North Dakota State Water Commission

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Meeting To Be Held At
State Office Building - 900 East Boulevard Avenue
Lower Level Conference Room
Bismarck, North Dakota

June 19, 2013
1:30 P.M., CDT

AGENDA

A. Roll Call

B. Consideration of Agenda -- *Information pertaining to the agenda items is available on the State Water Commission's website at www.swc.nd.gov*

C. Consideration of Draft Minutes of Following SWC Meetings:
- ***1) February 15, 2013 SWC Audio Telephone Conference Call Meeting*** **
- ***2) February 27, 2013 State Water Commission Meeting*** **
- ***3) May 15, 2013 SWC Audio Telephone Conference Call Meeting*** **

D. State Water Commission Financial Reports:
- 1) Agency Program Budget Expenditures
- 2) 2011-2013 Biennium Resources Trust Fund and Water Development Trust Fund Revenues
- ***3) Project/Program Obligations Carryover - 2013-2015 Biennium*** **

E. 2013 Legislative Report

F. Rural Flood Control Projects Cost Share Limitation - 2013-2015 Biennium **

G. Consideration of Following Requests for State Cost Participation:
- ***1) North Dakota Water Magazine*** **
- ***2) North Dakota Irrigation Association*** **
- ***3) Red River Basin Commission*** **
- ***4) Upper Sheyenne River Joint Board*** **
- ***5) Burnt Creek Floodway Flood Damage Restoration (Burleigh County)*** **
- ***6) Forest River Flood Control Feasibility Study (Walsh County)*** **
- ***7) Mulberry Creek Dam, Phase IV (Cavalier County)*** **
- ***8) Pembina County Drain No. 4 Reconstruction*** **
- ***9) Pembina County Drain No. 73*** **
- ***10) Section 408 Review (City of Pembina)*** **
- ***11) Richland County Drain No. 65 Extension*** **

H. Sheyenne River Valley Flood Control Project: **
- ***1) City of Valley City*** **
- ***2) City of Lisbon*** **
- ***3) City of Fort Ransom*** **

I. Fargo-Moorhead (FM) Area Diversion Project Report

J. Northwest Area Water Supply Project:
   1) Project Report
   2) Contract 4-2A-1, High Service Pump Stations Modifications **

K. Southwest Pipeline Project:
   1) Project Report
   2) Contract 5-15B, 2nd Zap Potable Reservoir **
   3) Contract 3-1G, Membrane Procurement for Oliver-Mercer-North Dunn, Phase II **
   4) Contract 3-1F, Ozone Procurement for Oliver-Mercer-North Dunn Water Treatment Plant **
   5) Contract 2-8F, Dunn Center Main Transmission Line, Phase II **
   6) Contract 8-3, Killdeer Mountains Elevated Tank **
   7) Dakota Prairie Refinery Water Service Contract **

L. Devils Lake:
   1) Hydrologic and Projects Reports
   2) Waiver of Line Repayment - Northern Plains Electric Cooperative **
   3) Devils Lake Outlet Awareness Project Manager **
   4) Devils Lake Basin Joint Water Resource Board Manager **
   5) Devils Lake Staff Engineer Position **

M. Missouri River:
   1) Project Report
   2) Missouri River Joint Water Board **
   3) North Dakota's Missouri River Restoration Implementation Committee (MRRIC) Representative **

N. Western Area Water Supply (WAWS):
   1) Overall Plan Approval **
   2) Industrial Sales and Lateral Approval Delegation **

O. State Engineer's Salary **

P. Mouse River Enhanced Flood Protection Project Report

Q. 2013 Flood Update

R. Garrison Diversion Conservancy District Report

S. Other Business:
   1) Policy Committee and State Water Commission Meetings - July 23, 2013

T. Adjournment

** ***BOLD, ITALICIZED ITEMS REQUIRE SWC ACTION***

To provide telephone accessibility to the State Water Commission meeting for those people who are deaf, hard of hearing, deaf and/or blind, and speech disabled, please contact Relay North Dakota, and reference ... TTY-Relay ND ... 1-800-366-6888, or 711.

MINUTES

North Dakota State Water Commission
Bismarck, North Dakota

June 19, 2013

The North Dakota State Water Commission held a meeting at the State Office Building, Bismarck, North Dakota, on June 19, 2013. Governor Jack Dalrymple, Chairman, called the meeting to order at 1:30 p.m., and requested Todd Sando, State Engineer, and Chief Engineer-Secretary to the State Water Commission, to call the roll. Governor Dalrymple announced a quorum was present.

STATE WATER COMMISSION MEMBERS PRESENT:
Governor Jack Dalrymple, Chairman
Tom Bodine, representing Doug Goehring, Commissioner,
North Dakota Department of Agriculture, Bismarck
Arne Berg, Member from Starkweather
Maurice Foley, Member from Minot
Larry Hanson, Member from Williston
Jack Olin, Member from Dickinson
Harley Swenson, Member from Bismarck
Robert Thompson, Member from Page
Douglas Vosper, Member from Neche

OTHERS PRESENT:
Todd Sando, State Engineer, and Chief Engineer-Secretary,
North Dakota State Water Commission, Bismarck
State Water Commission Staff
Approximately 70 people interested in agenda items

The attendance register is on file with the official minutes.

The meeting was recorded to assist in compilation of the minutes.

CONSIDERATION OF AGENDA The agenda for the June 19, 2013 State Water Commission meeting was presented; there were no modifications to the agenda.

It was moved by Commissioner Olin, seconded by Commissioner Foley, and unanimously carried, that the agenda be accepted as presented.

CONSIDERATION OF DRAFT MINUTES OF FEBRUARY 15, 2013 STATE WATER COMMISSION AUDIO TELEPHONE CONFERENCE CALL MEETING - APPROVED

The draft final minutes of the February 15, 2013 State Water Commission audio telephone conference call meeting were approved by the following motion:

It was moved by Commissioner Swenson, seconded by Commissioner Berg, and unanimously carried, that the draft final minutes of the February 15, 2013 State Water Commission audio telephone conference call meeting be approved as prepared.

CONSIDERATION OF DRAFT MINUTES OF FEBRUARY 27, 2013 STATE WATER COMMISSION MEETING - APPROVED

The draft final minutes of the February 27, 2013 State Water Commission meeting were approved by the following motion:

It was moved by Commissioner Swenson, seconded by Commissioner Berg, and unanimously carried, that the draft final minutes of the February 27, 2013 State Water Commission meeting be approved as prepared.

CONSIDERATION OF DRAFT MINUTES OF MAY 15, 2013 STATE WATER COMMISSION AUDIO TELEPHONE CONFERENCE CALL MEETING - APPROVED

The draft final minutes of the May 15, 2013 State Water Commission audio telephone conference call meeting were approved by the following motion:

It was moved by Commissioner Swenson, seconded by Commissioner Berg, and unanimously carried, that the draft final minutes of the May 15, 2013 State Water Commission audio telephone conference call meeting be approved as prepared.

STATE WATER COMMISSION BUDGET EXPENDITURES, 2011-2013 BIENNIUM

In the 2011-2013 biennium, the State Water Commission has two line items - administrative and support services, and water and atmospheric resources expenditures. The allocated program expenditures for the period ending April 30, 2013, reflecting 92 percent of the 2011-2013 biennium, were presented and discussed by David Laschkewitsch, State Water Commission's Director of Administrative Services. The expenditures, in total, are within the authorized budget amounts. ***SEE APPENDIX "A"***

The Contract Fund spreadsheet, attached hereto as ***APPENDIX "B"***, provides information on the committed and uncommitted funds from the Resources Trust Fund and the Water Development Trust Fund. The total amount allocated for projects is $425,424,695 leaving an unobligated balance of $9,921,887 available to commit to projects in the 2011-2013 biennium.

RESOURCES TRUST FUND AND WATER DEVELOPMENT TRUST FUND REVENUES, 2011-2013 BIENNIUM

Oil extraction tax deposits into the Resources Trust Fund total $347,704,385 through May, 2013 and are currently $165,780,282, or 91.1 percent above budgeted revenues. The overage is partially offset by $50,000,000 which was appropriated to the State Water Commission in the special legislative session.

Deposits into the Water Development Trust Fund (tobacco settlement) total $18,102,172 through May, 2013, and are currently $2,521,862, or 12.2 percent behind budgeted revenues. No additional revenue is anticipated in the 2011-2013 biennium.

APPROVAL OF 2011-2013 BIENNIUM UNEXPENDED OBLIGATIONS CARRIED FORWARD TO 2013-2015 BIENNIUM (SWC Project No. 1753)

Water projects commonly require several years to implement due to regulatory issues, funding needs, and contracting, bidding and construction delays. The projects administered under the cost share program have been reviewed to identify the status of those remaining obligated funds to determine which projects are still active, completed, or were not/will not be undertaken.

On June 23, 2009, the State Water Commission passed a motion to inquire into the progress and future intention of projects with unexpended obligations not spent within three years following the Commission's approval. As a result, all of the cost share projects with obligated funds are either still active or will begin in the foreseeable future.

All of the programs and projects listed on the 2011-2013 biennium projects/grants/contract fund with obligated funds are to be pursued in the foreseeable future with the exception of the following projects: City of Fargo-Ridgewood Flood Control, City of Parshall Water Supply, Valley City Water Treatment Plant; Mercer County Water Resource District-Knife River Snagging and Clearing, Traill County Water Resource District-Goose River Snagging and Clearing, Southeast Cass Water Resource District-Sheyenne River Snagging and Clearing, and Southeast Cass Water Resource District-Wild Rice River Snagging and Clearing.

It was the recommendation of Secretary Sando that the State Water Commission carry forward all of the 2011-2013 program and general project unexpended obligation amounts, which include all previous biennium carryovers, and the program/project itself to the 2013-2015 biennium except for the identified projects.

It was moved by Commissioner Berg and seconded by Commissioner Hanson that the State Water Commission carry forward all of the 2011-2013 program and general project unexpended obligation amounts, which include all previous biennium carryovers, and the program/project itself to the 2013-2015 biennium except for the identified projects. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

STATE WATER COMMISSION AND OFFICE OF THE STATE ENGINEER - SIXTY-THIRD LEGISLATIVE ASSEMBLY OF NORTH DAKOTA (2013)

Governor Dalrymple and Secretary Sando provided an overview of the bills passed by the Sixty-third Legislative Assembly of North Dakota that will impact the Office of the State Engineer's regulatory requirements, require new State Water Commission cost share policies, modifications to existing cost share policies, development of a project prioritization process for budgeting purposes, funding of various projects, the intent for specific amounts, and amendments within the existing North Dakota Century Code. The 2013 legislative summary is attached hereto as ***APPENDIX "C"***.

APPROVAL OF RURAL FLOOD CONTROL PROJECTS COST SHARE LIMITATION OF $500,000 FOR 2013-2015 BIENNIUM (SWC Project No. 1973)

On August 13, 1998, the State Water Commission approved several cost share policy changes including a limitation on the amount of funding that can be provided in a single biennium for a rural flood control project to no more than 5 percent of new funding available for general projects.

On June 21, 2011, the State Water Commission passed a motion to approve limiting funding for individual rural flood control projects to $500,000 for the 2011-2013 biennium. The amount available per project would be limited to $500,000 from the 2011-2013 biennium, although the total amount approved per project consists of all biennium cost share approvals.

It was the recommendation of Secretary Sando that the State Water Commission approve the funding limitation for rural flood control projects to $500,000 per project for the 2013-2015 biennium.

It was moved by Commissioner Swenson and seconded by Commissioner Berg that the State Water Commission approve the funding limitation for individual rural flood control projects to $500,000 per project for the 2013-2015 biennium. This motion is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

NORTH DAKOTA WATER MAGAZINE - APPROVAL OF ALLOCATION ($36,000) FROM JULY 1, 2013 TO JUNE 30, 2015 (SWC File AOC/WEF)

A request from the North Dakota Water Education Foundation was presented for the State Water Commission's consideration to continue its participation in the *North Dakota Water* magazine from July 1, 2013 through June 30, 2015.

The State Water Commission has contributed to this effort since 1994 to support the magazine and its own pages, the "Oxbow" and the "Water Primer" sections. Secretary Sando said that "with the Commission's support, the *North Dakota Water* magazine will provide continued communication among people interested in North Dakota's water resources."

It was the recommendation of Secretary Sando that the State Water Commission approve funding to the North Dakota Water Education Foundation not to exceed an allocation of $36,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to assist in the publication of the *North Dakota Water* magazine from July 1, 2013 through June 30, 2015.

It was moved by Commissioner Olin and seconded by Commissioner Thompson that the State Water Commission approve funding to the North Dakota Water Education Foundation not to exceed an allocation of $36,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to assist in the publication of the North Dakota Water magazine from July 1, 2013 through June 30, 2015. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

NORTH DAKOTA IRRIGATION ASSOCIATION - APPROVAL OF $100,000 IN 2013-2015 BIENNIUM TO STRENGTHEN AND EXPAND IRRIGATION IN NORTH DAKOTA (SWC FILE AOC/IRR)

A request from the North Dakota Irrigation Association was presented for the State Water Commission's consideration for state cost participation in the amount of $100,000 from July 1, 2013 through June 30, 2015 to strengthen and expand irrigation for economic growth in North Dakota.

Summaries of the major activities for 2011 and 2012 were related to funding and finance, communication and coordination, irrigation research, marketing, irrigation development, and hydropower. The 2013 work plan priority items outlined the efforts relating to marketing, funding and finance, projects, research, energy, communication and coordination. Irrigation continues to be an opportunity for economic growth in the agricultural sector of our economy.

It was the recommendation of Secretary Sando that the State Water Commission support the efforts of the North Dakota Irrigation Association with an allocation not to exceed $100,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), in pursuance of the efforts outlined in the 2013 work plan.

It was moved by Commissioner Thompson and seconded by Commissioner Foley that the State Water Commission support the efforts of the North Dakota Irrigation Association and approve an allocation not to exceed $100,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), from July 1, 2013 through June 30, 2015, in pursuance of the efforts outlined in the 2013 work plan. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

RED RIVER BASIN COMMISSION - APPROVAL OF ALLOCATION ($200,000) FROM JULY 1, 2013 THROUGH JUNE 30, 2015 (SWC File AOC/RRBC)

The Red River Basin Commission (RRBC) was formed in 2001 to serve as a grassroots effort to address land and water issues in a basinwide context. The RRBC was originally known as the Red River Basin Board, and is a result of the amalgamation of the Board, The International Coalition, and the Red River Water Resource Council. The organization is comprised of a 41-member board of directors representing a broad cross-section of local and state/provincial governments and other interests. The State Engineer, who was initially appointed by Governor Hoeven, is a member of the board.

The states of North Dakota and Minnesota, the Province of Manitoba, and the local governments in the three major jurisdictions have participated in funding the activities of the Red River Basin Board/Commission for several years. Contributions of $100,000 per year are requested of each of the six primary sponsors to fund the Red River Basin Commission's operating costs.

A request from the Red River Basin Commission was presented for the State Water Commission's consideration to provide an allocation not to exceed $200,000 from July 1, 2013 through June 30, 2015 to support the efforts relating to the Natural Resource Framework Plan (NRFP) including working across political boundaries, integration, data and technology, education and communication, forecasting, flood damage reduction, drainage, water quality, water supply, and fish, wildlife, outdoor recreation. The work plan summary for the activities that relate to the North Dakota base funding were also included in the funding request.

The Red River Basin Commission will also continue to address efforts relating to basin-wide activities including drought issues, long-term flood solutions, basin water quality initiatives, mainstem modeling and tributary goals, conservation-land use issues, and jurisdictional dialogue and efforts as needed and directed by the Board.

It was the recommendation of Secretary Sando that the State Water Commission approve an allocation not to exceed $200,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to support the Red River Basin Commission's efforts from July 1, 2013 through June 30, 2015.

It was moved by Commissioner Berg and seconded by Commissioner Thompson that the State Water Commission approve an allocation not to exceed $200,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020),

to support the efforts of the Red River Basin Commission from July 1, 2013 through June 30, 2015. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

UPPER SHEYENNE RIVER JOINT WATER RESOURCE BOARD - APPROVAL OF STATE COST PARTICIPATION ($12,000) FROM JULY 1, 2013 THROUGH JUNE 30, 2015 (SWC Project No. 322)

The Upper Sheyenne River Joint Water Resource Board includes representation from nine of the basin's counties including Barnes, Benson, Eddy, Griggs, Nelson, Pierce, Sheridan, Steele and Stutsman. The diverse membership provides a broad-based understanding of the needs of the basin in order to carry out its mandate "to bring the watershed above Baldhill Dam (Lake Ashtabula) into a partnership in order to review issues and create solutions through local, county, state, and federal cooperation." Since 2005, the board has been directly involved in dam restoration projects, water quality analysis of the river, and irrigation.

A request from the Upper Sheyenne River Joint Water Resource Board was presented for the State Water Commission's consideration for a 50 percent state cost participation in the amount of $12,000 in the 2013-2015 biennium from July 1, 2013 through June 30, 2015. Funds would be used to fund basic administrative expenses, travel, and transportation to meetings, support the services of the part-time chairman and secretary of the board, continue the board's efforts to encourage the water management along watershed lines, continue efforts to coordinate the restoration and enhancement of existing dams and promote the construction of viable dams, and work to facilitate data collection and improve water quality in the basin.

The State Water Commission has a long history of supporting and encouraging the management of water along watershed lines through groups such as the Red River, Missouri River, and Devils Lake Joint Boards which corresponds to the State Water Commission's goal of "managing water resources for the future welfare and prosperity of the people of North Dakota." Boards organized along watershed boundaries play an important role in coordinating water management that reflects the needs of multiple counties.

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation of 50 percent of the eligible costs, not to exceed an allocation of $12,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to provide financial support to the Upper Sheyenne River Joint Water Resource Board from July 1, 2013 through June 30, 2015.

It was moved by Commissioner Berg and seconded by Commissioner Vosper that the State Water Commission approve state cost participation of 50 percent of the eligible costs, not to exceed an allocation of $12,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to provide financial support to the Upper Sheyenne River Joint Water Resource Board from July 1, 2013 through June 30, 2015. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

BURNT CREEK FLOOD DAMAGE RESTORATION PROJECT (BURLEIGH COUNTY) - APPROVAL OF STATE COST PARTICIPATION ($87,805) (SWC Project No. 1992)

A request from the Burleigh County Water Resource District was presented for the State Water Commission's consideration for state cost participation for the Burnt Creek Flood Damage Restoration project. During the 2011 flood event, the Burnt Creek floodway sustained damages requiring repairs to ensure the project's continued functionality. The Burnt Creek floodway provides an important flood control benefit to the rural and residential areas downstream as well as Hogue Island.

A preliminary plan has been developed for repairs in the following locations: Site 1) an area of erosion damage requiring reshaping and bank stabilization to restore the flood control levee on the old backwater channel north of Ponderosa and to protect the public lands owned by the Bismarck Parks and Recreation District; Site 2) a washed-out culvert and crossing that keeps the 100-year flood event from entering the north side of the island; and Site 3) general reshaping of the southern floodway levee impacted by settlement and rutting due to traffic during high water conditions.

The project engineer's total cost estimate is $146,340, all of which is determined eligible for state cost participation as a flood control project at 60 percent of the eligible costs ($87,805).

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation as a flood control project at 60 percent of the eligible costs, not to exceed an allocation of $87,805 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Burleigh County Water Resource District to support the Burnt Creek Flood Damage Restoration project.

It was moved by Commissioner Berg and seconded by Commissioner Swenson that the State Water Commission approve state cost participation as a flood control project at 60 percent of the eligible costs, not to exceed an allocation of $87,805 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Burleigh County Water Resource District to support the Burnt Creek Flood Damage Restoration project. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

FOREST RIVER FLOOD CONTROL FEASIBILITY STUDY (WALSH COUNTY) - APPROVAL OF STATE COST PARTICIPATION ($79,956) (SWC Project No. 1312)

A request from the Walsh County Water Resource District was presented for the State Water Commission's consideration for state cost participation for the Forest River Flood Control feasibility study. Flooding along the Forest River between the communities of Forest River and Minto is a recurring problem within Walsh county. This reach of the river travels along a perched channel causing high flows to break out to the east and south in numerous locations resulting in flooding of adjacent lands. The Red River Joint Water Resource District is completing a comprehensive detention plan for the North Dakota portion of the Red River basin. The proposed study will utilize the results from the plan to determine the effects of incorporating floodwater detention along with the construction of a floodwater by-pass channel to better control the break outs.

The project engineer's total estimated cost is $159,912, all of which is determined eligible for state cost participation as an engineering feasibility study at 50 percent of the eligible costs ($79,956).

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation as an engine-

ering feasibility study at 50 percent of the eligible costs, not to exceed an allocation of $79,956 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Walsh County Water Resource District to support the Forest River Flood Control feasibility study.

It was moved by Commissioner Vosper and seconded by Commissioner Berg that the State Water Commission approve state cost participation as an engineering feasibility study at 50 percent of the eligible costs, not to exceed an allocation of $79,956 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Walsh County Water Resource District to support the Forest River Flood Control feasibility study. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

MULBERRY CREEK RECONSTRUCTION PROJECT, PHASE IV (CAVALIER COUNTY) - APPROVAL OF STATE COST PARTICIPATION ($324,010) (SWC Project No. 1438)

A request from the Cavalier County Water Resource District was presented for the State Water Commission's consideration for state cost participation for their Mulberry Creek Reconstruction Project, Phase IV, which is the final phase of the reconstruction project.

