells and in the elevated tank in order to maintain adequate pressures and fire protection capabilities. Stratton has been on the Nebraska Health and Human Services System drought impact report for the past several years. Estimated costs for needed improvements consisting of one well and associated transmission line are as follows:



**Needs Survey for 2006  
Preliminary Opinion of Probable Construction Cost**

Item	Description	Quantity	Unit	Unit Cost	Total
1	Municipal Well	1	each	\$ 150,000	\$ 150,000.00
2	Test Well	1	each	\$ 12,000	\$ 12,000.00
3	Transmission Main	1300	l.f.	\$ 15.00	\$ 19,500.00
4	Electrical (3-phase)	1300	l.f.	\$ 5.00	\$ 6,500.00
5	Controls	1	l.s.	\$ 5,000	5,000.00
<b>Construction Total</b>					<b>\$193,000.00</b>
<b>Project Total</b>					<b>\$193,000.00</b>

Estimated Costs by: Miller & Associates,  
Consulting Engineers, P.C.  
July 11, 2006

Respectfully submitted,



Jack L. Daniel, Administrator  
Environmental Health Services Section  
Department of Health and Human Services  
Regulation and Licensure

JLD/RGF

**DROUGHT CONDITION EVALUATION  
PUBLIC WATER SUPPLY SYSTEM  
VILLAGE OF STOCKVILLE  
JULY 11, 2006**

Stockville, Nebraska, located in Frontier County, is situated in the Republican River Valley at the confluence of the Republican River and Frenchman Creek. The water system is composed of one well. Well #71-1, constructed in 1971, is located in the northeast part of the community and typically produced 60 gallons per minute. The village has been operating with one well for many years with the thoughts of developing another well if funding was available. The cost associated with hauling water to this system on a daily basis would be very costly to the village and to the State of Nebraska. The health and well being of the residents of the community could be greatly affected should they lose their only well.

The water table continually decreases during the summer due to natural precipitation shortfalls and associated impacts from nearby irrigation. The Village has imposed water use restrictions in the past, limiting lawn watering to odd/even day per week and is monitoring water levels in the wells and in the elevated tank in order to maintain adequate pressures and fire protection capabilities. Stockville has been on the Nebraska Health and Human Services System drought impact report in past years. Estimated costs for needed improvements consisting of one well and associated transmission line are as follows:

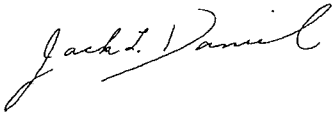
**Needs Survey for 2006  
Preliminary Opinion of Probable Construction Cost**

Item	Description	Quantity	Unit	Unit Cost	Total
1	Municipal Well	1	each	\$ 150,000	\$ 150,000.00
2	Test Well	1	each	\$ 15,000	\$ 15,000.00
3	Transmission Main	5300	l.f.	\$ 106,000	\$ 106,000.00
4	Electrical (3-phase)	1	l.s.	\$ 5.00	25,000.00
5	Controls	1	l.s.	20,000	20,000.00
				<b>Construction Total</b>	<b>\$ 316,000.00</b>

<b>Project Total</b>	<b>\$316,000.00</b>
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Estimated Costs by: Tagge & Associates,  
Consulting Engineers, P.C.  
July 11, 2006

Respectfully submitted,

A handwritten signature in cursive script that reads "Jack L. Daniel". The signature is written in black ink and is positioned below the typed name.

Jack L. Daniel, Administrator  
Environmental Health Services Section  
Department of Health and Human Services  
Regulation and Licensure

JLD/RGF

## **METER COST SHARE ASSISTANCE FOR THE SOUTH PLATTE NATURAL RESOURCES DISTRICT**

(7/13/06)

### **Background**

Over the past five years, conditions in the South Platte Natural Resources District have been dry and drought conditions have continued into summer 2006. Managing water resources with precision and equity has become even more of a priority given these conditions. The South Platte Basin is also part of an area where conditions for recovery of threatened and endangered species are being examined as part of a Platte River Cooperative Agreement. Significant surface water – ground water interrelationship issues also exist in the basin and new options for addressing those have potentially been made available through a new state law. The South Platte Natural Resources District has remained very active in these challenging conditions and has adopted a variety of policies to address its water related issues. One cornerstone of its adopted approach is mandatory installation of meters on a phased schedule between May 1, 2004 and March 1, 2009. Monitoring is especially important in dry years. This proposal provides for cost share for meters to monitor ground water use. In September 2004 approval was received for \$100,000 in meter cost share assistance to District well owners. Most of that money has been expended and it is anticipated that the small amount of remaining money will be utilized by Fall 2006.