Mulberry Creek is an existing assessment drain formed by the Cavalier County Water Resource District in the late 1970s and constructed in 1980. The proposed project follows the original alignment of Mulberry Creek, and all wetlands along the project route were converted at the time of the original assessment drain. The channel has been redesigned to move a specific flow downstream in the channel instead of overland, which impacts agricultural lands. The reconstruction project also places a 3:1 side slope along the channel. All section lines will be brought up the current standard of a 10-year design. The Board has completed Phases I-III, which have been successful and shown benefit to those producers along the channel.

The Phase IV project is approximately 12 miles in length. The channel will be regarded to allow water to be moved away from the local airport, which is in jeopardy of losing the air ambulance service due to water issues in the parking ramp. The project will replace an existing concrete spillway at the outlet of the Langdon city reservoir, which is needed to manage the flows through the city of Langdon while maintaining a specific water surface elevation in the pool. Construction of the Phase IV work is anticipated in 2013 and 2014.

The project engineer's total estimated cost is $803,567, of which $720,020 is determined eligible for state cost participation as a rural flood control project at 45 percent of the eligible costs ($324,010).

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $324,010 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Cavalier County Water Resource District to support the Mulberry Creek Reconstruction Project, Phase IV.

It was moved by Commissioner Foley and seconded by Commissioner Vosper that the State Water Commission approve state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $324,010 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Cavalier County Water Resource District to support the Mulberry Creek Reconstruction Project, Phase IV. This action is contingent upon the availability of funds, satisfaction of the required drain permit, and receipt of the final engineering plans.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

PEMBINA COUNTY DRAIN NO. 4 RECONSTRUCTION PROJECT - APPROVAL OF STATE COST PARTICIPATION ($221,628) (SWC Project No. 1135)

A request from the Pembina County Water Resource District was presented for the State Water Commission's consideration for state cost participation for the Pembina County Drain No. 4 reconstruction project.

Pembina County Drain No. 4 was designed and constructed in the early 1900s. Modifications have taken place but the current drain is not meeting the needs of the farmers within the assessment area. A petition was filed with the Pembina County Water Resource District requesting increased capacity and grade to improve drainage in the area. When the reconstruction project is complete, the drain will have a total length of 33,155 feet and 4:1 side slopes. An assessment vote has been passed and a drain permit has been issued.

The project engineer's total cost estimate is $549,506, of which $492,506 is determined eligible for state cost participation as a rural flood control project at 45 percent of the eligible costs ($221,628).

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $221,628 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Pembina County Water Resource District to support the Pembina County Drain No. 4 reconstruction project.

It was moved by Commissioner Berg and seconded by Commissioner Hanson that the State Water Commission approve state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $221,628 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Pembina County Water Resource District to support the Pembina County Drain No. 4 reconstruction project. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

PEMBINA COUNTY DRAIN NO. 73 PROJECT - APPROVAL OF STATE COST PARTICIPATION ($350,400) (SWC Project No. 2022)

A request from the Pembina County Water Resource District was presented for the State Water Commission's consideration for state cost participation for the Pembina County Drain No. 73 project.

Landowners in an area west of Interstate 29 in Joliette township have suffered tremendous crop losses and flooding throughout the years. In 2006, a petition was received asking that Drain No. 73 be constructed to provide an adequate outlet to the area of concern. The project design has been completed and construction on legal Drain No. 73 and a lateral labeled as Drain No. 73-1 is anticipated during the 2013 construction season. An assessment vote has been passed and a drain permit has been approved for the project.

The project engineer's total cost estimate is $1,078,400, of which $778,666 has been determined eligible for state cost participation as a rural flood control project at 45 percent of the eligible costs ($350,400).

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $350,400 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Pembina County Water Resource District to support their Pembina County Drain No. 73 project.

It was moved by Commissioner Vosper and seconded by Commissioner Berg that the State Water Commission approve state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $350,400 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the Pembina County Water Resource District to support their Pembina County Drain No. 73 project. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

CITY OF PEMBINA FLOOD CONTROL LEVEE CERTIFICATION - CORPS OF ENGINEERS SECTION 408 REVIEW - APPROVAL OF ADDITIONAL STATE COST PARTICIPATION ($73,500) (SWC Project No. 1444)

On March 11, 2010, the State Water Commission considered a request from the city of Pembina for state cost participation in their costs to analyze the city's flood control levee system for compliance with FEMA guidelines as outlined in the Code of Federal Regulations (CFR), Title 44 Part 65.10. The analysis is required for FEMA to accredit the levee system, flood insurance mapping purposes, operations are designed and/or to the current standards, and provides protection from the 100-year flood. The analysis of the city's flood protection system will produce a statement from a registered professional engineer as to whether the elements of the system are designed in accordance with sound engineering practices to comply with the requirements in the CFR, Title 44 Part 65.10. On March 10, 2010, the State Water Commission approved an allocation not to exceed $27,156 from the funds appropriated to the State Water Commission in the 2009-2011 biennium (H.B. 1020).

In May of 2011, the city of Pembina submitted a conceptual proposal to the Corps of Engineers to raise the floodwall and levee as part of the certification process because any modification to the Pembina protection system requires Corps of Engineers approval. The review comments were received on September 23, 2011 and a technical meeting was held to discuss the comments on October 12, 2011.

Based upon the proposed levee and floodwall raises, the Corps has indicated that the proposed changes to the flood protection system will definitely be considered a major modification requiring a Section 408 review. This process involves detailed technical submittals by the project proposer, technical reviews by the Corps of Engineers, and an agreement between a project sponsor and the Corps of Engineers in order for the major modification to proceed. The major modification also requires the sponsor to provide funding to the Corps. On March 7, 2012, the State Water Commission passed a motion to approve an allocation not to exceed $108,000 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020) to the city of Pembina to support the Corps of Engineers Section 408 review.

The revised estimated total cost for the city of Pembina's Corps of Engineers Section 408 review is $352,000, of which $302,000 is determined eligible for state cost participation at 60 percent ($181,200). A request from the city of Pembina was presented for the State Water Commission's consideration for state cost participation for an additional allocation of $73,200 ($181,200 eligible costs less $108,000 approved on March 7, 2012).

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation at 60 percent of the eligible costs, not to exceed an additional allocation of $73,200 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the city of Pembina to support the Corps of Engineers Section 408 review for the City of Pembina's flood control levee certification.

It was moved by Commissioner Foley and seconded by Commissioner Vosper that the State Water Commission approve state cost participation at 60 percent of the eligible costs not to exceed an additional allocation of $73,200 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020), to the city of Pembina to support the Corps of Engineers Section 408 review for the city of Pembina's flood control levee certification. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

RICHLAND COUNTY DRAIN NO. 65 EXENSION PROJECT - CONDITIONAL APPROVAL OF STATE COST PARTICIPATION ($123,200) (SWC Project No. 1207)

A request from the Richland County Water Resource District was presented for the State Water Commission's consideration for state cost participation for the Richland County Drain No. 65 extension project. The project consists of the extension of .63 miles of the township roadway ditch that will become part of the Drain No. 65 channel in Section 26. The District also owns the German Madsen Dam, which is located in Section 27.

The project will construct the channel bottom to a consistent 20-foot parabolic bottom and flatten the side slopes to 4:1. Rock drop structures will be installed to help take out some of the elevation change along the channel. Rock erosion checks will also be installed to help control erosion. Erosion control fabric will be installed to help control the erosion off the soils in the area on the channel and side slopes, and side inlet culverts will be installed along the length of the channel. The overall project will improve the stability of the channel. The existing channel is a road ditch that was constructed with 2:1 side slopes which have experienced failures and slides over the last several years.

The project engineer's total cost estimate is $341,276, of which $273,776 is determined eligible for state cost participation as a rural flood control project at 45 percent of the eligible costs ($123,200). Pursuant to the State Water Commission's cost share policy, conditional approval of a rural flood control project is allowed subject to satisfaction of the required drain permit, and receipt of the final engineering plans. The request before the State Water Commission is for a 45 percent state cost participation in the amount of $123,200.

It was the recommendation of Secretary Sando that the State Water Commission approve conditional state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $123,200 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020) to support the Richland County Drain No. 65 extension project.

It was moved by Commissioner Olin and seconded by Commissioner Thompson that the State Water Commission approve conditional state cost participation as a rural flood control project at 45 percent of the eligible costs, not to exceed an allocation of $123,200 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020) to support the Richland County Drain No. 65 extension project. This action is contingent upon the availability of funds, satisfaction of the required drain permit, and receipt of the final engineering plans.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SHEYENNE RIVER VALLEY FLOOD PROTECTION PROGRAM - APPROVAL OF STATE COST PARTICIPATION - 2011 SENATE BILL 2371 - $1,276,275 (CITY OF VALLEY CITY - $350,625) (CITY OF LISBON - $700,650) (CITY OF FORT RANSOM - $225,000) (SWC Project No. 1344)

The cities of Valley City, Lisbon, and Fort Ransom have been devastated by the multiple years of flooding and the actions that were needed to save their communities. Record flooding brought new heights in the elevation of the dikes and the expenses for recovery. It is the intent of each of these cities to construct permanent flood protection projects from the Sheyenne River. The following estimates for engineering design costs were submitted from the communities of Valley City ($412,500), Lisbon ($2,595,000), and Fort Ransom ($250,000) and were presented for the State Water Commission's consideration for state cost participation. It was noted that the City of Lisbon's submission of $2,595,000 was intended for engineering costs anticipated through the completion of construction and were calculated at approximately 30 percent of the construction costs.

The State Water Commission's cost share policy does not allow eligibility for reimbursement of engineering or legal services. Due to the multiple years of back-to-back flooding these communities have received from the Sheyenne River, their limited ability to pay due to expenses the cities have incurred on flood recovery efforts, and the effects of Devils Lake floodwaters, it was the recommendation of Secretary Sando that an exception be made to provide cost share assistance for engineering design for these communities, and to allow for a higher State Water Commission cost share percentage.

The following cost share percentages were presented for the State Water Commission's consideration: City of Valley City - 85 percent, City of Lisbon - 90 percent, and the City of Fort Ransom - 90 percent. Secretary Sando explained that the cost share percentage is based on an estimate of the city's ability to pay, the expenses incurred over the last several years of fighting floods, and the increased risk incurred downstream from the flood protection provided from Lake Ashtabula. To assist the communities with their preliminary engineering design costs associated with development of a flood control project, the engineering design cost was estimated at $778,500, based on 10 percent of the construction cost.

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation not to exceed a total allocation of $1,276,275 from the funds appropriated to the State Water Commission in 2011 Senate Bill 2371 for the Sheyenne River Valley Flood Protection Program to support the following flood protection projects: City of Valley City ($350,625 - 85 percent), City of Lisbon ($700,650 - 90 percent), and the City of Fort Ransom ($225,000 - 90 percent).

It was moved by Commissioner Foley and seconded by Commissioner Berg that the State Water Commission approve state cost participation not to exceed a total allocation of $1,276,275 from the funds appropriated to the State Water Commission in 2011 Senate Bill 2371 for the Sheyenne River Valley Flood Protection Program to support the following flood protection projects: City of Valley City ($350,625 - 85 percent), City of Lisbon ($700,650 - 90 percent), and the City of Fort Ransom ($225,000 - 90 percent). This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

FARGO MOORHEAD AREA DIVERSION PROJECT REPORT (SWC Project No. 1928)

Pat Zavoral, Fargo City Administrator, provided a status report on the Fargo Moorhead Area Diversion project, and presented the Diversion Authority's 2013-2015 biennium work plan. An outline of the presentation is included herewith as ***APPENDIX "D".***

NORTHWEST AREA WATER SUPPLY (NAWS) PROJECT - STATUS REPORTS (SWC Project No. 237-04)

The Northwest Area Water Supply (NAWS) project and construction status reports were provided, which are detailed in the staff memorandum dated June 7, 2013, and attached hereto as ***APPENDIX "E".***

NORTHWEST AREA WATER SUPPLY (NAWS) PROJECT - CONTRACT 4-2A-1, HIGH SERVICE PUMP STATION MODIFICATIONS (SWC Project No. 237-04)

On June 12, 2013, one proposal was opened for Northwest Area Water Supply Project, Contract 4-2A-1, High Service Pump Station Modifications. The scope of work consists of the installation of a 40 HP jockey pump and associated switchgear and controls at the high service pump station. The jockey pump is being installed to alleviate wear on

the larger pumps and improve the efficiency of the system when delivering lower flow rates. The contract was procured through a request for proposals instead of the usual bidding procedure as the project is expected to cost less than $100,000.

Because only one proposal was received and opened for the type of procurement being used, and the proposal exceeded the project engineer's estimate, it was recommended that the contract be reevaluated.

SOUTHWEST PIPELINE PROJECT - PROJECTS REPORT (SWC Project No. 1736-99)

The Southwest Pipeline Project report was presented, which is detailed in the staff memorandum dated June 4, 2013, attached as ***APPENDIX "F"***.

SOUTHWEST PIPELINE PROJECT - AWARD OF CONTRACT 5-15B, SECOND ZAP POTABLE RESERVOIR, TO ENGINEERING AMERICA, OAKDALE, MN (SWC Project No. 1736-99)

On May 30, 2013, bid proposals were opened for Southwest Pipeline Project, Contract 5-15B, Second Zap Potable Reservoir, located in Mercer county. The scope of work generally consists of furnishing and installing a single 1,650,000 gallon welded steel, glass-coated bolted steel, or fusion powder coated bolted steel water storage reservoir complete with inlet/outlet piping, underdrain system, drain and overflow discharge piping, foundation, site work, and other appurtenant items. The reservoir size is 98' in diameter by 28' to overflow. On May 15, 2013, the State Water Commission authorized the secretary to the Commission to award Contract 5-15B to the lowest responsible bidder.

The bid form was divided into three schedules, Bid Schedule 1 for a welded steel reservoir, Bid Schedule 2 for a glass-coated bolted steel reservoir, and Bid Schedule 3 for a fusion powder coated bolted steel reservoir. Bid Schedules 2 and 3 included an alternate for concrete floors in lieu of the welded floor specified. Four bid packages were received for Contract 5-15B containing three bids for the welded steel reservoir under Bid Schedule 1, one bid for the glass-coated steel reservoir under Bid Schedule 2, and two bids for the fusion powder coated bolted steel reservoir under Bid Schedule 3. All bids appeared in order and all bids were opened. The low bid for the fusion powder coated bolted steel style tank by Engineering America, Oakdale, MN, on Bid Schedule 3 is $50,000 less than the low bid for the glass-coated bolted steel style tank by Engineering America on Bid Schedule 2.

The Southwest Pipeline Project has five bolted tanks, four of which are glass-lined steel built by Engineering America, and the fifth tank is a bolted stainless steel tank. Fusion powder coated steel tanks are relatively new technology with 5-7 years of testing, the glass-coated bolted tanks have been in

place in the northern plains including North Dakota for 30 or more years. Because of the positive experience with the glass-lined bolted tanks on the Southwest Pipeline Project, it was the preference of the Commission staff to select the glass-lined bolted steel tank.

The contract documents allow the State Water Commission to select the most advantageous bid. Based on the project engineer's review, the bid received from Engineering America, Inc. for Bid Schedule 2, glass coated bolted steel reservoir, appears to be in accordance with the advertisement for construction bids and the bid documents, and is considered to be a responsive bid. The award of the contract and notice to proceed are dependent on the satisfactory completion and submission of the contract documents by Engineering America, and review/approval by the Commission's legal counsel.

The contract will be funded from the 2013-2015 biennium State Water Commission allocation to the Southwest Pipeline Project authorized by the emergency action in House Bill 1269.

It was the recommendation of Secretary Sando that the State Water Commission award Contract 5-15B, Second Zap Potable Reservoir, to Engineering America, Oakdale, MN, based on their bid for glass-coated bolted steel reservoir with concrete floor alternative in the amount of $1,415,900.

It was moved by Commissioner Vosper and seconded by Commissioner Hanson that State Water Commission award Contract 5-15B, Second Zap Potable Reservoir, to Engineering America, Oakdale, MN, in the amount of $1,415,900. This action is contingent upon the satisfactory completion and submission of the contract documents by Engineering America, and the review/approval by the Commission's legal counsel.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SOUTHWEST PIPELINE PROJECT - AWARD OF CONTRACT 3-1G, MEMBRANE PROCUREMENT FOR OLIVER-MERCER-NORTH DUNN WATER TREATMENT PLANT, TO WIGEN TECHNOLOGIES (SWC Project No. 1736-99)

The Oliver-Mercer-North Dunn regional service area water treatment plant's current capacity is 3.5 million gallons per day. In order to serve the completed regional service area, the capacity of the water treatment plant will need to be increased to 5.25 million gallons per

day. When the Phase I membranes were bid, there was a bid alternate for membrane cost for the Phase II upgrade of the water treatment plant, however, the alternate for the Phase II membranes cost was not included in the award of the Phase I contract. It was specified in the Phase I bid form that the cost specified for Phase II membranes would be adjusted for inflation using the US-MCI (US Material Cost Index) for the Minneapolis region. The bid price indicated in the Phase I bid form for the Phase II upgrade of the water treatment plant is $1,731,800.

The Office of Management and Budget has approved doing a non-competitive sole source procurement from the Phase I membrane supplier Wigen Technologies. The supplier is agreeable to the cost indicated in the Phase I bidding documents, but they have requested that the inflation adjustment be taken to the date of notice to proceed with construction instead of the date of the contract. It is anticipated the installation contract of the Phase II upgrade to be awarded in August, 2013, and that will effectively increase the contract price for two months of inflation. Using the inflation adjustment to May, 2013 MCI, the Phase II membrane bid price is $2,088,031.92. Based on the average inflation from November 2009 (when the Phase I membranes were bid) to May, 2013, the two months will result in an additional one percent increase in the contract price.

It was the recommendation of Secretary Sando that the State Water Commission award Southwest Pipeline Project Contract 3-1G, Membrane Procurement for the Oliver-Mercer-North Dunn Water Treatment Plant, to Wigen Technologies.

It was moved by Commissioner Foley and seconded by Commissioner Thompson that the State Water Commission award Southwest Pipeline Project Contract 3-1G, Membrane Procurement for the Oliver-Mercer-North Dunn Water Treatment Plant, to Wigen Technologies. This motion is contingent upon the satisfactory completion and submission of the contract documents by Wigen Technologies, and review/approval by the Commission's legal counsel.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SOUTHWEST PIPELINE PROJECT - OLIVER-MERCER-NORTH DUNN REGIONAL SERVICE AREA - AUTHORIZE AWARD OF CONTRACT 3-1F, OZONE EQUIPMENT PROCUREMENT FOR WATER TREATMENT PLANT (SWC Project No. 1736-99)

On May 30, 2013, bid proposals were opened for Southwest Pipeline Project Contract 3-1F, Ozone Equipment Procurement for the Oliver-Mercer-North Dunn Regional Service Area - Water Treatment Plant. This contract includes design phase services, ozone generation and feed system equipment, and construction phase services for the existing Oliver-Mercer-North Dunn regional service area water treatment plant facility. The ozone system is intended to provide an alternate mode of disinfection for virus inactivation and taste and odor removal in the existing finished water contact basin.

Three bids were received and opened. All of the bids were lower than the engineer's estimate of $610,000 and were within one percent of each other. It was specified in the bid documents that the award of the contract would be based on a 20-year life cycle analysis of the equipment, none of the bidders provided sufficient information in their bid to perform this analysis. The contract was rebid with a bid opening date of June 28, 2013.

It was the recommendation of Secretary Sando that the State Water Commission authorize the secretary to the State Water Commission to award Southwest Pipeline Project Contract 3-1F, Ozone Equipment Procurement for the Oliver-Mercer-North Dunn Regional Service Area - Water Treatment Plant, that is in the best interest of the Southwest Pipeline Project, contingent upon the recommendations of the project engineer and the secretary to the State Water Commission, and review/approval by the Commission's legal counsel.

It was moved by Commissioner Vosper and seconded by Commissioner Olin that the State Water Commission authorize the secretary to the State Water Commission to award Southwest Pipeline Project Contract 3-1F, Ozone Equipment Procurement for the Oliver-Mercer-North Dunn Regional Service Area - Water Treatment Plant, that is in the best interest of the Southwest Pipeline Project, contingent upon the recommendations of the project engineer and the secretary to the State Water Commission, and review/approval by the Commission's legal counsel.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SOUTHWEST PIPELINE PROJECT - CONTRACT 2-8F, DUNN CENTER SERVICE AREA MAIN TRANSMISSION LINE - AUTHORIZATION DEFERRED ON CONTRACT AWARD (SWC Project No. 1736-99)

Southwest Pipeline Project Contract 2-8F, Dunn Center Service Area Main Transmission Line, consists of furnishing and installing approximately 20 miles of 16" - 14" AWWA C-905 PVC gasketed joint pipe, approximately 17.6 miles of 10" - 6" ASTM D-2241 PVC gasketed joint pipe, two prefabricated steel VFD booster stations, one prefabricated steel master meter vault for the city of Killdeer, road crossings, connections to existing pipelines, and other related appurtenances. The contract includes a bid item for furnishing and installing pipeline markers at road crossings. The project is located in Dunn and McKenzie counties.

The project plans and specifications have been submitted, the contract will be ready to be bid upon receipt of approval from the Garrison Diversion Conservancy District, Bureau of Reclamation, Department of Health, and the executed easements from the landowners.

The project engineer's estimated construction cost is $8,000,000, the estimated project cost is $10,300,000. The contract will be funded from the 2013-2015 biennium State Water Commission allocation to the Southwest Pipeline Project authorized by the emergency action in 2013 House Bill 1269. The State Water Commission deferred action on authorization of the contract award.

SOUTHWEST PIPELINE PROJECT - CONTRACT 8-3, KILLDEER MOUNTAINS ELEVATED TANK - AUTHORIZATION DEFERRED ON CONTRACT AWARD (SWC Project No. 1736-99)

Southwest Pipeline Project Contract 8-3, Killdeer Mountains Elevated Tank, consists of furnishing and installing a 250,000 gallon elevated composite, or spheroid style steel potable water storage tank with 170 feet to overflow, related piping, underdrain, control vault, and foundation work. The reservoir will be located in Dunn county and will serve the rural residents in Grassy Butte, Killdeer Mountains, and Fairfield service area.

The design capacity needed for the tank is 120,000 gallons. Since the tank is elevated, decreasing the size below 250,000 gallons does not result in any significant cost savings. Design of the tank is near completion, and land acquisition required for the tank is in process. The estimated construction cost is $950,000, and the estimated project cost is $1,200,000. The contract will be funded from the 2013-2015 biennium State Water Commission allocation to the Southwest Pipeline Project authorized by the emergency action in 2013 House Bill 1269. The State Water Commission deferred action on authorization of the contract award.

SOUTHWEST PIPELINE PROJECT - APPROVAL OF WATER SERVICE CONTRACT 1736-32, DAKOTA PRAIRIE REFINING LLC (SWC Project No. 1736-99)

The Dakota Prairie Refining LLC has requested a water service contract from the State Water Commission and the Southwest Water Authority for the delivery of potable treated water from the Southwest Pipeline project that meets water quality standards of the North Dakota Department of Health.

The contract specifies a total maximum flow rate of 10 gallons per minute for all connections for domestic use, and a minimum annual water purchase of 3,522,000 gallons per year during the entire term of the contract. An additional 150 gallons per minute will be provided, if available, at the discretion of the Southwest Water Authority on a back-up basis for process industrial purposes. The Authority will determine if excess water is available in addition to what is necessary for municipal, domestic, and rural water needs. The Authority will have control of the valves and other appurtenances for the purpose of providing all water to the refinery.

The water rate for domestic use at the refinery, with flow rate less than 10 gallons per minute, will be $3.50/1000 gallons. The water rate for process industrial water usage, when flow rate exceeds 10 gallons, is $7.00/1000 gallons.

It was the recommendation of Secretary Sando that the State Water Commission authorize the secretary to the State Water Commission to finalize and execute the Southwest Pipeline Project Water Service Contract 1736-32 with the Dakota Prairie Refining LLC.

It was moved by Commissioner Swenson and seconded by Commissioner Olin that the State Water Commission authorize the secretary to the State Water Commission to finalize and execute Southwest Pipeline Project Water Service Contract 1736-32 with the Dakota Prairie Refining LLC. SEE APPENDIX "G"

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

DEVILS LAKE HYDROLOGIC, AND PROJECTS UPDATES (SWC Project No. 416-10)

The Devils Lake hydrologic report, and project updates were provided, which are detailed in the staff memorandum, dated June 6, 2013, attached hereto as ***APPENDIX "H".***

DEVILS LAKE OUTLETS - DECLINE WAIVER OF FUNDING FOR CREDIT TO STATE WATER COMMISSION FOR USE OF 69KV LINE SERVING DEVILS LAKE OUTLETS, LALLIE SUBSTATION (SWC Project No. 416-10)

A request from Central Power Electric Cooperative and Northern Plains Electric Cooperative was presented for the State Water Commission's consideration to waive reimbursement of $337,647 that was allocated by the State Water Commission for electrical facilities needed to serve the Devils Lake outlet. The reimbursement would be the result of constructing a proposed electrical substation to replace an existing substation that is experiencing water-related issues near the Josephine pumping station.

Representatives from Northern Plains Electric Cooperative and Central Power Electric Cooperative appeared before the State Water Commission to provide technical information relative to their request. Numerous problems were alluded to as a result of the rising level of Devils Lake. Approximately 30 miles of transmission line have been replaced/relocated, and the Churchs Ferry substation is scheduled for relocation in 2013. New equipment was installed at the Round Lake and Josephine distribution substations, and two transmission lines were built to accommodate the Devils Lake outlet capacity increase in 2010. These facilities were constructed with state funding in the amount of $2,813,726.

The most recent development is hydraulic jacking at the Lallie substation, which was built in 1977 in a low-lying area near the Devils Lake basin. Because of the water hydraulics, in combination with the originally selected substation site, water-related substation issues are apparent. Central Power is proposing to construct a new Lallie distribution substation approximately one-half mile south of the existing Josephine 69kV transmission line. Central Power is also considering the rebuild of the 23-mile Leeds to Maddock 69kV transmission line at an estimated cost of $2,850,000. The transmission line, which was constructed in 1950, is the normal source of supply for the Josephine, Maddock, and Round Lake substations.

The request was reviewed by the State Water Commission staff. On January 14, 2013 a letter was provided to Northern Plains Electric Cooperative rejecting the request to forego a credit to the State Water Commission for use of the 69kV line serving the Josephine pump station to service other Northern Plains Electric Cooperative customers, based on the Devils Lake Outlet - Electric Service Agreement between the State Water Commission and Northern Plains Electric Cooperative, Section 3.3, which states:

"Northern Plains Electric or its agent may use the transmission facilities as part of their transmission and distribution grid to serve other users. If Northern Plains Electric incorporates the transmission facilities into their system for the supply of power to users other than the State Water Commission, Northern Plains will provide a credit to the State Water Commission equal to the prorate share of the facilities used."

The request before the State Water Commission is re-consideration of the reimbursement request for the proposed Lallie substation relocation/interconnection with the Josephine transmission line in recognition that Central Power Electric Cooperative plans to invest approximately $3,000,000 on the Leeds to Maddock 69kV transmission line rebuild.

It was the recommendation of Secretary Sando that the State Water Commission decline the request from the Northern Plains Electric Cooperative and the Central Plains Electric Cooperative to waive the funding reimbursement for the proposed Lallie substation relocation/interconnection with the Josephine transmission line.

It was moved by Commissioner Thompson and seconded by Commissioner Vosper that the State Water Commission decline the request from the Northern Plains Electric Cooperative and the Central Plains Electric Cooperative to waive the funding reimbursement for the proposed Lallie substation relocation/interconnection with the Josephine transmission line.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

DEVILS LAKE OUTLET AWARENESS PROJECT MANAGER - APPROVAL OF STATE COST PARTICIPATION FROM JULY 1, 2013 THROUGH DECEMBER 31, 2013 ($8,085) (SWC Project No. 416-05)

In 1998, the State Water Commission, the Garrison Diversion Conservancy District, the Devils Lake Basin Joint Water Resource Board, and the Forward Devils Lake Corporation initiated cost sharing in a contract securing the services of the Devils Lake outlet awareness project manager, which is occupied by Joe Belford. The intended goal of this position is to function as a communicator to parties relative to the Devils Lake outlet projects and their flood protection benefits.

A request from the Devils Lake Joint Water Resource Board was presented for the State Water Commission's consideration to continue funding for the Devils Lake outlet awareness project manager from July 1, 2013 through December 31, 2013, with a 33 percent state cost participation ($8,085). Other parties to the previous agreement have indicated their intentions to continue this effort.

It was the recommendation of Secretary Sando that the State Water Commission approve a 33 percent state cost participation not to exceed an allocation of $8,085 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Devils Lake Basin Joint Water Resource Board to support the Devils Lake outlet awareness project manager from July 1, 2013 through December 31, 2013.

It was moved by Commissioner Swenson and seconded by Commissioner Berg that the State Water Commission approve a 33 percent state cost participation not to exceed an allocation of $8,085 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Devils Lake Basin Joint Water Resource District to support the services of the Devils Lake outlet awareness project manager from July 1, 2013 through December 31, 2013. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

DEVILS LAKE BASIN JOINT WATER RESOURCE BOARD MANAGER - APPROVAL OF STATE COST PARTICIPATION JULY 1, 2013 THROUGH JUNE 30, 2015 ($60,000) (SWC Project No. 416-01)

Since 1998, the State Water Commission has promoted watershed management along the watershed lines in the Devils Lake Basin. The Joint Board has shown a commitment to this concept demonstrated through their support of the state outlets, management of the Extended Storage Acreage program (ESAP), long-term water quality sampling and analysis in the basin coulees, and their current update of the Devils Lake Basin Water Management Plan.

The State Water Commission has supported watershed management along the watershed lines through the cost share of a managerial position for the Board, which is an essential position in ensuring that the goals and objectives of the Board are carried out in a timely and professional manner. A

request from the Devils Lake Basin Joint Water Resource Board was presented for the State Water Commission's consideration for a 50 percent state cost participation in the amount of $60,000 for the 2013-2015 biennium. The remaining funds would be provided from the Devils Lake Basin Joint Water Resource District.

It was the recommendation of Secretary Sando that the State Water Commission approve a 50 percent state cost participation not to exceed an allocation of $60,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Devils Lake Basin Joint Water Resource Board to support the services of the Devils Lake Basin Joint Water Resource board manager from July 1, 2013 through June 30, 2015.

It was moved by Commissioner Berg and seconded by Commissioner Thompson that the State Water Commission approve a 50 percent state cost participation not to exceed an allocation of $60,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Devils Lake Basin Joint Water Resource Board to support the services of the Devils Lake Basin Joint Water Resource board manager from July 1, 2013 through June 30, 2015. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

DEVILS LAKE ENGINEERING SERVICES - APPROVAL OF CONTRACT RENEWAL, JULY 1, 2013 THROUGH JUNE 30, 2015 (SWC Project No. 416-01)

The State Water Commission has a long history of promoting watershed management along watershed lines. The Devils Lake Joint Water Resource Board has shown a commitment to this concept demonstrated through their support of the state outlets, management of the Extended Storage Acreage Program (ESAP), long-term water quality sampling and analysis of basin coulees, and the current update of the Devils Lake Basin Water Management Plan.

For over a decade, the State Water Commission has cost shared with the board to employ a Devils Lake engineer. The responsibilities include: work in a full-time capacity on Devils Lake water projects and to assist the board in meeting its engineering needs; attend meetings in the basin to gain an understanding of water management needs and to assist in developing engineering recommendations; assist the board by reviewing engineering plans developed by various entities involved in water management projects in the basin and assist in the

preparation of recommendations to the board; and to assist the board in developing and refining plans related to the state's three-pronged approach to flood relief at Devils Lake (upper basin water management, infrastructure protection, and outlets to the Sheyenne River).

In order to meet their goal of managing water for the benefit of the Devils Lake basin, the board has obligated $20,000 for the biennium for engineering services. The State Water Commission has agreed to provide the remainder of the costs associated with the position. A request from the Devils Lake Basin Joint Water Resource Board was presented for the State Water Commission's consideration to renew the Devils Lake staff engineering services contract from July 1, 2013 through June 30, 2015.

It was the recommendation of Secretary Sando that the State Water Commission approve the renewal of the Devils Lake engineering services contract from July 1, 2013 through June 30, 2015, in accordance with the terms as outlined.

It was moved by Commissioner Berg and seconded by Commissioner Foley that the State Water Commission approve the renewal of the Devils Lake engineering services contract from July 1, 2013 through June 30, 2015, in accordance with the terms as outlined. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

MISSOURI RIVER REPORT (SWC Project No. 1392)

The Missouri River report was provided, which is detailed in the staff memorandum dated June 7, 2013, and attached hereto as ***APPENDIX "I"***.

MISSOURI RIVER JOINT WATER BOARD - APPROVAL OF STATE COST PARTICIPATION ($20,000) FROM JULY 1, 2013 THROUGH JUNE 30, 2013 (SWC FILE PS/WRD/MRJ)

On July 28, 2005, the counties of Burleigh, Dunn, Emmons, Mercer, Morton, Mountrail, Oliver, and Sioux entered into a joint powers agreement, which created the Missouri River Joint Water Board. The purpose of the board is to provide a cooperative and coordinated approach to water and related land management in the Missouri River basin portion of North Dakota. In consideration of

how valuable a resource the Missouri River is to North Dakota, an organization of this type is extremely important in keeping North Dakota's interest in the Missouri River in the forefront.

On August 30, 2005, the State Water Commission approved an allocation not to exceed $20,000 to the Missouri River Joint Water Board to retain a water resource consultant and secretary-treasurer, develop an action plan and bylaws, and assist with operating costs to get the board properly functioning. In previous bienniums, the Commission has continued its support with a biennial allocation of $20,000, which is used to accommodate costs associated with maintaining the activities of the board.

A significant achievement of the Board has been its ability to continue to act as an effective means in providing a forum for the member water boards to jointly exercise certain powers and provide a cooperative and coordinated effort in addressing the management, conservation, protection, development, and control of water resources in the Missouri River basin. In pursuing that effort, the Board has been active in recent efforts to discuss and possibly formulate a Missouri River Stakeholders group which would expand this opportunity for inclusion in such discussions to other interested parties and entities along the river system and in other parts of the state.

A request from the Missouri River Joint Water Board was presented for the State Water Commission's consideration for the continued cost share involvement with a 50 percent state cost participation in the amount of $20,000 in the 2013-2015 biennium.

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation of 50 percent of the eligible costs, not to exceed an allocation of $20,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020), to the Missouri River Joint Water Board.

It was moved by Commissioner Hanson and seconded by Commissioner Thompson that the State Water Commission approve state cost participation of 50 percent of the eligible costs, not to exceed an allocation of $20,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020) from July 1, 2013 though June 30, 2015 to the Missouri River Joint Water Board. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

Commissioner Harley Swenson leaves meeting due to scheduling commitments.

MISSOURI RIVER JOINT WATER BOARD - APPROVAL OF STATE COST PARTICIPATION ($40,000) FOR NORTH DAKOTA REPRESENTATION ON MISSOURI RIVER RECOVERY IMPLEMENTATION COMMITTEE (MRRIC) FROM JULY 1, 2013 THROUGH JUNE 30, 2015 (SWC File PS/WRD/MRJ)

Section 5018 of the Water Resources Development Act of 2007 authorizes the Secretary of the Army to establish a Missouri River Recovery Implementation Committee (MRRIC). The committee serves as a collaborative forum to develop a shared vision and comprehensive plan for the restoration of the Missouri River ecosystem. The committee's membership is comprised of representatives of federal agencies, tribes, states, and stakeholders from throughout the Missouri River basin. Recommendations will be provided to federal, tribal, state, local and private entities in the basin on efforts to recover threatened and endangered species and to restore their habitats while sustaining the river's many uses.

The Corps of Engineers appointed Terry Fleck to represent the upper basin stakeholders interests relative to recreation on the MRRIC. The current agreement, executed in March, 2009, allows for a cost contribution from the State Water Commission and the Garrison Diversion Conservancy District to provide financial support to Mr. Fleck as he represents the upper basin stakeholder interests relative to recreation on the MRRIC.

A request from the Missouri River Joint Water Board was presented for the State Water Commission's consideration for continued cost share involvement to the Missouri River Joint Water Board for coordination and support for funding of Terry Fleck to represent the interests of North Dakota on the Missouri River Recovery Implementation Committee. The request seeks funding for the 2013-2015 biennium as follows: State Water Commission - 50 percent, $40,000; Garrison Diversion Conservancy District - 37.5 percent, $30,000; and Missouri River Joint Water Board - 12.5 percent, $10,000.

It was the recommendation of Secretary Sando that the State Water Commission approve state cost participation of 50 percent of the eligible costs, not to exceed an allocation of $40,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020) from July 1, 2013 through June 30, 2015 to the Missouri River Joint Water Board to assist with expenses associated with Terry Fleck's representation of the State of North Dakota on the Missouri River Recovery Implementation Committee (MRRIC).

It was moved by Commissioner Vosper and seconded by Commissioner Olin that the State Water Commission approve state cost participation of 50 percent of the eligible costs, not to exceed an allocation of $40,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B. 1020) from July 1, 2013 through June 30, 2015 to the Missouri River Joint Water Board to assist with expenses associated with Terry Fleck's representation of the State of North Dakota on the Missouri River Recovery Implementation Committee (MRRIC). This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

WESTERN AREA WATER SUPPLY (WAWS) PROJECT - APPROVAL OF PORTION OF OVERALL PLAN, PHASE III (SWC Project No. 1973)

2011 House Bill 1206 created the Western Area Water Supply (WAWS) project, under chapter 61-40 of the North Dakota Century Code.

On June 21, 2011, the State Water Commission passed a motion to approve the Western Area Water Supply project, Phase I, an allocation not to exceed $25,000,000 authorized in 2011 House Bill 1206 from the funds appropriated to the State Water Commission in the 2011-2013 biennium for project construction, and that the Commission staff be delegated to review the specific plans and specifications. In order for the Authority to access the remaining loans of $85,000,000, the Bank of North Dakota's letter of conditions, dated September 16, 2011, required the State Water Commission's approval of Phase II, Tier I.

On December 9, 2011, the State Water Commission approved the Western Area Water Supply project, Phase II - Tier I projects, up to a total plan approval of $100,000.000.

On March 7, 2012, based on 2011 House Bill 1206, Governor Dalrymple directed the secretary to the Commission to draft policy of the State Water Commission focusing on the legislative intent, and issues including liability, indemnification, and public availability of water. Governor Dalrymple also stressed the importance of communication among the groups to resolve issues as the projects proceed. The State Water Commission's cost share policy committee met on March 29, 2012; and, on June 13, 2012, the State Water Commission approved the Commission's water supply cost share policy.

On July 30, 2012, the State Water Commission approved an additional $10,000,000 from the funds appropriated to the State Water Commission in the 2011-2013 biennium (S.B. 2020) for project construction, for a total state funds allocation of $110,000,000, authorized in 2011 House Bill 1206. The Commission also approved the Williams Rural Water West Expansion project, for a total overall Western Area Water Supply project plan approval of $119,000,000.

The 63rd Legislative Assembly allocated $119,000,000 to WAWS in funding from various sources to continue to build water supply, treatment, transmission, and distribution infrastructure to provide the water supplies for northwestern North Dakota (H.B. 1020 provided $40,000,000 in loan funds from the Bank of North Dakota with an emergency clause, and $79,000,000 through the State Water Commission from the Resources Trust Fund). In addition to the Legislature providing this funding, S.B. 2233 requires WAWS to submit its overall project plan to the State Water Commission for approval.

Jaret Wirtz, executive director, WAWS Authority, presented and discussed the overall project plan, Phase III, for the 2013-2015 biennium outlined in ***APPENDIX "J"*** and requested the State Water Commission's consideration for approval of the overall project plan.

Secretary Sando explained that discussions are continuing relating to bills that were passed by the 2013 Legislative Assembly that will require new State Water Commission cost share policies, modifications to existing cost share policies, and development of a project prioritization process for budgeting purposes. It was the recommendation of Secretary Sando that the State Water Commission approve the overall plan for the following projects and estimated costs, which are a priority for the Authority to move forward with, using funding through the Bank of North Dakota loan of $40,000,000: 1) Williston water treatment plant expansion, Phase IV - $25,400,000; 2) west Williston by-pass transmission line - $8,000,000; 3) Williams Rural Water - west expansion project, Part 2 - $4,500,000; 4) east McKenzie County Water Resource District transmission improvements - $5,000,000; and 5) R & T well field and water treatment plant improvements - $1,400,000. Approval of these additional projects will add $44,300,000 to the approved projects of $119,000,000 for a total of $163,300,000. This exceeds the $40,000,000 from the Bank of North Dakota and the $110,000,000 approved in the 2011-2013 biennium, which will need to be addressed in the review of additional funding through the State Water Commission.

It was moved by Commissioner Hanson and seconded by Commissioner Foley that the State Water Commission approve the following projects for the Western Area Water Supply Project, Phase III, using funding through the Bank of North Dakota loan of $40,000,000: 1) Williston water treatment plant expansion, Phase IV;

2) west Williston by-pass transmission line; 3) Williams Rural Water - west expansion project, Part 2; 4) east McKenzie County Water Resource District transmission improvements; and 5) R & T well field and water treatment plant improvements. This action is contingent upon the availability of funds.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

WESTERN AREA WATER SUPPLY (WAWS) PROJECT - DELEGATION OF APPROVAL FOR INDUSTRIAL SALES CONNECTIONS (SWC Project No. 1973)

2013 Senate Bill 2233 relates to the Western Area Water Supply project and requires State Water Commission approval of water depots and laterals for industrial sales, effective July 1, 2013. Section 19.3. of the legislation states "the state water commission shall approve the planning, location, and water supply contracts of any Authority depots, laterals, taps, turnouts, and risers for industrial sales for oil and gas exploration and production after the effective date of this Act."

Because some lateral connections are short-term in nature, a process is required that would allow review in a timely fashion for the siting of new laterals, taps, turnouts, and risers for industrial sales and water supply contracts. Approvals for the construction of a new depot would be brought before the Commission as part of an overall plan approval.