### **Benefits**

Cost share for meters would help address drought in a number of ways. First, it would allow landowners to better manage their water, resulting in less pumping by water users. The conservation that meters allow is most important in drought years. The better knowledge of pumping rates will also be useful in implementing whatever decisions are made under the Platte River Cooperative Agreement. Finally, the meters are essential to the districtwide groundwater management area being implemented by the Natural Resources District. That plan is being used to facilitate the proper management of ground water for concerns of quality, quantity, and integrated management. The usefulness of the funds would be extended by the 50% cost share provided by individual landowners.

### **Budget**

As of July 2006, the South Platte Natural Resources District has 1,429 irrigation wells of which approximately 550 already have meters. At approximately \$550 per meter in cost share, the \$50,000 grant request would supply cost share for about 90 meters. In a few instances a meter may serve more than one well.

# METER COST SHARE ASSISTANCE FOR THE UPPER NIOBRARA-WHITE NATURAL RESOURCES DISTRICT

(7/13/06)

## **Background**

Since 2001 conditions in the Upper Niobrara-White Natural Resources District have been dry and drought conditions are continuing in summer 2006. The Bureau of Reclamation's Mirage Flats Project in the District has received reduced water supplies at its diversion due to both the drought and groundwater pumping upstream of the project. Significant surface water – groundwater interrelationship issues exist in the basin and new options for addressing those issues have been made available by a new state law. About 2/3 of the District has been declared fully appropriated under the law and the District is in the process of addressing its interrelated water management issues in those areas. It appears likely that strong consideration will be given to making meters mandatory in areas with interrelated water management issues. The District previously estimated that it would take about \$1.4 million in cost share to install meters on all high capacity wells and progress is being made.

## **Benefits**

Cost share for meters will help address drought in at least two major ways. First, it would allow landowners to better manage their water, resulting in less pumping by water users. The conservation that meters allow is most important in drought years. The better knowledge of pumping rates will also be useful in implementing whatever decisions are made as the District develops its integrated management plan and implements its groundwater management plan. The usefulness of the funds would be extended by the 50% cost share provided by individual landowners.

## **Budget**

The Upper Niobrara-White Natural Resources District has 2,298 irrigation wells of which 600 have meters. At approximately \$550 per meter in cost share (50%), the \$200,000 grant would supply cost share for about 363 meters. In a few instances a meter may serve more than one well. Additional cost share funds will be sought from state and local sources.

# METER COST SHARE ASSISTANCE FOR THE NORTH PLATTE NATURAL RESOURCES DISTRICT

(7/13/06)

## **Background**

The North Platte Natural Resources District has experienced drought conditions and reduced river inflows in recent years. Managing water resources with precision and equity has become even more of a priority given these conditions. The North Platte Basin is also part of an area where conditions for recovery of threatened and endangered species are being examined as part of a Platte River Cooperative Agreement. Significant surface water – ground water interrelationship issues also exist in the basin and new options for addressing those have potentially been made available through a new state law. The District has been addressing its challenges through its groundwater management planning process. This proposal provides for cost share for meters to monitor ground water use.

## **Benefits**

Cost share for meters would help address drought in a number of ways. First, it would allow landowners to better manage their water, resulting in less pumping by water users. The conservation that meters allow is most important in drought years. The better knowledge of pumping rates will also be useful in implementing whatever decisions are made under the Platte River Cooperative Agreement. Finally, the meters could assist in the district-wide groundwater management area being implemented by the Natural Resources District. The usefulness of the funds would be extended by the 50% cost share provided by individual landowners.

## **Budget**

The North Platte Natural Resources District currently has about 3030 irrigation wells of which very roughly about 650 already have meters. At approximately \$550 per meter in cost share (50%), the \$150,000 grant would supply cost share for about 272 meters. Additional cost share funds will be sought from state and local sources.