In order to satisfy the legislative intent, it was the recommendation of Secretary Sando that the State Water Commission authorize the secretary to the Commission to determine approval of the planning, location, and water supply contracts of any Authority depots, laterals, taps, turnouts, and risers for industrial sales for oil and gas exploration and production after the effective date of July 1, 2013, based on criteria relating to review, assurance of continued supply for domestic use, system capacity at the location, the cost of granting the connection so as not to impact the finances of the Authority, and other factors that the secretary may deem relevant.

It was moved by Commissioner Hanson and seconded by Commissioner Vosper that the State Water Commission authorize the secretary to the Commission to determine approval of the planning, location, and water supply contracts of any Authority depots, laterals, taps, turnouts, and risers for industrial sales for oil and gas exploration and production based on the recommended criteria. The effective date of this action is July 1, 2013.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

STATE ENGINEER'S SALARY - APPROVAL OF ADJUSTMENTS, EFFECTIVE JULY 1, 2013

The Office of the State Auditor conducted its 2009-2011 biennium State Water Commission audit with a recommendation for compliance with the North Dakota Century Code 61-03-01 in that the State Water Commission is setting the State Engineer's salary.

On July 20, 2012, the State Water Commission passed a motion that the State Engineer's compensation be increased based on the State Legislature's salary adjustments for state employees of three percent for each year of the 2011-2013 biennium, effective July 1, 2012; and that the State Water Commission solicit the assistance of the Office of Management and Budget in the preparation of an analysis of comparable salaries of state agency directors for the Commission's consideration. On September 17, 2012, the State Water Commission approved an increased annual base salary for the State Engineer, effective July 1, 2012.

Because the agency's salary adjustments are included in the Governor's budget, which are acted on by the State Legislature, the State Water Commission addressed options of ensuring compliance with North Dakota Century Code 61-03-01. It was recommended that the State Engineer receive annual salary adjustments equivalent to the state employees salary adjustments authorized by the State Legislature, effective July 1, 2013, and shall remain in effect until modified by the State Water Commission.

It was moved by Commissioner Foley and seconded by Commissioner Hanson that the State Water Commission authorize the State Engineer to receive annual salary adjustments equivalent to the state employees salary adjustments authorized by the State Legislature. This action is effective July 1, 2013, and shall remain in effect until modified by the State Water Commission.

Commissioners Berg, Foley, Tom Bodine representing Commissioner Goehring, Hanson, Olin, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

MOUSE RIVER ENHANCED FLOOD PROTECTION PROJECT STATUS REPORT (SWC Project No. 1974-01)

The Mouse River Enhanced Flood Protection project status report was provided, which is detailed in the staff memorandum dated June 10, 2013, and attached hereto as ***APPENDIX "K"***.

2013 STATEWIDE FLOOD REPORT (SWC Project No. 1431-13)

The 2013 statewide flood report was provided and summarized in the staff memorandum, dated June 7, 2013, and attached hereto as ***APPENDIX "L"***.

GARRISON DIVERSION CONSERVANCY DISTRICT (SWC Project No. 237)

Dave Koland, Garrison Diversion Conservancy District general manager, provided a status report relating to the efforts of the Red River Valley Water Supply project, and the District's ongoing activities.

NEXT STATE WATER COMMISSION POLICY COMMITTEE, AND STATE WATER COMMISSION MEETINGS

The next meetings of the State Water Commission's policy committee and the State Water Commission are scheduled July 23, 2013, convening at 9:00 a.m. and 1:30 p.m., respectively, in the Commission's lower level conference room in Bismarck.

During other business, Gordon Johnson, North Prairie Rural Water District, presented information on the District's 2013-2015 biennium project funding, and provided comments relating to legislation that will require new State Water Commission cost share policies, modifications to existing cost share policies, and project prioritization.

There being no additional business to come before the State Water Commission, Governor Dalrymple adjourned the meeting at 5:55 p.m.

Jack Dalrymple, Governor
Chairman, State Water Commission

Todd Sando, P.E.
North Dakota State Engineer,
and Chief Engineer-Secretary
to the State Water Commission

STATE WATER COMMISSION
ALLOCATED PROGRAM EXPENDITURES
FOR THE PERIOD ENDED APRIL 30, 2013
BIENNIUM COMPLETE: 92%

PROGRAM	SALARIES/ BENEFITS	OPERATING EXPENSES	GRANTS & CONTRACTS	7-Jun-13 PROGRAM TOTALS
ADMINISTRATION				
Allocated	1,926,299	1,303,575		3,229,874
Expended	1,791,594	943,779		2,735,373
Percent	93%	72%		85%
			Funding Source:	
			General Fund:	2,603,205
			Federal Fund:	132,169
			Special Fund:	0
PLANNING AND EDUCATION				
Allocated	1,285,138	212,198	99,000	1,596,336
Expended	953,522	125,106	80,961	1,159,589
Percent	74%	59%	82%	73%
			Funding Source:	
			General Fund:	930,039
			Federal Fund:	134,538
			Special Fund:	95,012
WATER APPROPRIATION				
Allocated	3,949,169	446,511	1,130,000	5,525,680
Expended	3,494,742	439,684	789,787	4,724,213
Percent	88%	98%	70%	85%
			Funding Source:	
			General Fund:	4,018,269
			Federal Fund:	4,188
			Special Fund:	701,756
WATER DEVELOPMENT				
Allocated	5,634,922	9,772,937	265,000	15,672,859
Expended	4,700,863	6,919,901	632,418	12,253,182
Percent	83%	71%	239%	78%
			Funding Source:	
			General Fund:	4,288,152
			Federal Fund:	1,692,831
			Special Fund:	6,272,199
STATEWIDE WATER PROJECTS				
Allocated			407,231,750	407,231,750
Expended			215,197,975	215,197,975
Percent			53%	53%
			Funding Source:	
			General Fund:	0
			Federal Fund:	260,152
			Special Fund:	214,937,823
ATMOSPHERIC RESOURCE				
Allocated	901,205	712,307	4,694,692	6,308,204
Expended	777,030	298,381	1,306,061	2,381,473
Percent	86%	42%	28%	38%
			Funding Source:	
			General Fund:	922,610
			Federal Fund:	0
			Special Fund:	1,458,862
SOUTHWEST PIPELINE				
Allocated	437,264	6,201,500	38,744,857	45,383,621
Expended	470,746	3,130,321	28,179,721	31,780,787
Percent	108%	50%	73%	70%
			Funding Source:	
			General Fund:	0
			Federal Fund:	17,368,688
			Special Fund:	14,412,099
NORTHWEST AREA WATER SUPPLY				
Allocated	604,626	5,235,500	49,976,971	55,817,097
Expended	447,169	4,116,376	17,928,926	22,492,470
Percent	74%	79%	36%	40%
			Funding Source:	
			General Fund:	0
			Federal Fund:	2,208,640
			Special Fund:	20,283,831
PROGRAM TOTALS				
Allocated	14,738,623	23,884,528	502,142,270	540,765,421
Expended	12,635,666	15,973,548	264,115,849	292,725,062
Percent	86%	67%	53%	54%

FUNDING SOURCE:	ALLOCATION	EXPENDITURES	REVENUE	
GENERAL FUND	14,995,199	12,762,275	GENERAL FUND:	1,455,631
FEDERAL FUND	53,984,383	21,801,205	FEDERAL FUND:	23,245,393
SPECIAL FUND	471,785,838	258,161,582	SPECIAL FUND:	278,809,187
TOTAL	540,765,420	292,725,062	TOTAL:	303,510,211

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 BIENNIUM

Apr-13

	BUDGET	SWC/SE APPROVED	OBLIGATIONS EXPENDITURES	REMAINING UNOBLIGATED	REMAINING UNPAID
CITY FLOOD CONTROL					
FARGO/RIDGEWOOD	50,941	50,941	0	0	50,941
FARGO	66,473,088	66,473,088	27,203,218	0	39,269,870
GRAFTON	7,175,000	7,175,000	0	0	7,175,000
MINOT	4,521,750	4,521,750	4,264,516	0	257,234
WAHPETON	1,013,000	1,013,000	0	0	1,013,000
FLOODWAY PROPERTY ACQUISITIONS					
MINOT	17,750,000	17,750,000	8,473,929	0	9,276,071
BURLINGTON	1,071,345	1,071,345	1,071,345	0	0
WARD COUNTY	18,457,710	18,457,710	8,759,541	0	9,698,169
VALLEY CITY	3,000,000	3,000,000	1,978,062	0	1,021,938
BURLEIGH COUNTY	1,425,000	1,425,000	0	0	1,425,000
SAWYER	184,260	184,260	0	0	184,260
LISBON	888,750	888,750	0	0	888,750
UNOBLIGATED SB 2371	2,307,535			2,307,535	0
				0	
FLOOD CONTROL					
BURLEIGH COUNTY	1,282,400	1,282,400	0	0	1,282,400
RICE LAKE RECREATION DISTRICT	2,842,200	2,842,200	0	0	2,842,200
RENWICK DAM	1,246,571	1,246,571	154,973	0	1,091,598
WATER SUPPLY					
REGIONAL & LOCAL WATER SYSTEMS	35,867,911	35,867,910	15,047,801	0	20,820,110
VALLEY CITY WATER TREATMENT PLANT	15,386,800	15,386,800	14,788,582	0	598,218
FARGO REVERSE OSMOSIS PILOT STUDY	15,000,000	15,000,000	562,268	0	14,437,732
RED RIVER WATER SUPPLY	62,224	62,224	0	0	62,224
WESTERN AREA WATER SUPPLY	25,000,000	25,000,000	25,000,000	0	0
SOUTHWEST PIPELINE PROJECT	45,019,199	45,019,199	14,412,099	0	30,607,100
NORTHWEST AREA WATER SUPPLY	19,432,008	19,432,008	11,976,196	0	7,455,812
IRRIGATION DEVELOPMENT	2,828,239	1,097,422	992,222	1,730,817	105,200
GENERAL WATER MANAGEMENT					
OBLIGATED	29,539,160	29,539,160	10,079,253	0	19,459,907
UNOBLIGATED	2,304,200			2,304,200	0
DEVILS LAKE					
BASIN DEVELOPMENT	92,340	92,340	26,984	0	65,356
DIKE	15,534,603	15,534,603	15,534,603	0	0
OUTLET	2,420,212	2,420,212	1,547,809	0	872,403
OUTLET OPERATIONS	11,424,811	11,424,811	6,123,332	0	5,301,479
DL TOLNA COULEE DIVIDE	4,366,720	4,366,720	4,261,738	0	104,982
DL EAST END OUTLET	66,639,106	63,059,773	58,982,785	3,579,333	4,076,988
DL GRAVITY OUTFLOW CHANNEL	13,720,185	13,720,185	33,346		13,686,839
DL JOHNSON FARMS STORAGE	125,000	125,000	0	0	125,000
WEATHER MODIFICATIONS	894,314	894,314	651,376	0	242,938
TOTALS	435,346,582	425,424,695	231,925,978	9,921,887	193,498,718

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium

PROGRAM OBLIGATION

Approvec By	SWC No	Dept	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	Apr-13 Balance
				City Flood Control:				
SWC	1927	5000	City of Fargo	Fargo/Ridgewood Flood Control Project	6/22/2005	50,941	0	50,941
SB 2020	1928	5000	City of Fargo	Fargo Flood Control Project	6/23/2009	66,473,088	27,203,218	39,269,870
SWC	1771	5000	City of Grafton	Grafton Flood Control Project	3/11/2010	7,175,000	0	7,175,000
SB 2371	1974-01	5000	Souris River Joint WRE	Mouse River Enhanced Flood Control Project Phase I	9/21/2011	2,500,000	2,499,988	12
SB 2371	1974-01	5000	Souris River Joint WRE	Mouse River Enhanced Flood Control Project Phase II	6/13/2012	1,828,000	1,627,792	200,208
SB 2371	1974-06	5000	Souris River Joint WRE	Mouse River Enhanced Flood - pd to SRJWRB	12/9/2011	50,000	33,743	16,257
SB 2371	1974-07	5000	Souris River Joint WRE	Mouse River - EFP - PER Assistance SA-3	6/13/2012	98,750	97,807	943
SB 2371	1974-08	5000	Souris River Joint WRE	Mouse River Reconnaissance Study to Meet Fed Guic	2/15/2013	45,000	5,187	39,813
SWC	518	5000	City of Wahpeton	Wahpeton Flood Control	7/1/2011	1,013,000	0	1,013,000
				Subtotal City Flood Control		***79,233,779***	***31,467,734***	***47,766,045***
				Floodway Property Acquisitions:				
SB 2371	1993-05	5000	City of Minot	Minot Phase 1 - Floodway Acquisitions	1/27/2012	17,750,000	8,473,929	9,276,071
SB 2371	1987-05	5000	City of Burlington	Burlington Phase 1 - Floodway Acquisitions	1/27/2012	1,071,345	1,071,345	0
SB 2371	1523-05	5000	Ward County	Ward County Phase 1, 2 & 3 - Floodway Acquisitions	1/27/2012	18,285,205	8,759,541	9,525,664
SB 2371	1523-02	5000	Ward County	Chaparelle Highwater Berm Project	2/27/2013	172,505	0	172,505
SB 2371	1504-05	5000	ValleyCity	Valley City Phase 1 - Floodway Acquisitions	12/9/2011	3,000,000	1,978,062	1,021,938
SB 2371	1992-05	5000	Burleigh Co. WRD	Burleigh Co. Phase 1 - Floodway Acquisitions	3/7/2012	1,425,000	0	1,425,000
SB 2371	2000-05	5000	City of Sawyer	Sawyer Phase 1 - Floodway Acquisitions	6/13/2012	184,260	0	184,260
	1991-05	5000	City of Lisbon	Lisbon - Floodway Acquisition	3/7/2012	888,750	0	888,750
				Subtotal Floodway Property Acquisitions		***42,777,065***	***20,282,877***	***22,494,188***
				Flood Control:				
SB 2371	1992-01	5000	Burleigh Co. WRD	Burleigh County's Tavis Road Storm Water Pump Stat	6/13/2012	1,282,400	0	1,282,400
	1997	5000	Rice Lake Recreation D	Rice Lake Flood Control	6/13/2012	2,842,200	0	2,842,200
SWC	849	5000	Pembina Co. WRD	Renwick Dam Rehabilitation	5/17/2010	1,246,571	154,973	1,091,598
				Subtotal Flood Control		***5,371,171***	***154,973***	***5,216,198***
SWC				***Water Supply Advances:***				
	2373-09	5000	Garrison Diversion	South Central RWD (Phase II)	6/23/2008	160,069	160,069	0
	2373-31	5000	Garrison Diversion	North Central Rural Water Consortium (Anamoose/Ber	6/23/2008	3,295,000	3,295,000	0
	2373-24	5000	Garrison Diversion	Traill Regional Rural Water (Phase III)	8/18/2009	2,355,670	1,355,670	1,000,000
				Water Supply Grants:				
	2373-17	5000	City of Parshall	City of Parshall	6/23/2008	490,452	0	490,452
	2373-18	5000	R & T Water Supply	Ray & Tioga Water Supply Association	12/17/2008	1,868,153	1,868,153	0
	2373-25	5000	Garrison Diversion	McKenzie Phase II	6/23/2009	868,327	868,327	0
	2373-28	5000	Garrison Diversion	McKenzie Phase IV	3/11/2010	2,352,244	2,352,244	0
	2373-29	5000	City of Wildrose	City of Wilrose - Crosby Water Supply	7/28/2010	97,218	0	97,218
	2373-32	5000	North Central Rural Wa	NCRW (Berthold-Carpio)	6/21/2011	3,150,000	204,469	2,945,531
	2373-33	5000	Stutsman Rural WRD	Stutsman Rural Water System	6/21/2011	6,800,000	3,994,152	2,805,848
	2373-35	5000	Grand Forks - Traill WF	Grand Forks - Traill County WRD	6/13/2012	3,700,000	648,511	3,051,489
	2373-36	5000	Stutsman Rural WRD	Stutsman Rural Water System Phase II, III	2/27/2013	10,000,000	0	10,000,000
	2373-37	5000	North Central Rural Wa	NCRW (Plaza)	2/27/2013	250,000	0	250,000
	1782	5000	McLean-Sheridan WRE	Blue & Brush Lakes Expansion Project	2/27/2013	100,000	0	100,000
				Subtotal Water Supply		***35,487,133***	***14,746,595***	***20,740,539***
				HB No. 1305 Permanent Oil Trust Fund				
	2373-21	5000	BDW Water Systems	Burke, Divide, Williams Water District	6/23/2009	189,415	109,844	79,571
	2373-22	5000	R & T Water Supply	Ray & Tioga Water Supply Association	6/23/2009	191,362	191,362	0
				Subtotal Permanent Oil Trust Fund		***380,777***	***301,206***	***79,571***
	2373-26	5000	Valley City	Valley City Water Treatment Plant	8/18/2009	15,386,800	14,788,582	598,218
	1984	5000	City of Fargo	Fargo Water Treatment Plant Reverse Osmosis Pilot S	6/13/2012	15,000,000	562,268	14,437,732
	1912	5000	Garrison Diversion	Red River Valley Water Supply Project	3/17/2008	62,224	0	62,224
HB 1206	1973	5000	Bank of ND	Western Area Water Supply	7/1/2011	25,000,000	25,000,000	0
	1736-05	8000	Mutiple	Southwest Pipeline Project	7/1/2011	45,019,199	14,412,099	30,607,100
	2374	9000	Mutiple	Northwest Area Water Supply	7/1/2011	19,432,008	11,976,196	7,455,812
				Subtotal Water Supply		***119,900,231***	***66,739,146***	***53,161,085***
				Irrigation Development:				
SWC	1389	5000	Bank of ND	BND AgPace Program	10/23/2001	98,907	36,289	62,618
SWC	AOC/IRA	5000	ND Irrigation Associatic	ND Irrigation Association	8/16/2011	100,000	75,000	25,000
SWC	1968	5000	Garrison Diversion	2009-11 McClusky Canal Mile Marker 7.5 Irrigation Prc	6/1/2010	898,515	880,933	17,582
				Subtotal Irrigation Development		***1,097,422***	***992,222***	***105,200***
				General Water Management				
				Hydrologic Investigations:		***900,000***		
SWC	1400/12	3000	Houston Engineering	Houston Engineering Water Permit Application Review	10/10/2010	8,500	8,500	0
SWC	1400/13	3000	Houston Engineering	Houston Engineering Water Permit Application Review	11/7/2011	17,000	15,025	1,975
SWC	1400	3000	Gordon Sturgeon	Consultant Services	3/23/2013	9,600	0	9,600
	859	3000	Lori Bjorgen	Lori Bjorgen - Alternat Well Monitor	8/28/2012	84	0	84
	862/859	3000	Arletta Herman	Arletta Herman- Well Monitor	8/28/2012	3,556	3,556	0
	967	3000	Holly Messmer - McDar	Holly Messmer - McDaniel	4/19/2012	0	0	0
	1690	3000	Holly Messmer - McDar	Holly Messmer - McDaniel	4/19/2012	4,368	4,368	0
	1703	3000	Thor Brown	Thor Brown- Well Monitor	3/27/2012	5,379	5,379	0
	1707	3000	Thor Brown	Thor Brown- Well Monitor	4/26/2011	2,954	2,954	0
	1761	3000	Gloria Roth	Gloria Roth - Well Monitor	4/19/2013	1,152	1,151	0
	1761	3000	Fran Dobits	Fran Dobits - Well Monitor	6/1/2011	1,104	1,104	0
	1395A	3000	U. S. Geological Surve	US Geological Survey, US Dept. Of Interior Investigati	10/18/2011	432,303	432,303	0
	1395A	3000	U. S. Geological Surve	US Geological Survey, US Dept. Of Interior Investigati	9/4/2012	334,166	222,778	111,389
	1395D	3000	U. S. Geological Surve	Eaton Irrigation Project on the Souris River	7/13/2012	15,300	0	15,300
	1395	3000	U. S. Geological Surve	US Geological Survey, US Dept. Of Interior Upgrade c	4/14/2011	2,670	2,670	0
				Hydrologic Investigations Obligations Subtotal		***838,135***	***699,787***	***138,348***
				Remaining Hydrologic Investigations Authority		***61,865***		
				Hydrologic Investigations Authority Less Payments				

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
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PROGRAM OBLIGATION

Approved By	SWC No	Dept	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
				General Projects Obligated		***25,331,807***	***6,072,113***	***19,259,693***
				General Projects Completed		***3,307,353***	***3,307,353***	***0***
				Subtotal General Water Management		***29,539,160***	***10,079,253***	***19,459,907***
				Devils Lake Basin Development:				
SWC	416-01	5000	DLJWRB	Devils Lake Basin Joint Water Resource Manager	6/15/2011	60,000	0	60,000
SWC	416-02	5000	City of Devils Lake	City of Devils Lake Levee System Extension & Raise	7/1/2011	15,534,603	15,534,603	0
SWC	416-05	2000	Joe Belford	Devils Lake Outlet Awareness Manager	6/16/2011	32,340	26,984	5,356
SWC	416-07	5000	Multiple	Devils Lake Outlet	7/1/2011	2,420,212	1,547,809	872,403
SWC	416-10	4700	Operations	Devils Lake Outlet Operations	7/1/2011	11,424,811	6,123,332	5,301,479
SWC	416-13	5000	Multiple	DL Tolna Coulee Divide	7/1/2011	4,366,720	4,261,738	104,982
SWC	416-15	5000	Multiple	DL East End Outlet	7/1/2011	63,059,773	58,982,785	4,076,988
SWC	416-17	5000	Multiple	DL Emergency Gravity Outflow Channel	9/21/2011	13,720,185	33,346	13,686,839
SWC	416-18	5000	ND Game & Fish	DL Johnson Farms Water Storage Site	6/10/2011	125,000	0	125,000
				Devils Lake Subtotal		***110,743,644***	***86,510,596***	***24,233,048***
SWC		7600		Weather Modification	7/1/2011	894,314	651,376	242,938
				TOTAL		***425,424,695***	***231,925,978***	***193,498,718***

STATE WATER COMMISSION
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Resources Trust Fund

GENERAL PROJECT OBLIGATIONS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	Apr-13 Balance
HB 1020	1932	5000	2005-07	Nelson Co. WRD	Michigan Spillway Rural Flood Assessment Drain	8/30/2005	500,000	0	500,000
HB 2305	1963	5000	2009-11	Emmons County WRD	Beaver Bay Embankment Feasibilitly Study	8/10/2009	258,406	126,020	132,386
SB 2020	1131	5000	2009-11	Nelson Co. WRD	Flood Related Water Projects	6/1/2011	250,000	194,545	55,455
SB 2020	1986	5000	2011-13	USDA-APHIS ND Wildlife Ser	USDA-APHIS North Dakota Wildlife Services - animal	6/1/2011	250,000	183,324	66,676
SE	867-01	5000	2011-13	NDSU	Dr. Xinhua Jia of the Dept of Agriculture Biosystems E	5/2/2013	2,600	0	2,600
SE	1461	5000	2011-13	Pembina Co. WRD	O'Hara Bridge Bank Stabilization	4/26/2013	24,633	0	24,633
SE	1814	5000	2011-13	Richland Co. WRD	Wild Rice River Snagging & Clearing	2/13/2013	47,500	0	47,500
SE	1991	5000	2011-13	City of Lisbon	Sheyenne River Snagging & Clearing Project	2/12/2013	5,000	0	5,000
SE	1992	5000	2011-13	Burleigh Co. WRD	Burleigh Co Flood Control Alternatives Assessment	1/30/2013	25,175	0	25,175
SE	1290	5000	2011-13	McLean Co WRD	City of Underwood Flood Mitigation Study	12/20/2012	27,250	0	27,250
SE	1667	5000	2011-13	Traill Co. WRD	Goose River Snagging & Clearing	11/2/2012	46,750	0	46,750
SE	1934	5000	2011-13	Traill Co. WRD	Elm River Snaggin & Clearing Project	11/2/2012	44,000	0	44,000
SE	2001	5000	2011-13	Traill Co. WRD	Elm River Diversion Project	10/31/2012	17,300	0	17,300
SE	1993	5000	2011-13	Houston Engineering	Minot 100-yr Floodplain Map and Profiles	10/9/2012	10,000	0	10,000
SE	AOC/RRBC	5000	2011-13	Red River Basin Commission	Stream Gaging & Precipitation Network Study in the R	9/14/2012	20,000	0	20,000
SE	1681	5000	2011-13	U.S. Geological Survey	Repair & stabilization of the Missouri River bank adjac	9/6/2012	28,000	0	28,000
SE	1175-1933	5000	2011-13	Ward Co. WRD	DFIRM Project - Mouse River Hydrology	8/10/2012	42,034	0	42,034
SE	2003	5000	2011-13	Southeast Cass WRD	Re-Certification of the West Fargo Diversion Levee Sy	7/26/2012	45,879	0	45,879
SE	1303	5000	2011-13	Sargent Co WRD	Shortfoot Creek Preliminary Soils Analysis & Hydraulic	6/29/2012	47,500	0	47,500
SE	2002	5000	2011-13	Grand Forks Co. WRD	Trutle River Dam #4 2012 EAP	6/29/2012	10,000	0	10,000
SE	2003	5000	2011-13	Southeast Cass WRD	Re-Certification of the Horace to West Fargo Diversion	6/29/2012	42,835	0	42,835
SE	2005	5000	2011-13	Grand Forks Co. WRD	Turtle River Dam #8 2012 EAP	6/29/2012	10,000	0	10,000
SE	2008	5000	2011-13	City of Mapleton	Mapleton Flood Control Levee Project	6/29/2012	24,410	0	24,410
SE	1998	5000	2011-13	Grand Forks Co. WRD	Upper Turtle River Dam #1 2012 EAP	6/28/2012	10,000	0	10,000
SE	1577	5000	2011-13	Burleigh Co. WRD	Fox Island 2012 Flood Hazard Mitigation Evaluation St	5/22/2012	23,900	0	23,900
SE	1814	5000	2011-13	Richland Co. WRD	Sheyenne River Snagging & Clearing Project	5/4/2012	47,500	0	47,500
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co. WRD/ Bourbanis Dam 2012 EAP	2/6/2012	10,000	0	10,000
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co. WRD/ Goschke Dam 2012 EAP	2/6/2012	10,000	0	10,000
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co WRD/ Weiler Dam 2012 EAP	2/6/2012	10,000	0	10,000
SE	1296	5000	2011-13	Pembina Co. WRD	PembinaCo. WRD/Willow Creek Dam 2012 EAP	1/27/2012	10,000	0	10,000
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/ Skyrud Dam 2011 EAP	12/15/2011	10,000	0	10,000
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/ Union Dam 2011 EAP	12/15/2011	10,000	0	10,000
SE	391	5000	2011-13	Sargent Co WRD	Sargent Co WRD, Silver Lake Dam Emergency Repai	10/12/2011	2,800	0	2,800
SE	1303	5000	2011-13	Sargent Co WRD	Shortfoot Creek Watershed Feasibility Study	9/15/2011	8,390	890	7,500
SE	1301	5000	2011-13	City of Wahpeton	City of Wahpeton Water Reuse Feasibility Study/Richl	9/8/2011	2,500	0	2,500
SE	PS/WRD/MR	5000	2011-13	Missouri River Joint Board	Missouri River Joint Water Board, (MRJWB) Start up	8/2/2011	20,000	4,437	15,563
SE	1965	5000	2011-13	Dept. of Emergency Services	ND Silver Jackets Team Charter & Action Plan	7/1/2011	8,744	8,744	0
SE	1607	5000	2011-13	Ward Co. WRD	Flood Inundation Mapping of Areas Along Souris & De	6/15/2011	13,011	0	13,011
SE	PS/WRD/USF	5000	2011-13	Upper Sheyenne River Joint V	Upper Sheyenne River WRB Administration (USRJWF	6/15/2011	6,000	0	6,000
SE	1301	5000	2009-11	City of Lidgerwood	City of Lidgerwood Engineering & Feasibility Study for	2/4/2011	15,850	0	15,850
SE	1967	5000	2009-11	Grand Forks Co. WRD	Grand Forks County Legal Drain No. 55 2010 Contruc	11/30/2010	9,652	0	9,652
SE	1431	5000	2009-11	NDDOT	NDDOT Aerial Photography - MUTIPLE	11/19/2010	39,279	39,279	0
SE	1291	5000	2009-11	Mercer Co. WRD	Mercer County WRD Knife River Snagging & Clearing	11/1/2010	20,000	0	20,000
SE	AOC/RRC	5000	2009-11	Red River Basin Commission	Red River Basin "A River Runs North"	6/30/2010	5,000	0	5,000
SE	269	5000	2009-11	Grand Forks Co. WRD	Fordville Dam Emergency Action Plan/GF CO.	3/3/2010	9,600	0	9,600
SE	PBS	5000	2009-11	Lake Agassiz RC & D	PBS Documentary on Soil Salinity/Lake Agassiz RC &	1/29/2010	1,000	0	1,000
SWC	346	5000	2011-13	Williams County WRD	Epping Dam Evaluation Project	2/27/2013	66,200	0	66,200
SWC	240	5000	2011-13	Eddy County WRD	Warwick Dam Repair Project	12/7/2012	110,150	0	110,150
SWC	568	5000	2011-13	Southeast Cass WRD	Sheyenne River Snagging & Clearing Project	12/7/2012	288,750	0	288,750
SWC	1303	5000	2011-13	Sargent Co WRD	Frenier Dam Improvement Project	12/7/2012	158,373	0	158,373
SWC	1523	5000	2011-13	Ward Co. WRD	Souris River Minot to Burlington Snagging & Clearing	12/7/2012	109,000	0	109,000
SWC	1705	5000	2011-13	Red River Joint Water Resour	Red River Basin Distributed Plan Study	12/7/2012	560,000	0	560,000
SWC	1842	5000	2011-13	Southeast Cass WRD	Wild Rice River Snagging & Clearing	12/7/2012	110,000	0	110,000
SWC	2019	5000	2011-13	Valley City	Sheyenee River Snagging & Clearing Project	12/7/2012	75,000	0	75,000
SWC	2020	5000	2011-13	Minot Park District	Souris Valley Golf Course Bank Stabilization	12/7/2012	335,937	0	335,937
SWC	847	5000	2009-11	Maple River WRD	Swan-Buffalo Detention Dam No. 12 Flood Control Da	11/1/2012	114,783	0	114,783
SWC	1069	5000	2011-13	North Cass - Rush River JWR	Drain #13 Channel Improvements	9/27/2012	217,000	0	217,000
SWC	1401	5000	2009-11	Pembina Co. WRD	International Boundary Roadway Dike Pembina	9/27/2012	427,431	76,505	350,926
SWC	228	5000	2011-13	U.S. Geological Survey	Additional USGS gage Missouri River- ANNUAL	9/17/2012	8,500	0	8,500
SWC	1992	5000	2011-13	Burleigh Co. WRD	Bismarck Flood Control Channel Project	9/17/2012	187,500	0	187,500
SWC	1996	5000	2011-13	Traill Co. WRD	Drain #62 - Wold Drain Project	9/17/2012	112,400	0	112,400
SWC	2003-02	5000	2011-13	Southeast Cass WRD	Re-Certification of the West Fargo Diversion Levee Sy	9/17/2012	91,400	0	91,400
SWC	2009-02	5000	2011-13	Southeast Cass WRD	Recertification of the Horace to West Fargo Diversion	9/17/2012	72,600	0	72,600
SWC	2012	5000	2011-13	Southeast Cass WRD	Lower Sheyenne River Watershed Retention Plan	9/17/2012	80,000	0	80,000
SWC	2013	5000	2011-13	Richland-Cass Joint WRD	Wild Rice River Watershed Retention Plan	9/17/2012	90,000	0	90,000
SWC	2014	5000	2011-13	Traill Co. WRD	Elm River Watershed Retention Plan	9/17/2012	75,000	0	75,000
SWC	2021	5000	2011-13	KPMG LLP	Performance Audit - Appropriations Division	9/17/2012	149,700	130,991	18,709
SWC	227	5000	2011-13	Eaton Flood Irrigation District	District's Mouse River Riverbank Stabilization Project	6/13/2012	120,615	0	120,615
SWC	829	5000	2011-13	Rush River WRD	Rush River Watershed Retention Plan	6/13/2012	67,500	0	67,500
SWC	1063	5000	2011-13	Rush River WRD	Amenia Township Improvement District Drain No. 74 F	6/13/2012	459,350	0	459,350
SWC	1344	5000	2009-11	Southeast Cass WRD	Horace Diversion Channel Site A (Section 7 - Phase V	6/13/2012	1,812,822	0	1,812,822
SWC	1344	5000	2009-11	Southeast Cass WRD	Sheyenne Diversion Exterior Pump Station	6/13/2012	84,090	80,339	3,751
SWC	1344	5000	2011-13	Southeast Cass WRD	Sheyenne Diversion Phase VI - Weir Improvements	6/13/2012	225,050	0	225,050
SWC	1523	5000	2011-13	Ward Co. WRD	Countryside Villas/Whispering Meadows Drainage Imp	6/13/2012	157,211	0	157,211
SWC	1806-02	5000	2011-13	City of Argusville	Re-Certification of the City of Argusville Flood Control	6/13/2012	216,200	0	216,200
SWC	2007	5000	2011-13	Maple River WRD	Pontiac Township Improvement District No. 73 Project	6/13/2012	500,000	0	500,000
SWC	2010	5000	2011-13	Barnes Co WRD	Meadow Lake Outlet	6/13/2012	500,000	0	500,000
SWC	1878-02	5000	2011-13	Maple River WRD	Upper Maple River Dam Environmental Assessment -	6/13/2012	112,500	0	112,500
SWC	1138	5000	2011-13	Pembina Co. WRD	Drain No. 8 Reconstruction Project	3/7/2012	123,725	0	123,725
SWC	1227	5000	2011-13	Traill Co. WRD	Mergenthal Drain No. 5 Reconstruction	3/7/2012	84,670	0	84,670
SWC	1396	5000	2011-13	U.S. Geological Survey	(USGS) Missouri River Geomorphic Assessment	3/7/2012	140,000	30,000	110,000
SWC	1444	5000	2011-13	City of Pembina	US Army Corps of Eng Section 408 Review City Flood	3/7/2012	108,000	108,000	0
SWC	1504	5000	2011-13	Valley City	Valley City Flood Risk Management Feasibilitly Study -	3/7/2012	115,244	0	115,244

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GENERAL PROJECT OBLIGATIONS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
SWC	1989	5000	2011-13	Barnes Co WRD	Hobart Lake Outlet Project	3/7/2012	266,100	0	266,100
SWC	1990	5000	2011-13	Mercer Co. WRD	Lake Shore Estates High Flow Diverstion Project	3/7/2012	43,821	0	43,821
SWC	PS/WRD/JAM	5000	2011-13	James River Joint WRD	James River Engineering Feasibility Study Phase 1	3/7/2012	160,482	44,060	116,422
SWC	1918	5000	2001-13	Maple River WRD	Normanna Township Improvement District No. 71	12/9/2011	287,900	0	287,900
SWC	1983	5000	2001-13	City of Harwood	City of Harwood Engineering Feasibility Study	12/9/2011	62,500	0	62,500
SWC	275	5000	2011-13	City of Fort Ransom	City of Fort Ransom Engineering Feasibilitly Study	10/19/2011	40,000	0	40,000
SWC	829	5000	2011-13	Rush River WRD	Rush River WRD Berlin's Township Improvement Dist	10/19/2011	500,000	336,305	163,695
SWC	1224	5000	2011-13	Traill Co. WRD	Preston Floodway Reconstruction Project	10/19/2011	208,570	0	208,570
SWC	1978	5000	2011-13	Richland & Sargent Joint WRI	Richland & Sargent WRD RS Legal Drain No. 1 Exten	10/19/2011	245,250	0	245,250
SWC	CON/WILL-C/	5000	2011-13	Garrison Diversion	Will/Carlson Project	10/17/2011	70,000	37,329	32,671
SWC	829	5000	2011-13	Rush River WRD	Rush River Dam Prelmiminary Soils & Hydraulic Study	9/21/2011	57,500	0	57,500
SWC	980	5000	2011-13	Maple River WRD	Maple River Watershed Food Water Retention Study/	9/21/2011	82,500	0	82,500
SWC	1101	5000	2011-13	Dickey Co. WRD	Yorktown-Maple Drainage Improvement Dist No. 3	9/21/2011	354,500	0	354,500
SWC	1101	5000	2011-13	Dickey-Sargent Co WRD	Riverdale Township Improvement District #2 - Dickey	9/21/2011	500,000	0	500,000
SWC	1219	5000	2011-13	Sargent Co WRD	District Drain No. 4 Reconstruction Project	9/21/2011	125,500	0	125,500
SWC	1219	5000	2011-13	Sargent Co WRD	City of Forman Floodwater Outlet	9/21/2011	348,070	316,598	31,472
SWC	1252	5000	2011-13	Walsh Co. WRD	Walsh Co. Reconstruction Drain No. 97	9/21/2011	50,551	25,618	24,933
SWC	1705	5000	2011-13	Red River Joint Water Resour	Red River Joint WRD Watershed Feasibility Study - Pl	9/21/2011	60,000	0	60,000
SWC	1859	5000	2011-13	ND Dept of Health	ND Dept of Health Non-Point Source EPA Pollution Pr	9/21/2011	200,000	179,028	20,972
SWC	1975	5000	2011-13	Walsh Co. WRD	Walsh Co. Drain No. 31 Reconstruction Project	9/21/2011	111,116	111,116	0
SWC	1977	5000	2011-13	Dickey-Sargent Co WRD	Jackson Township Improvement Dist. #1	9/21/2011	500,000	0	500,000
SWC	AOC/RRBC	5000	2011-13	Red River Basin Commission	Red River Basin Commission Contractor	8/2/2011	200,000	150,000	50,000
SWC	PS/WRD/MR	5000	2011-13	Missouri River Joint Board	Missouri River Joint Water Board (MRRIC) T. FLECK	8/2/2011	40,000	28,000	12,000
SWC	1878-02	5000	2011-13	Maple River WRD	Upper Maple River Dam Project Development & Prelir	7/19/2011	187,710	0	187,710
SWC	1392	5000	2011-13	U.S. Geological Survey	U. S. Geological Hydrographic Survey of the Missouri	6/15/2011	55,000	53,000	2,000
SWC	1344	5000	2011-13	Southeast Cass WRD	Southeast Cass Sheyenne River Diversion Low-Flow (	6/14/2011	2,802,000	2,085,391	716,609
SWC	1705	5000	2011-13	Red River Joint Water Resour	Red River Basin Flood Control Coordinator Position	6/10/2011	36,000	0	36,000
SWC	AOC/WEF	5000	2011-13	ND Water Education Foundati	North Dakota Water Magazine	6/10/2011	36,000	27,000	9,000
SWC	347	5000	2009-11	City of Velva	City of Velva's Flood Control Levee System Certificatic	3/28/2011	102,000	0	102,000
SWC	1161	5000	2009-11	Pembina Co. WRD	Drain 55 Improvement Reconstruction	3/28/2011	88,868	75,022	13,846
SWC	1245	5000	2009-11	Traill Co. WRD	Traill Co. Drain No. 28 Extenstion & Improvement Proj	3/28/2011	336,007	0	336,007
SWC	1969	5000	2009-11	Walsh Co. WRD	Walsh Co. Construction of Legal Assessment Drain #	3/28/2011	304,141	0	304,141
SWC	1970	5000	2009-11	Walsh Co. WRD	Walsh Co. Construction of Legal Assessment Drain #	3/28/2011	144,807	105,692	39,115
SWC	568	5000	2009-11	Southeast Cass WRD	Sheyenne River Snagging & Clearing Project	12/10/2010	362,250	184,467	177,783
SWC	1842	5000	2009-11	Southeast Cass WRD	Wild Rice River Snagging & Clearing	12/10/2010	100,625	71,680	28,945
SWC	1878-02	5000	2009-11	Maple-Steele Joint WRD	Maple-Steele Upper Maple River Dam PE & PD	12/10/2010	187,710	184,534	3,176
SWC	281	5000	2009-11	Three Affiliated Tribes	Three Affiliated Tribes/Fort Berthold Irrigation Study	10/26/2010	37,500	0	37,500
SWC	646	5000	2009-11	City of Fargo	Christine Dam Recreation Retrofit Project	10/26/2010	184,950	0	184,950
SWC	646	5000	2009-11	City of Fargo	Hickson Dam Recreation Retrofit Project	10/26/2010	44,280	0	44,280
SWC	1667	5000	2009-11	Traill Co. WRD	Goose River Snagging & Clearing	9/1/2010	12,890	0	12,890
SWC	1882-07	5000	2009-11	NDSU	NDSU Development of SEBAL	9/1/2010	15,244	0	15,244
SWC	1966	5000	2009-11	City of Oxbow	City of Oxbow Emergency Flood Fighting Barrier Syste	6/1/2010	188,400	0	188,400
SWC	1244	5000	2009-11	Traill Co. WRD	Traill Co. Drain No. 27 (Moen) Reconstruction & Exter	3/11/2010	678,485	341,994	336,491
SWC	1577	5000	2009-11	Mercer Co. WRD & City of Ha	Hazen Flood Control Levee (1517) & FEMA Accreditat	3/11/2010	449,500	264,516	184,984
SWC	322	5000	2009-11	ND Water Education Foundati	ND Water: A Century of Challenge	2/22/2010	36,800	0	36,800
SWC	1792	5000	2009-11	Southeast Cass WRD	SE Cass Wild Rice River Dam Study Phase II	12/11/2009	130,000	0	130,000
SWC	1069	5000	2009-11	North Cass Co. WRD	Cass County Drain No. 13 Improvement Reconstructic	8/18/2009	122,224	0	122,224
SWC	1088	5000	2009-11	Maple River WRD	Cass County Drain No. 37 Improvement Recon	8/18/2009	92,668	0	92,668
SWC	1232	5000	2009-11	Traill Co. WRD	Traill Co. Drain No. 13 Channel Extension Project	8/18/2009	23,575	0	23,575
SWC	1785	5000	2009-11	Maple River WRD	Maple River Dam EAP	8/18/2009	25,000	0	25,000
SWC	1960	5000	2009-11	Ward Co. WRD	Puppy Dog Coulee Flood Control Diversion Ditch Cons	8/18/2009	796,976	0	796,976
SWC	1882-01	5000	2009-11	Devils Lake Basin Joint WRB	(ESAP) Extended Storeage Acreage Program	8/18/2009	63,554	0	63,554
SWC	1638	5000	2009-11	Mutiple	Red River Basin Non-NRCS Rural/Farmstead Ring Di	6/23/2009	624,262	397,898	226,364
SWC	1921	5000	2007-09	Morton Co. WRD	Square Butte Dam No. 6/(Harmon Lake) Recreation F	3/23/2009	852,251	9,100	843,151
SWC	642-05	5000	2007-09	Mutiple	Sweetbriair Creek Dam Project	3/6/2009	148,956	60,691	88,265
SWC	620	5000	2007-09	Lower Heart WRD	Mandan Flood Control Protective Works (Levee)	9/29/2008	125,396	0	125,396
SWC	928/988/1508	5000	2007-09	Southeast Cass WRD	Southeast Cass WRD Bois, Wild Rice, & Antelope	6/23/2008	60,000	0	60,000
SWC	1932	5000	2005-07	Nelson Co. WRD	Michigan Spillway Rural Flood Assessment	8/30/2005	1,012,219	0	1,012,219
					TOTAL		25,331,807	6,072,113	19,259,694

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium
Resources Trust Fund

COMPLETED GENERAL PROJECTS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
SWC	228	5000	2011-13	Invitation for Bid	South Bismarck Flood Risk Reduction - Heart River	9/17/2012	225,000	225,000	0
SWC	228	5000	2011-13	City of Bismarck	Bismarck City's Storm Water Outfall Construction Proje	6/13/2012	187,500	101,325	86,175
SE	266	5000	2011-13	Nelson Co. WRD	Tolna Dam 2011 EAP, Nelson County WRD	8/23/2011	9,600	8,540	1,060
HB 1020	322	5000	2009-11	Red River Basin Commis	Long-Term Red River Flood Control Solutions Study (A	6/23/2009	7,720	7,720	0
SWC	327	5000	2009-11	Mountrail Co. WRD	White Earth Dam EAP	8/18/2009	25,000	25,000	0
SE	501	5000	2009-11	Dickey Co WRD	Pheasant Lake Dam Emergency Action Plan	4/20/2011	9,600	8,615	985
SE	568	5000	2007-09	Barnes Co. WRD	Barnes Co/Sheyenne River Snagging & Clearing Proje	4/11/2008	5,000	0	5,000
SWC	568	5000	2011-13	Southeast Cass WRD	Sheyenne River Snagging & Clearing Reaches 1-3	9/21/2011	262,770	262,770	0
SE	571	5000	2009-11	Oak Creek WRD	Oak Creek Snagging & Clearing Project	1/28/2011	5,000	5,000	0
SE	642	5000	2009-11	Morton Co. WRD	Sweetbriar Dam Emergency Action Plan	5/17/2010	15,200	0	15,200
SE	839	5000	2009-11	Traill Co. WRD	Elm River Detention Dam No. 3 EAP	12/6/2010	12,160	7,162	4,998
SE	839	5000	2009-11	Traill Co. & Steele Co. W	Elm River Detention Dam No. 1 EAP	1/10/2011	12,160	8,440	3,720
SWC	846	5000	2009-11	Morton Co. WRD	Morton Co.Square Butte Dam No. 5 EAP	12/10/2010	24,000	20,930	3,070
SE	847	5000	2009-11	Maple River WRD	Absaraka Dam Safety Analysis	8/31/2009	5,719	5,179	540
SE	929	5000	2009-11	Walsh Co. WRD	Walsch Co. -Chyle Dam EAP	5/6/2011	10,000	7,546	2,454
SE	929	5000	2009-11	Walsh Co. WRD	Walsch Co. -Soukop Dam EAP	3/2/2011	10,000	7,760	2,240
SE	985	5000	2009-11	Grand Forks Co. WRD	Kolding Dam Emergency Action Plan	5/29/2009	9,600	5,960	3,640
SE	985	5000	2011-13	Grand Forks Co. WRD	Turtle River Snagging & Clearing Project	10/9/2012	13,000	10,500	2,500
SWC	1068	5000	2009-11	Rush River WRD	Cass County Drain No. 12 Improvement Reconstructio	8/18/2009	741,600	0	741,600
SWC	1070	5000	2011-13	Maple River WRD	Cass County Drain No. 14 Improvement Recon	9/21/2011	415,610	(8,009)	423,619
SWC	1093	5000	2007-09	Southeast Cass WRD	Cass Co. Drain No. 45 Extension Project	3/17/2008	124,757	28,511	96,246
SE	1131	5000	2009-11	Traill Co. WRD	Elm River Detention Dam No. 2 Emergency Action Plai	12/6/2010	12,160	8,310	3,850
SWC	1164	5000	2009-11	Pembina Co. WRD	Pembina County Drain No. 64 Outlet Area Improvemer	12/10/2010	41,480	36,592	4,888
SWC	1180	5000	2009-11	Richland Co. WRD	Richland Co. Drain No. 7 Improvement Reconstruction	3/11/2010	71,933	11,389	60,544
SWC	1247	5000	2011-13	Traill Co. WRD	Brokke Drain No. 30, Ervin Township	9/21/2011	31,455	31,455	0
SWC	1267	5000	2011-13	U.S. Army Corps of Eng.	Bottineau County LiDAR Collect/ Mike Hall	10/19/2011	97,000	97,000	0
SE	1289	5000	2009-11	McKenzie Co Weed Cont	McKenzie Co. Weed Control on Sovereign Lands	3/4/2011	11,705	11,705	0
SE	1296	5000	2011-13	Pembina Co. WRD	Pembina Co WRD/ Herzog Dam 2012 EAP	2/6/2012	10,000	8,209	1,791
SWC	1296	5000	2011-13	Pembina Co. WRD	Cook Bridge Riverbank Stabilization	10/21/2011	36,649	22,090	14,559
SWC	1299	5000	2009-11	City of Fort Ransom	City of Fort Ransom Riverbank Stabilization	9/1/2010	60,803	47,205	13,598
SWC	1300	5000	2011-13	US Army Corp of Engine	Renville Co. LiDar Collect for the Mouse River	9/17/2012	100,000	100,000	0
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/Bylin Dam 2011 EAP	12/15/2011	14,800	14,718	82
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD/ Melstad Dam 2011 EAP	12/15/2011	9,088	9,088	0
SE	1312	5000	2011-13	Walsh Co. WRD	Walsh Co. WRD / Matejcek Dam 2011 EAP	12/14/2011	5,360	5,360	0
SE	1313	5000	2011-13	Ward Co. WRD	Ward Co. 2011 LIDAR Review & Data Creation Produc	10/11/2011	16,311	16,311	0
SWC	1313	5000	2009-11	Ward Co. WRD	City of Minot/Ward Co. Aerial Photo & LiDAR	3/11/2010	186,780	143,407	43,373
SWC	1331	5000	2009-11	Richland Co. WRD	Richland Co. Drain No. 14 Improvement Reconstructic	3/11/2010	116,988	16,549	100,439
SWC	1378	5000	2009-11	Barnes Co. WRD	Clausen Springs Dam Emergency Spillway Repair	10/26/2010	790,975	770,746	20,229
SE	1378	5000	2011-13	Barnes Co. WRD	Clausen Springs Dam Emergency Action Plan /Barnes	8/23/2011	20,000	0	20,000
SE	1396	5000	2009-11	Dale Frink	Dale Frink Consultant Services Agreement	10/26/2010	18,600	0	18,600
SE	1403	5000	2011-13	ND Water Resource Res	ND Water Resources Research Institute - Fellowship P	2/1/2012	13,850	13,850	0
SE	1403	5000	2011-13	NDSU	ND-WRRI Fellowship Program	12/14/2012	13,850	13,850	0
SWC	1413	5000	2009-11	Traill Co. WRD	Traill Co/Buffalo Coulee Snagging & Clearing	9/1/2010	26,000	19,659	6,341
SWC	1413	5000	2011-13	Traill Co. WRD	Traill Co/Buffalo Coulee Snagging & Clearing	9/21/2011	25,000	14,960	10,040
SE	1433	5000	2009-11	Walsh Co. WRD	Whitman Dam Emergency Action Plan	4/14/2011	10,000	8,348	1,652
SWC	1438	5000	2009-11	Cavalier Co. WRD	Mulberry Creek Drain Partial Improv Phase III	3/28/2011	226,118	209,875	16,243
SWC	1444	5000	2011-13	City of Pembina	City of Pembina's Flood Control FEMA Levee Certificat	3/20/2012	21,344	21,344	0
SE	1577	5000	2009-11	Burleigh Co. WRD	Burleigh Co - Fox Island 2010 Flood Hazard Mitigation	8/9/2010	11,175	0	11,175
SWC	1603	5000	2011-13	Cass Co. WRD	Rush River Drain No. 69, Armenia Township, Cass Co.	9/21/2011	313,500	0	313,500
SE	1625	5000	2009-11	ND Game & Fish	Sovereign Lands Rules - ND Game & Fish	2/23/2010	6,788	0	6,788
SWC	1667	5000	2011-13	Traill Co. WRD	Traill Co./Goose River Snagging & Clearing	9/21/2011	48,000	48,000	0
SWC	1671	5000	2011-13	Ransom Co. WRD	Dead Cold Creek Dam 2011 Emergency Action Plan	6/14/2011	22,800	22,800	0
SE	1689	5000	2011-13	Bottineau Co. WRD	Brander Drain #7 Improvement Project	4/19/2012	48,720	47,984	736
SE	1732	5000	2011-13	City of Beulah	Beulah Dam Emergency Action Plan	7/26/2012	20,440	0	20,440
SE	1814	5000	2011-13	Richland Co. WRD	Sheyenne River Snagging & Clearing Project/Logjam t	4/19/2012	15,000	13,860	1,140
SE	1842	5000	2009-11	Southeast Cass WRD	SCWRD Wild Rice River Snagging & Clearing	5/28/2009	4,331	0	4,331
SWC	1842	5000	2009-11	Richland Co. WRD	Richland Co. Wild Rice River Snagging & Clearing Proj	3/28/2011	47,500	47,466	34
SE	1842	5000	2009-11	Richland Co. WRD	Richland Co. - Ph 2- Wild Rice River Snagging & Clear	2/1/2011	15,000	11,603	3,397
SWC	1842	5000	2011-13	Southeast Cass WRD	SCWRD Wild Rice River Snagging & Clearing	9/21/2011	99,000	96,312	2,688
SWC	1932	5000	2009-11	Nelson Co. WRD	Peterson Slough into Dry Run Emergency	5/28/2010	32,150	32,150	0
SWC	1941	5000	2011-13	Walsh Co. WRD	Walsh County Drain No. 4a Cost Overrun	12/9/2011	9,759	9,759	0
SWC	1942	5000	2009-11	Walsh Co. WRD	Walsh County Assessment Drain 10, 10-1, 10-2	9/21/2009	37,267	13,544	23,723
SWC	1953	5000	2009-11	Walsh Co. WRD	Walsh County Drain No. 73 Construction Project	8/18/2009	109,919	109,919	0
SWC	1964	5000	2009-11	UND	Hydraulic Effects of Rock Wedges Study- UND	11/12/2009	11,651	11,457	194
SWC	1971	5000	2009-11	U.S. Geological Survey	DES Purchase of Mobile Stream Gages	3/28/2011	16,457	16,457	0
SE	1971	5000	2011-13	U.S. Geological Survey	DES Purchase of Mobile Stream Gages (2 temporary s	7/19/2011	8,000	8,000	0
SWC	1979	5000	2011-13	Southeast Cass WRD	Wild Rice River Riverbank Stabilization Project	6/13/2012	191,200	168,935	22,265
SE	1988	5000	2011-13	Barnes Co WRD	Sheyenne Riverbank Encroachment Study Project	3/16/2012	22,875	18,405	4,470
SE	1312/1933	5000	2001-13	Ulteig Engineers	Walsch Co. WRD/Digital Flood Insurance Rate Map Pr	2/16/2012	8,356	8,356	0
SE	1312/929	5000	2011-13	Fischer Land Surveying	Fischer Land Surveying & Engineering/Harriston Town:	12/12/2011	6,000	6,000	0
SWC	1806-01	5000	2011-13	City of Argusville	City of Argusville Flood Control Levee Project	9/21/2011	25,432	25,375	57
SE	867-01	5000	2011-13	NDSU	NDSU Soil & Water Sampling for Assessment of Effect	5/12/2012	7,225	7,225	0
SE	AOC/ARB/ND:	5000	2009-11	NDSU	NDSU Dept of Soil Science - NDAWN Center	3/8/2010	3,000	3,000	0
SE	AOC/ARB/ND:	5000	2011-13	NDSU	NDSU Dept of Soil Science - NDAWN Center	2/27/2012	3,200	3,200	0
SE	ARB/NDSU	5000	2011-13	NDSU	(NDAWN) ND Agricultural Weather Network	1/24/2013	3,200	3,200	0
SE	AOC/BSC	5000	2011-13	Bismarck State College	Bismarck State College - ND Water Quality Monitoring	2/7/2012	2,000	2,000	0
SWC	AOC/RRBC	5000	2009-11	Red River Basin Commis	Red River Basin Commission Contractor	7/1/2009	100,000	100,000	0
SE	AOC/WEF/TO	5000	2011-13	ND Water Education Fou	2012 Summer Water Tours Sponsorship	10/21/2012	2,500	2,500	0
SE	AOC/WEF/TO	5000	2011-13	ND Water Education Fou	2013 Summer Water Tours Sponsorship	3/14/2013	2,500	2,500	0

STATE WATER COMMISSION
PROJECTS/GRANTS/CONTRACT FUND
2011-2013 Biennium
Resources Trust Fund

COMPLETED GENERAL PROJECTS

Approved By	SWC No	Dept	Approved Biennum	Sponsor	Project	Initial Approved Date	Total Approved	Total Payments	*Apr-13* Balance
SWC	PS/IRR/NES	5000	2009-11	NDSU	NDSU Williston Research Extension Center - purchase	3/28/2011	60,050	60,050	0
SWC	PS/WRD/MRJ	5000	2011-13	Missouri River Joint WRE	Missouri River Joint Water Board (MRRIC) T. FLECK	6/30/2009	6,470	6,470	0
SWC	PS/WRD/MRJ	5000	2007-09	Missouri River Joint WRE	Missouri River Joint Water Board, (MRJWB) Start up	12/5/2008	14,829	10,857	3,972
					TOTAL		5,455,537	3,307,353	2,148,184

2013 Legislative Summary
State Water Commission and Office of the State Engineer

BILLS SUBMITTED BY SWC OR STATE ENGINEER

House Bill 1060 (Devils Lake outlets management advisory committee):

- Combines the two Devils Lake outlet advisory committees into a single advisory committee.
- Provides the Governor or Governor's designee as chairman of the committee and when meetings shall be held.
- Sets out the duties of the committee.
- Repeals N.D.C.C. § 61-36-03 regarding committee member compensation and expenses.

House Bill 1061 (water rights and penalty):

- Increases the penalty from $5,000 to $25,000 per day for any person who violates any provision of N.D.C.C. title 61 (except agricultural appropriation violations remain at $5,000 per day).
- Changes the filing date for returning annual water use information from February 1 to March 31.
- Requires the State Engineer to inform the Tax Commissioner of any industrial use water permit violations.
- Passed with an emergency clause.

House Bill 1062 (appeals of noncomplying dam, etc.):

- Amends the appeal process so that all appeals from local boards regarding unauthorized dikes, dams, or other devices are taken to the State Engineer.
- Makes the appeal process consistent no matter when the works were constructed.
- Amends "registered" mail to "certified" mail.

House Bill 1063 (water conservation):

- Amends the term "unnavigable" to "nonnavigable" for consistency.
- Repeals N.D.C.C. §§ 61-15-01, 61-15-02, and 61-15-08, which contains redundant or unenforceable language regarding "navigable waters."

House Bill 1067 (SWC a state agency.):

- Makes the SWC a state agency instead of a public corporation.

Senate Bill 2052 (regulatory permit applications):

- Amends N.D.C.C. § 61-16.1-38 to provide that if a water resource board fails to respond within 45 days to permit applications for water storage, obstruction, or diversion, it shall be determined the board has no changes, conditions, or modifications.

Senate Bill 2053 (NAWS):

- Gives the SWC authority to sell, transfer, or exchange up to five acres of excess property back to the current owner of the surrounding property from which the property was obtained.

BILLS RELATED TO FUNDING AND POLICY

House Bill 1020 (SWC appropriations):

- Includes $500 million for flood control, water supply, irrigation, and other general water management projects throughout the state.
- Includes $15 million for the Community Water Facility Revolving Loan Fund, and provides for a $40 million loan from the Bank of North Dakota to the Western Area Water Supply.
- The SWC operations are changed from General Fund dollars to Resources Trust Fund revenues.
- Includes $60 million to pay off or defease all of the agency's eight outstanding bond issues related to major water projects, such as Grand Forks, Wahpeton, and Devils Lake flood control, Southwest Pipeline, and several other rural and regional water supply projects. Bond payoffs are allowed only if revenues from the Resources Trust Fund exceed $287 million in the biennium.
- Provides support for the state's contribution to the Fargo-Moorhead flood control project at one-half of the local cost-share of the federally authorized project, not to exceed $450 million. Requires that state funds are only available for levee and dike protection efforts until the flood control project receives federal authorization, a project partnership agreement is executed, a federal appropriation is provided for project construction, and the project budget is approved by the SWC. Prior to SWC expending cost-share, there are specific requirements for a cost-share agreement that must be entered into between the SWC and the local sponsor and an advance funding agreement between the Corps and local sponsor.
- Provides $11 million for the Red River Valley Water Supply project.
- Requires SWC deviations from priorities submitted to the legislature be reported to the budget section every six months.
- Requires the Fargo-Moorhead Area Diversion Authority to report to the Budget Section.
- Provides three new FTEs. Two are related to monitoring water use and water permit processing associated with dramatically increasing water needs in the oil-producing region of the state. The third is needed to operate the newly constructed East Devils Lake outlet project.
- Requires the Water-related Topics Overview Committee (Water Topics Committee) to work collaboratively with the SWC to develop policies to further define the state role in major flood control projects.
- Provides the Water Topics Committee to prepare a schedule of priorities for water projects. The SWC and SE will assist the committee in developing the schedule.
- Provides for the Water Topics Committee to study policies regarding the development and financing of municipal projects, including water treatment plants; pipelines, including pipeline expansions, public and industrial use of water, cost analysis of future project development, and ongoing maintenance costs of current and future projects; and technology, including the use of technology for permitting and electronic metering.
- Provides for the Water Topics Committee to review Red River Valley Water Supply project routes and alternatives during the 2013-2014 interim.

House Bill 1206 (SWC membership):

- Future water development planning efforts shall be conducted in consideration of watershed boundaries.
- Meetings will be held within major drainage basins to improve water project sponsor participation in the planning process.
- For projects in excess of $500,000, the SWC has been asked to develop policies for benefit-cost analysis.
- In the interim - an analysis of existing water project prioritization processes will be conducted by legislative management.

House Bill 1269 (appropriation):

- Provides $31.35 million in emergency funding for Southwest Pipeline ($21M), and three rural water supply systems, including Stutsman Rural, North Central Rural, and McLean-Sheridan Rural ($10.35M).

House Bill 1440 (water districts and water commission policies on funds):

- Before providing a grant or loan to a district or city for a water service project in any area within the extraterritorial zoning jurisdiction of any affected city, the SWC shall require that district and city to have a water service agreement.
- The absence of a water service agreement may not affect the funding by the SWC of other projects for a district or city that are not related to potable water service and are not located within the extraterritorial zoning jurisdiction.
- If a water service agreement between the district and the city is not executed within 60 days after the city notifies the district that a city water service area plan has been developed, the matter must be submitted to a committee for mediation.

Senate Bill 2048 (financial assistance policy):

- The SWC shall adopt rules for governing the review and recommendation of proposed water projects for which financial assistance by legislative appropriation from the Resources Trust Fund is being sought under this section. The rules must consider project revenues, local cost sharing, and ability to pay. The rules may provide for repayment of a portion of funds allocated from the Resources Trust Fund.

Senate Bill 2233 (general policy, WAWS):

- Establishes an Infrastructure Revolving Loan Fund from the Resources Trust Fund in 2015. (Ten percent of oil extraction moneys deposited in the Resources Trust Fund.)
- The bill restructures the Western Area Water Supply System oversight and funding. Industrial Commission receives reporting of WAWS industrial sales, and revenues are applied in a set order of payment of $150,000 for Industrial Commission staff to implement the Act, operation costs for the depots, payments on member entity debt and 2010 baseline industrial sales, payments on state-guaranteed loans, additional payment on state-guaranteed loans, and payment to resources trust fund. Industrial Commission approves industrial sale rates. SWC role changes, still review overall plan for projects including those funded by Bank of North Dakota, however project funding through SWC, as of August 1, will follow normal cost share process and State Engineer is no longer on the Authority board.

- Provides for the SWC and Southwest Water Authority to begin a review and report to the legislative assembly on the steps necessary for the transfer of ownership and responsibility of the SWPP from the SWC to the Authority.
- Provides intent for the SWC and GDCD to begin discussions with US Bureau of Reclamation concerning Garrison Diversion Unit facilities.
- Provides Independent Water Providers and WAWS report to the Water Topics Committee and collaborate with the SWC to monitor water usage, rates, and market share. The Water Topics Committee will report to legislative management with recommendations to assure the state's ability to maintain repayment schedule.

House Bill 1015 (OMB appropriations):

- Amends Section 5 of House Bill 1020 regarding the $40 million loan to Western Area Water Supply authority. Merges the loan with the previous loans as agreed to by Bank of North Dakota and Industrial Commission.

House Bill 1009 (Game and Fish appropriations):

- Provides that $250,000 appropriated to the SWC shall be transferred to the Ag Commission for a wildlife services program.

OTHER WATER-RELATED LEGISLATION

Senate Bill 2199 (drainage):

- Addresses frivolous complaints for water projects.
- Raises the assessment levy amounts for maintenance of water projects.
- Provides a water resource board may assess the costs of removing an obstruction to a drain or noncomplying dike or dam against the property of the responsible landowner.

House Bill 1338 (Corps managed property):

- Provides for a study of options by the Board of University and School Lands to address the concerns of landowners adjacent to land under control of the Corps surrounding Lake Sakakawea and Lake Oahe.

House Bill 1399 (waterfowl easements):

- Provides that a waterfowl production area easement exceeding 50 years or which purports to be perpetual may be extended by negotiation between the owner of the easement and the owner of the serviant tenement.

House Concurrent Resolution 3010:

- Lake Sakakawea and Lake Oahe access.

House Concurrent Resolution 3017:

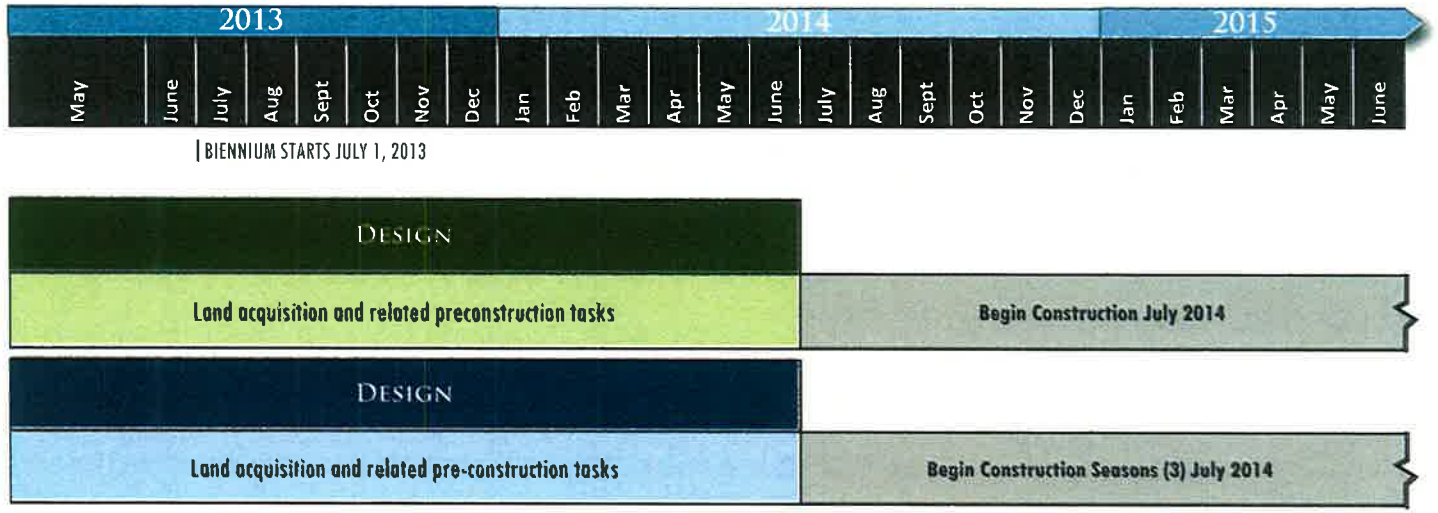
- Fish Wildlife Service and Natural Resources Conservation Service water management laws and regulations.

House Concurrent Resolution 3021:

- Study the feasibility of providing assistance to obtain rural water.

FLOOD DIVERSION AUTHORITY

Diversion Authority 2013-2015 Biennium
Work Plan



APPENDIX "D"
JUNE 10, 2013

WHAT IS THE FM DIVERSION?

The current federally selected plan calls for a 35-mile long, 1,600 foot-wide diversion channel that would provide in excess of 100-year protection for the Fargo-Moorhead metro area.

- This plan was chosen after years of diligent study, public input, and joint cooperation between the U.S. Army Corps of Engineers; City of Fargo; the City of Moorhead; Cass County, North Dakota; Clay County, Minnesota; the Joint Cass Water Resource District; the Buffalo-Red River Watershed District; the North Dakota State Water Commission; and other state and federal agencies.
- **The FM Diversion would reduce a 100-year flood event from 42.4 feet to 35 feet at the Fargo gage.** For reference, the 2009 flood of record peaked at 40.8 feet.
- Though not designed to prevent a 500-year flood event, the FM Diversion would give the area a fighting chance by **reducing the river level in Fargo from 46.7 feet to 40 feet during a 500-year event.**
- The plan includes 200,000 acre-feet of immediate upstream retention. The staging area would be used for flood events exceeding a 10-year event, or a 35-foot event in Fargo.
- Basin-wide retention is an important long-term water management strategy; however, it will not provide the necessary level of flood protection for the Fargo-Moorhead metro area.

WHY IS THE PROJECT NEEDED?

- **The Red River has exceeded flood stage in 49 of the past 110 years**, including every year from 1993 through 2011 and again in 2013.
- **A 500-year event would flood nearly all of Fargo along with large portions of Moorhead, West Fargo, and eastern Cass County.** For reference, the 2009 flood was considered a 50-year event when the gage peaked at 40.8 feet in Fargo.
- The FM Diversion would protect the local economy, which generates $4.35 Billion in annual non-farming wages and over $2.77 Billion in annual taxable sales along with $14 Billion in property value.
- The FM Diversion would also protect a population of about 200,000 people.
- An extreme flood event, like those experienced in the recent past in Bismarck, Grand Forks, and Minot, could lead to **more than $10 Billion in direct damages** to the Fargo-Moorhead area.

THE FM DIVERSION WOULD PROTECT 1 IN 5 OF ALL NORTH DAKOTANS.

HOW IS IT PAID FOR?

The total cost of the project is roughly $1.8 Billion.

- $800 Million (45 percent) is the federal share.
- The remainder, approximately $1 Billion (55 percent), is the non-federal share.
  - Minnesota is estimated to cover 10 percent of the non-federal share ($100 Million).
  - North Dakota is estimated to cover 90 percent of the non-federal share ($900 Million).
- The state of North Dakota and locals (Cass County and Fargo) will split the non-Federal, non-Minnesota share ($450 Million each).

- **North Dakota has committed $175 Million, with another $275 Million in legislative intent over the next four biennium.**
- The citizens of Fargo and Cass County have both passed sales tax increases that have been dedicated to help fund the local share. These sales taxes are each expected to raise in excess of $250 Million over the life of the tax.
- There are components of the diversion project that will provide immediate benefit and can be constructed as funding is appropriated.

MITIGATING THE IMPACTS

The Diversion Authority is committed to a mitigation process that is fair and respectful of those who are impacted by the Project. Mitigation policies continue to be developed, but great progress has been made already .

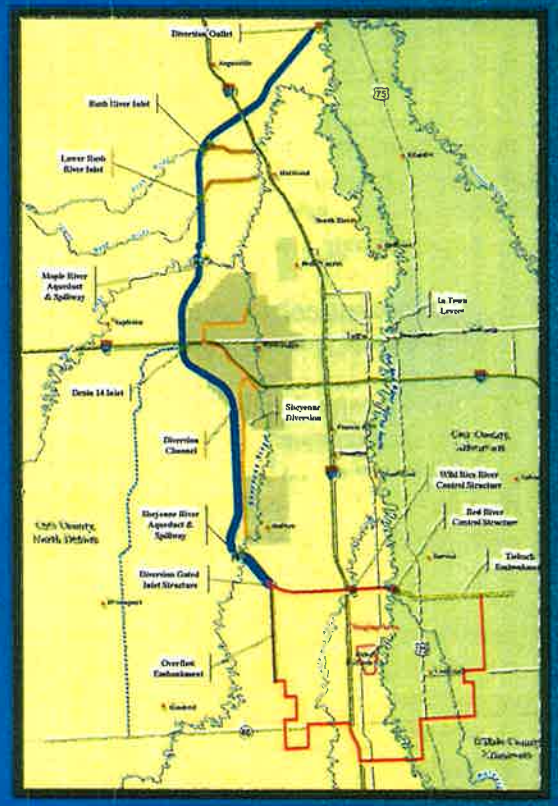
- A **ring levee around the Oxbow-Hickson-Bakke** area has been recommended to the Corps **providing protection well in excess of a 500-year flood for those communities.**

- **Impacts from the staging area have been contained within a 10-12 mile area.** Previous plans had downstream impacts into Canada. The number of impacted properties has been reduced from approximately 3,400 to approximately 60 residential structures (with the proposed Oxbow-Hickson-Bakke ring levee).

- In town levees and inlet gates are designed to **allow flood flows through town up to a 35-foot level in Fargo, which:**
  - Minimizes the impact to upstream communities and Richland and Wilkin Counties.
  - Reduces frequency of use of the Diversion to once every ten years.
  - Eliminates the need for fish passages on the Red and Wild Rice Rivers.
  - Minimizes the probability of summer operation.

- An Agriculture Committee has been formed to identify and mitigate the impacts to farmland and farmsteads.

FM DIVERSION ALIGNMENT



A FULL SIZED MAP CAN BE FOUND ONLINE AT

FMDIVERSION.COM

For additional questions, you can email comments@fmdiversion.com or contact one of the Flood Diversion Board of Authority members below.

Darrell Vanyo	Cass County Commissioner
Dennis Walaker	Mayor, City of Fargo
Tim Mahoney	Fargo City Commissioner
Brad Wimmer	Fargo City Commissioner
Nancy Otto	Moorhead City Councilwoman
Ken Pawluk	Cass County Commissioner
Kevin Campbell	Clay County Commissioner
Mike Thorstad	West Fargo City Commissioner
Rodger Olson	Joint Water Resource District Manager

FM Area Diversion

FLOOD PROTECTION FOR 1 IN 5 NORTH DAKOTANS

FLOOD DIVERSION AUTHORITY

About the Authority

The communities of Fargo, ND and Moorhead, MN, along with Cass County, ND, Clay County, MN, the Cass County Joint Water Resources District, and the Buffalo-Red River Watershed District, have signed a joint powers agreement that forms a Flood Diversion Board of Authority. Its purpose is to build and operate a flood diversion channel along the Red River to reduce the flood risk of the stakeholder communities and counties.

North Dakota State Water Commission
900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Project Update
DATE: June 7, 2013

Supplemental EIS

Reclamation continues to work on the Supplemental Environmental Impact Statement. Comments have been provided to Reclamation by the cooperating agencies on Chapter 1 (introduction), Chapter 3 (Affected Environment), Transbasin Effects Analysis Technical Report, and Appraisal Level Design Report. Reclamation anticipates providing responses to comments and a revised Appraisal Level Design Report along with a draft Chapter 2 (Alternatives) in June. Evaluations are underway to assess the potential impacts of the proposed alternatives on the issues and resources described in the Affected Environment, the methods of which and results will be discussed in Chapter 4 (Environmental Impacts). We anticipate another cooperating agency team meeting upon release of the draft Chapter 4 for discussion of the contents as Reclamation is seeking input on them.

A draft SEIS is not expected until fall. Previous estimates were for the draft SEIS this summer, but additional time is needed in order to ensure a scientifically sound and procedurally accurate NEPA document.

Manitoba & Missouri Lawsuit

The Federal Court issued an order on March 5, 2010, requiring Reclamation to take a hard look at (1) the cumulative impacts of water withdrawal on the water levels of Lake Sakakawea and the Missouri River, and (2) the consequences of biota transfer into the Hudson Bay Basin, including Canada. The most recent order dated October 25, 2010, allows construction on the improvements in the Minot Water Treatment Plant to proceed. However, it does not allow design work to continue on the intake. The court ordered a conference call on November 15, 2012. The court expressed concerns about construction taking place under the previously approved and unopposed injunction modifications possibly affecting the outcome of the SEIS. A briefing explaining the additional construction on the northern tier, justifying the need and explaining the independence from supply or biota treatment alternatives was filed December 6, 2012. Missouri and Manitoba filed responses January 6, 2013 and our response was filed January 22, 2013. The Court issued an opinion on March 1, 2013 modifying the injunction to not permit 'new pipeline construction or new pipeline construction contracts.' We are working on a filing to request permission to construct the turnouts for the North Prairie Rural Water Carpio-Berthold project,

as well as replacing the 'temporary' turnout serving Des Lacs through North Prairie as well as design work for updating the softening facilities at the Minot Water Treatment Plant.

Current Construction

Contract 2-2D:
This contract includes 62 miles of pipeline for the Mohall/Sherwood/All Seasons pipeline. The contract was awarded to American Infrastructure, Colorado. The Contract Surety, EMC took over the contract and hired S.J. Louis Construction to complete the remaining work. This project was substantially complete October 27, 2011, which was 350 days after the substantial completion date. The punch list items are complete but less than half of the affected landowner release forms have been obtained. A final change order including 316 days of liquidated damages has been sent to the surety but has not been returned. The surety did submit a partial pay estimate requesting all outstanding payment less liquidated damages, which we executed less $124,000 retainage to cover remaining items.

Contract 2-3A:
This contract includes 13 miles of ductile iron pipeline between the north side of Minot and the Minot Air Force Base and 2000 feet of PVC pipe connecting to Minot's North Hill Reservoir. Work began in early September 2011. All pipeline has been installed, pressure tested, disinfected, flushed and is in service. The City of Minot's North Hill reservoir began receiving water in July, and the Minot Air Force Base and Contract 2-3B users began receiving water in November. Only a few punchlist items remain but the project area needs to dry out before they can be addressed.

Contract 2-3B:
This contract covers 17 miles of pipeline north of the Minot Air Force Base along Highway 83 to provide service to Upper Souris Water District at their treatment plant and at Glenburn and North Prairie Rural Water near the Minot Air Force Base. This pipeline was put in service in November and is substantially complete. A few punchlist items remain but the project area needs to dry out before they can be addressed.

Contract 7-1A:
The Federal Court on October 25, 2010, approved construction in the Minot Water Treatment Plant with the piping and filters. The SCADA telemetry system for the Northern Tier has been incorporated into this contract, as well as the design and programming for the SCADA for the entire project. The contract was awarded to PKG Contractors, and Main Electric. The contract is substantially complete with only punch list items remaining.

Remaining Northern Tier Contracts:
We have initiated design work on the remaining pipeline, pumping station, and reservoir contracts for the rest of the distribution system. We will be able to design all remaining facilities using the 2011-2013 biennium funding. This will allow our focus to shift to the water supply facilities once the environmental review and related litigation is completed without causing undue delay for construction of either the supply facilities or the distribution facilities.

Design and Construction Update

Table 1 - NAWS Contracts under Construction				
Contract	Contract Award	Contractor	Contract Amount	Remaining Obligations
2-2D Mohall	7/24/09	American Infrastructure, CO **In Default – Being taken on by the Bonding Co - EMC**	$5,196,586.13	$407,919.91
2-3A Minot AFB	1/4/11	S.J. Louis Construction	$6,291,181.65	$156,693.68
2-3B Upper Souris/Glenburn	1/4/11	S.J. Louis Construction	$3,869,311.61	$111,854.79
7-1A Minot WTP Filter Rehab and SCADA	11/30/11	PKG Contracting, Inc. Main Electric, Inc.	$8,240,082.85	$685,506.85
Total Remaining Construction Contract Obligations				**$1,361,975.23**

TSS:TJF:pdh/237-4

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MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Project Update
DATE: June 4, 2013

Oliver, Mercer, North Dunn (OMND) Regional Service Area

Zap Service Area (SA) Rural Distribution System 7-9C & 7-9D:
Construction is ongoing and more customers are being turned over to the Southwest Water Authority (SWA). Liquidated damages are being withheld from Northern Improvement Construction Company, the contractor on Contract 7-9C. The substantial completion date on Contract 7-9C was October 1, 2012.

Center SA Rural Distribution System 7-9E & 7-9F:
Easement acquisition has begun on Contract 7-9F, which is the east Center SA rural distribution system. We plan to advertise this contract for bid this summer. Contract 7-9E, which is the west Center SA rural distribution system, has an average cost per customer exceeding the current feasibility criteria. The SWA is trying to get more sign ups in that area. We will work on determining the actual signup percentage in that area to determine whether allowing a higher cost per equivalent service unit is justifiable.

Contract 2-8E/2-8F Dunn Center SA Main Transmission Line (MTL):
Contract 2-8E is the MTL from the OMND WTP to a combination reservoir and booster station north of Halliday (Dunn Center booster station). Bids for this contract were opened on May 15, 2013. The lowest bid was from Carstensen Contracting Inc., from Pipestone, Minnesota for $5,104,505.50. The engineer's estimate was $5,246,149. The State Water Commission (SWC) authorized the Chief Engineer/Secretary to award this contract to the lowest responsible bidder. The notice of award was sent to the contractor and we are waiting to receive the contract documents from the contractor.

Contract 2-8F is the MTL west of Halliday to west of Killdeer. Water from the OMND WTP will be pumped to the Dunn Center booster station. From the Dunn Center booster station water will be again pumped to the elevated Dunn center tank. We anticipate getting the submittal set of plans from the engineer soon and advertising this contract within a month.

Contract 4-6 Dunn Center SA Pumps inside OMND WTP:
Bids for this contract were opened on May 24, 2013. The lowest bid was from Northern Plains Contracting, Inc., Wolverton, Minnesota for a base bid of $328,532.81. The engineer's estimate was $354,500. The SWC authorized the Chief Engineer/Secretary to award this contract to the

lowest responsible bidder. The notice of award was sent to the contractor and we are waiting to receive contract documents from the contractor.

Contract 5-17 Dunn Center Elevated Tank:
Bids for this tank were opened on May 30, 2013. The lowest bid was for a composite tank from Caldwell Tanks, Louisville, KY for $2,438,000. The engineer's estimate was $2,040,000. The SWC authorized the Chief Engineer/Secretary to award this contract to the lowest responsible bidder. The bids under both schedules are substantially higher than the engineer's estimate. Bidders have expressed concern over meeting the substantial completion date of August 15, 2014 and that may be reflected in the bid price. The contract documents call for liquidated damages of $750 per day after the substantial completion date. After receiving concurrence from Garrison Diversion Conservancy District and Bureau of Reclamation, contract documents will be executed.

Dunn Center and Halliday SA rural distribution system:
A few landowners in the Dunn Center and Halliday SA who own land along the 2-8E and 2-8F MTL have refused to sign easements for the MTL until they were given a firm date of their rural service line. A letter was sent explaining the project schedule and a meeting was held with them to further explain the project schedule. At the meeting the landowners wanted a condition added to the easement stating that the MTL has enough capacity to meet the rural needs and also if the rural distribution does not become a reality, they have the right to build their own distribution system from the MTL. The easement condition is currently being negotiated. The current schedule for bidding the Dunn Center and Halliday SA is Spring 2014. The final signup meeting in that area is scheduled on June 10th and 11th.

Other Contracts

Contract 7-1C/7-8H Hydraulic Improvements in the Davis Buttes, New Hradec and South Fryburg SA:
Construction is progressing. About 7 miles of pipe remain to be installed.

Contract 8-1A New Hradec Tank:
Contract documents have been executed with Olander Contracting Inc., Fargo, North Dakota.

Contract 4-5 Finished Water Pumping Station (FWPS):
Geotechnical testing at the finished water pumping station is complete. A memorandum of understanding that addresses the cost sharing of the joint FWPS is currently under review. The City of Dickinson owns the approximate 4-acre lot east of the existing WTP. The new 6 MGD WTP will be located at that site and the land cost of the lot will be used towards City's cost share towards the FWPS. The City has appraised the land at $750,000. We have contacted R.M.Hoefs & Associates from Fargo to do an appraisal.

Contract 1-2A Supplemental Raw Water Intake:
The supplemental intake for the SWPP is currently designed for 7000 gpm. Contract 1-2A will include the design and construction of the caisson, intake pipe and diver services for the intake

screen and assisting in the Horizontal Directional Drilling (HDD) or micro tunneled intake construction. The pump station building, pumps, piping, appurtenances and surge control air chamber will be bid separately as Contract 1-2B. The design and construction of the caisson and intake pipe construction were combined into one contract, as the construction schedule of the intake pipe is dependent on the completion of the caisson. The estimated project cost for Contract 1-2A is $10-$14 million dollars.

The supplemental intake will be located on the US Army Corps of Engineer's property (USACE). An easement and permit application was filed with USACE in October, 2012. We have still not received the easement and permit. We expect the permit and easement to contain provisions for protection of threatened and endangered species and that in turn may result in a restricted construction season from September through April, especially for activity on or near the shoreline including diver operations on the water. In order for us to initiate construction this year, getting the permit and easement before the end of June is very critical. The Bureau of Reclamation's Dakotas Area Office has been in contact with the USACE's District and Division offices to expedite the easement process.

Because of the schedule and specialized construction the caisson, HDD and micro-tunneling, and diver services contractors and sub-contractors will be prequalified and only those who are prequalified will be allowed to bid or be a sub-contractor on the contract. The request for prequalification is currently being advertised. The deadline for submitting the proposals for prequalification is June 14, 2013. We expect the review of the qualifications to be completed by the end of June. The invitation to bid to the prequalified bidders will be out in early July with the awarding of the Contract expected in late July.

TSS:SSP:pdh/1736-99

SOUTHWEST PIPELINE PROJECT
WATER SERVICE CONTRACT

Contract No.: 1736-SWA-32
Customer Entity: **Dakota Prairie Refining, LLC**

I. PARTIES

This contract is between the Southwest Water Authority (the "Authority"), the North Dakota State Water Commission (the "Commission"), and Dakota Prairie Refining, LLC (the "Customer").

II. INTRODUCTION

1. The Commission is developing a water pipeline, water supply, and water distribution project known as the Southwest Pipeline Project (the "Project").

2. The Authority, created under North Dakota Century Code § 61-24.5, provides operation, maintenance, and management of the Project.

3. In 1995, the Commission entered into an agreement with the Authority to transfer to the Authority the completed portions of the Project for operation, maintenance, and management (the "1995 Agreement").

4. Under North Dakota Century Code § 61-24.5-09, the Authority may enter into water service contracts to deliver and distribute water and to collect charges for such delivery.

5. The Customer desires to enter into a water service contract, pursuant to the laws of the State of North Dakota, for a water supply from the Project for use by the Customer. The Customer will make payment to the Authority as set forth in this contract.

III. DEFINITIONS

The following definitions apply to this contract:

1. "Additional water" means water purchased by the Customer at a flow rate greater than the Maximum flow rate specified in this contract.

2. "Base consumer price index" means the Consumer price index as of January 1, 1995, which is 448.4 (1967 = 100).

3. "Capital costs" means all the costs incurred by the Commission related to construction of the Project, including the costs of surveys; engineering studies; exploratory work; designs; preparations of construction plans and specifications; acquisitions of lands,

easements, and rights-of-way; relocation work; and related essential legal, administrative, and financial work. "Capital costs" shall not include the Customer distribution system costs.

4. "Constant flow basis" means the uniform delivery of water throughout a twenty-four hour period by using a flow restrictor device. Storage must be provided by the Customer.

5. "Consumer price index" ("CPI") means the consumer price index for all urban consumers, which is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. The CPI is based on the prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living.

6. "Customers" means those persons, municipalities, rural water cooperatives, rural water districts, corporations, and other entities that have entered into and executed water service contracts with the Authority for the purchase of water from the Project.

7. "Customer distribution system" means all infrastructure from the Point of delivery that extends onto the Customer's property, including any storage, clearwell, pump, service line, distribution line, appurtenances, and all related items intended for the distribution of water for Domestic, business, industrial, and Municipal or public use.

8. "Customer distribution system costs" means all costs for and related to the Customer distribution system.

9. "Demand flow service" means the Authority will provide storage and service on a demand basis.

10. "Domestic use" means the use of water by an individual, family unit, or household for personal needs and for drinking, washing, sanitary, and culinary uses.

11. "Estimated water rate for operation, maintenance, and replacement" means the estimated rate per each one thousand gallons of water for Operation, maintenance, and replacement costs. This rate is determined by dividing total costs the Authority estimates it will incur during a Year for OM&R by the total number of one thousand gallon units of water that the Authority estimates it will sell to its Customers during the same Year.

12. "Maximum flow rate" means the maximum number of gallons of water that the Authority may deliver to the Customer during any one minute time period.

13. "Minimum annual water purchase" means the minimum gallons of water that the Customer must purchase and pay for during a Year.

14. "Municipal or public use" means the use of water by the state through its political subdivisions, institutions, facilities, and properties and the inhabitants thereof, or by unincorporated communities, subdivision developments, rural water systems, and other

entities, whether supplied by the government or by a privately owned public utility or other agency or entity, for primarily Domestic use.

15. "Operation, maintenance, and replacement costs" ("OM&R" costs) means the cost for operation and maintenance, for establishing and maintaining operating reserves of the Project, and for the accumulation and maintenance of a reserve fund for replacement purposes.

16. "Point of delivery" means the location where the Project delivers water to the Customer, from which point the Customer is responsible for conveyance of the water for its intended use.

17. "Potable water" means water fit for human consumption.

18. "Unallocated capacity" means the capacity of the Project that is not allocated and contractually committed to Customers by virtue of raw or Potable water service contracts.

19. "Water rate for capital costs" means the rate per each one thousand gallons of water to be paid by the Customers for Capital costs of the Project.

20. "Year" means the period from January 1 through December 31, both dates inclusive.

IV. TERM OF CONTRACT

1. This contract shall remain in effect for ten years after the date of the first water delivery to the Customer.

2. Under terms and conditions mutually agreeable to the parties to this contract, renewals of this contract may be made for successive periods not to exceed five years from the date of renewal.

V. WATER SERVICE: DELIVERY OF WATER

The Authority will deliver water to the Customer in accordance with the following terms and provisions:

1. All water supplied to the Customer shall be Potable treated water that meets water quality standards of the North Dakota Department of Health.

2. The Customer hereby agrees to a Minimum annual water purchase of 3,522,000 gallons per Year during the entire term of this contract.

3. The Maximum flow rate is 10 gallons per minute total for all connections to the Customer for Domestic use. As a Constant flow customer, the customer must provide on-site storage.

4. An additional 150 gpm will be provided, if available at the discretion of the Authority, on a backup basis for process industrial purposes. The Authority will determine if excess water is available in addition to what is necessary for municipal, domestic, and rural water needs. The Authority shall have control of the valve(s) and other appurtenances for the purpose of providing all water to the Customer. When industrial process water is needed, the Customer will notify the Authority. If approved, by the Authority, the Authority will, prior to such water service, read the meter to determine the amount used for industrial process water. At the end of such water service, the Authority will reduce the flow rate when notified by the Customer, and will read the meter again to determine usage at the separate water rate. The flow rate may be reduced sooner than requested if the water is needed for Municipal or public use. The water rate for industrial process water will be double the OM&R costs and double the Water rate for Capital costs as defined under Section VI.

5. The Authority will deliver to the Customer any water that the Customer desires to purchase, at a flow rate not to exceed the Maximum flow rate. The Authority is not obligated to supply water at a greater flow rate than the Maximum flow rate. If there is Unallocated capacity in the Project to the Customer's Point of delivery, the Authority may allow delivery of Additional water. If the Customer desires to secure a contractual right to a greater Maximum flow rate, this contract must be amended in writing. At such time, the Authority may require an increase in the Minimum annual water purchase.

6. The flow rate set forth is provided to meet the Customer's needs on a Constant flow basis. Should the Customer request or require Demand flow service, the Customer may request such service from the Authority. As consideration for receiving this type of service, the Customer agrees to pay, as the Water rate for capital costs, an amount equal to two times the Water rate for capital costs paid for constant flow service. If the Customer desires to secure a contractual right to Demand flow service, this contract must be amended to provide for Demand flow service.

7. The Authority will supply water to the Customer at the Point of delivery at a pressure range of 25 psi to 45 psi. If the Customer requests that the Authority supply pressure outside the range of 25 psi to 45 psi, and the Authority determines that it can provide the requested pressure, the Customer shall pay the Authority the additional cost incurred by the Authority in providing the requested pressure.

8. The Customer is responsible for and shall pay all Customer distribution system costs.

9. No liability shall accrue against the Authority, the Commission, or any of their officers, agents, or employees and the Customer agrees it shall be fully responsible and shall not be entitled to any remedy arising from any water shortages or other interruptions in water deliveries resulting from accident to or failure of the Project. The Customer's duties under this contract shall not be reduced or altered by reason of such shortages or interruptions, except that in the event of a water shortage or other interruption in water delivery that exceeds thirty days in any Year, the Customer's Minimum annual water

purchase requirement shall be reduced proportionately in relation to the duration of such water shortage or interruption in water delivery.

10. The Authority has the right during times of water shortage, from any cause, to interrupt water service to the Customer. Preference will be given to Municipal or public, Domestic, and rural water needs during times of water shortage.

11. The Authority may temporarily discontinue or reduce the amount of water supplied to the Customer for the purpose of maintaining, repairing, replacing, investigating, or inspecting any of the facilities and works necessary for supplying water. To the extent possible, the Authority will give reasonable advance notice of any temporary discontinuance or reduction of service. No advance notice is required in case of an emergency. In no event shall any liability accrue against the Authority, the Commission, or any of their officers, agents, or employees for any damage or inconvenience arising from such temporary discontinuance or reduction of service.

12. If the Customer believes the measurement of water delivered to be in error, it shall present a written claim to the Authority, either in person or by mail, electronic mail, or facsimile. A claim presented after a payment has become delinquent does not prevent the Authority from discontinuing service to the Customer. The Customer shall continue to make payments for water service after a claim has been presented; however, the payment will be under protest and will not prejudice the Customer's claim. After the Customer presents its claim and advances the cost of recalibration, the Authority will recalibrate the meter. If the meter is found to over-register by more than two percent of the correct volume, the Authority will refund the Customer's advance for the cost of recalibration and the readings for that meter shall be corrected for the twelve months preceding the recalibration by the percentage of inaccuracy determined by the recalibration. The amount of any overpayment as a result of over-registration shall be applied first to any delinquent payments for water service, and at the option of the Customer, the Authority shall refund or credit the Customer upon future payments for water service. If any meter fails to register for any period, the amount of water delivered during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless the Authority and the Customer agree upon a different amount. The Customer and the Authority shall have access to the meter at all reasonable times for the purpose of verifying its readings.

13. The Customer shall be responsible for the control and use of all water in the Customer distribution system and shall pay all costs related to service, maintenance, and repair of the Customer distribution system. The Customer is responsible for the control, distribution, and use of water delivered under this contract, and the OM&R of the Customer distribution system. Water delivered under the terms of this contract is for the Customer's use only, and the Customer will not sell water.

14. The Point of delivery under this contract is a single connection located in Section 15, Township 139, Range 97, Stark County, North Dakota. Any other connection must be approved in writing by the Authority and the Commission. All costs related to any other

connection, including all appurtenant piping, valves, and controls, shall be paid by the Customer.

VI. WATER SERVICE: WATER RATES AND PAYMENT FOR WATER

The Customer shall pay for water and water service under the following terms:

1. The Customer will make payments for water and water service beginning upon the earlier of:

   a. The date the Customer gives the Authority fifteen days written notice that the Customer desires to commence water service pursuant to this water service contract.

   b. The commencement of commercial operations at the Customer's Bakken diesel refinery project located at the Point of delivery.

2. The Customer's monthly water service payment is the sum of the following:

   a. The Customer's proportionate share of the OM&R costs, as reasonably determined by the Authority, in accordance with Section VI (3) of this contract; plus

   b. The Customer's payment for Capital costs, as determined by the Authority according to Section VI (4) of this contract.

   Pursuant to this contract, water used at a flow rate that exceeds 10 gpm will cost two times the rates set forth in Section VI (2) a. and b.

   As of the date of this contract, the result of the foregoing formula provides that the Customer's cost of potable water would be $3.50 per 1,000 gallons and the cost of industrial process water (water used at a flow rate that exceeds 10 gpm) would be $7.00 per 1,000 gallons.

3. The Customer's proportionate share of the Project OM&R costs (for calculating the Customer's monthly payment) will be determined as follows:

   a. Prior to February 1 of each Year, the Authority shall adopt a budget for OM&R for the Project for the immediate ensuing Year. The Authority may include in such budget an amount to be accumulated and maintained in a reserve fund for the purpose of replacing Project works and for extraordinary maintenance of Project works. The amount of the reserve fund shall be contingent upon approval by the Commission. The Authority shall deposit and maintain the reserve fund in a separate account in accordance with the laws of the state of North Dakota.

   b. The Authority will estimate the total annual water sales for the immediate ensuing Year and calculate the Estimated water rate for OM&R for the Project by dividing the amount of the estimated budget for OM&R for the immediate ensuing Year by the

estimated total annual water sales for such ensuing Year.

c. The monthly payment to be made by the Customer to the Authority for OM&R shall be determined by multiplying the amount of water actually delivered to the Customer for each month by the Estimated water rate for OM&R.

d. At the end of each Year, the Authority shall prepare a statement of the Year's actual OM&R costs.

e. The Authority will then determine the adjustment to be applied to the Customer's OM&R payment for the previous Year. The adjustment will be calculated by dividing the amount of water delivered to the Customer by the Authority during the previous Year by that Year's total annual water sales to determine the Customer's proportionate share of the OM&R costs. This fraction will then be multiplied by the actual total cost for OM&R for the previous Year, which shall be the amount of the Customer's proportionate share of OM&R costs for the previous Year. The Authority shall then subtract this amount of the Customer's proportionate share of OM&R costs for the previous Year from the total amount actually paid by the Customer for OM&R during the previous Year, which is the adjustment to be applied to the Customer's water service payments for the next Year. If the Customer's proportionate share of OM&R costs for the previous Year is more than the total amount actually paid by the Customer during the previous Year for OM&R, the difference shall be owed by the Customer to the Authority. Any such amount due will be added to the Customer's monthly payments for water for the next four months of the immediate ensuing Year in equal monthly installments. If the Customer's proportionate share of OM&R costs for the previous Year is less than the total amount actually paid by the Customer during the previous Year but the Customer has delinquent payments for water service, the remaining sum, if any, shall be used to satisfy the delinquencies. But if there are no delinquencies, the sum will be credited against the Customer's monthly payments for water service for the next four months of the immediate ensuing Year in equal monthly credits.

4. The Customer's share of the Project's Capital costs (for calculating the Customer's monthly payment) will be determined as follows:

a. The base rate for Capital costs for Constant flow shall be $0.72 per each one thousand gallons of water.

b. The Commission shall have the authority to adjust the base Water rate for capital costs annually in accordance with the increase or decrease in the CPI. The formula for determining the adjustment to the Water rate for capital costs for each Year is as follows: The CPI for September 1 of each Year shall be divided by the Base CPI. The result of this calculation shall be reduced by one and then multiplied by the base Water rate for capital costs. The product of this formula is the adjustment to the Water rate for capital costs and shall be used to add to the base Water rate for capital costs for the next Year. Notwithstanding the foregoing

basis for adjusting the Water rate for capital costs, the Commission shall have the authority to decrease the adjustment to the Water rate for capital costs, as it deems appropriate and necessary, after considering data on changes to the median incomes of Project water Customers, substantial increases in OM&R costs, or other factors.

c. The amount of the Customer's monthly payment to the Authority for Capital costs shall be calculated by multiplying the Water rate for capital costs by the amount of water actually delivered to the Customer each month.

5. The Authority shall read the metering equipment at the Point of delivery, and not later than the first day of each month, shall send to the Customer, at the address shown on the signature page of this contract, an itemized statement of the payment due from the Customer for water service for the preceding month.

6. The Customer shall pay the Authority for water service under this contract, OM&R, and Capital costs by sending payment to the Authority, at the address shown on the signature page, not later than the fifteenth day of each month. Payments sent after the fifteenth day of each month shall result in the Customer being in default. If the Customer is in default, the Authority, at its sole discretion, may suspend delivery of water through the Project during the period of default. During any period of default, the Customer remains obligated to make all payments required under this contract. Any action of the Authority shall not limit or waive any remedy provided by this contract or by law for the recovery of money due or that may become due under this contract.

7. Interest of one percent per month will be imposed upon all payment amounts that are in default.

8. The Customer's failure or refusal to accept delivery of water from the Authority does not relieve the Customer from its obligation to make payments in accordance with this contract.

VII. GENERAL PROVISIONS

1. The Authority, contingent upon the approval of the Commission, may adopt such rules and regulations as it deems appropriate to carry out and govern the administration of this contract. Such rules and regulations shall not be inconsistent with this contract. The Customer shall comply with such rules and regulations.

2. All notices or other communications required under this contract must be given either in person or by mail at the address shown on the signature page of this contract, or by electronic mail or facsimile. Notice provided under this provision does not meet the notice requirements for monetary claims against the Commission found at N.D.C.C § 32-12.2-04.

3. The Customer shall promptly notify the Authority and the Commission of all potential

claims that arise or result from this contract. The Customer shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances surrounding a potential claim, while maintaining public safety, and grants the Authority and the Commission the opportunity to review and inspect the evidence, including the scene of an accident.

4. The use of any remedy specified to enforce this contract is not exclusive and does not prohibit or limit the application of any other remedy available by law.

5. In the event a lawsuit is initiated by the Commission or the Authority to obtain performance due under this contract and the Commission or the Authority is the prevailing party, the Customer shall pay the Commission's and the Authority's reasonable attorney fees and costs in connection with the lawsuit.

6. Any waiver by any party of its rights in connection with this contract does not waive any other default or matter.

7. If any term of this contract is declared by a court having jurisdiction to be illegal or unenforceable, the validity of the remaining terms is unaffected, and if possible, the rights and obligations of the parties are to be construed and enforced as if the contract did not contain that term.

8. The Customer may not assign, transfer, or delegate any right or duty without the express written consent of both the Commission and the Authority.

9. The Customer understands and agrees that the Authority and the Commission will give preference to Potable water for Municipal or public, Domestic, and rural water needs before executing water service contracts or allowing Additional water purchases.

10. This contract is governed by and construed in accordance with the laws of the state of North Dakota. Any action to enforce this contract must be brought in the District Court of Burleigh County, North Dakota, and the Customer consents to jurisdiction of state courts.

11. The Customer understands that the Authority and the Commission must disclose to the public upon request any records it receives from the Customer. The Customer further understands that any records that are obtained or generated by the Customer under this contract, except for records that are exempt under North Dakota Century Code chapter 44-04, are open to the public upon request under the North Dakota open records law. The Customer agrees to contact the Commission or the Authority immediately upon receiving a request for information under the open records law and to comply with the Commission's or the Authority's instructions on how to respond to the request.

VIII. TERMINATION

The Authority and the Commission may terminate this contract if the Customer fails to use water

delivered consistent with the terms of this contract. Upon such termination, the Authority and the Commission are relieved of all obligations under this contract, and the Customer must immediately disconnect the Customer distribution system from the Point of delivery.

IX. MERGER

This contract constitutes the entire contract between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this contract. This contract

may not be modified, supplemented, or amended, in any manner, except by written agreement signed by each party to this contract.

STATE WATER COMMISSION
900 East Boulevard Avenue
Bismarck, ND 58505
By:

_____
Todd Sando, Chief Engineer and Secretary

Date _____

SOUTHWEST WATER AUTHORITY
4665 2nd Street SW
Dickinson, ND 58601-7231
By:

_____
Larry Bares, Chairman

Date _____

DAKOTA PRAIRIE REFINING, LLC
%WBI Energy
1250 West Century Avenue
PO Box 5601
Bismarck, ND 58503

By:

_____

Title: _____

Date: _____

North Dakota State Water Commission
900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer – Secretary
SUBJECT: Devils Lake Hydrologic Update
Devils Lake Outlet Update
DATE: June 6, 2013

The current (June 6) water surface elevation of Devils Lake is 1453.6 ft-msl and 1453.3 ft-msl for Stump Lake. The table below is the precipitation since January 2013 in Devils Lake. The source is from Devils Lake Reporting Station. The average precipitation is from 1990.

Month 2013	Precipitation Measured	Average Precipitation
----	(Inch)	(Inch)
January	0.29	0.50
February	0.47	0.45
March	1.15	0.85
April	1.09	1.11
May	5.62	2.62
Total	8.62	5.53

The National Weather Service Long Range Outlook for Devils Lake forecast elevations, including Stump Lake, are shown in the following table. The values of inflows at the elevations and submerged acres are also shown. The values are valid from May 23, 2013 to September 30, 2013. The inflow and submerged acres are based from the values on January 2013 at an elevation of 1451.4 ft-msl.

Long Range Outlook For The Lakes Rising

Probability	90%	50%	10%
Elevation ft-msl	1453.7	1453.8	1454.5
Inflow ac-ft	433,000	453,000	598,000
Submerged acres	25,000	26,000	35,000

Devils Lake Outlets Management Advisory Committee meeting:

On May 29, 2013 a Devils Lake Outlets Management Advisory Committee and Devils Lake Outlets Advisory Committee meeting was held in Carrington, North Dakota. The North Dakota Legislature consolidated the two committees into the Outlets Management Advisory Committee (HB 1060) effective August 1, 2013. The consensus from the meeting for the 2013 season was to not exceed maximum target discharge, including outlets, of 800 to 1000 cubic feet per second in the Upper Sheyenne River. The Governor discussed the need for aggressive pumping this season due to the large inflow predicted into Devils Lake. Biota studies were discussed and the Governor indicated that the North Dakota Game and Fish may conduct studies in the Sheyenne if possible during outlet operations.

West and East Outlets:

Routine maintenance on outlets has continued to prepare for startup. Because of large flows in the Sheyenne and the continual rain the startup date is uncertain at this time.

Tolna Coulee Control Structure:

The operating plan for the structure requires that prior to a natural overflow the stop log elevation remain between 1' and 2' below the water surface of the lake. The current elevation of the stop logs is 1452 ft-msl. The two rows of stop logs that were removed last year have been reinstalled this spring to meet this requirement.

TS:JK:EC:ph/416-10

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MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer/Secretary
SUBJECT: Missouri River Update
DATE: June 7, 2013

System/Reservoir Status –
On June 3, system storage in the six mainstem reservoirs was 51.3 million acre feet (MAF), 5.5 MAF below the base of flood control. This is 5.4 MAF below the average system storage for the end of May, and 5.8 MAF less than last year. The June runoff forecast for 2013 is 21.2 MAF, 84% of normal. In comparison the May runoff forecast for 2013 was 20.0 MAF and 79% of normal. In addition, System releases have been reduced as a result of high downstream flows. Due to increased runoff into the system, and reduced amount of water being released out of the system, the system storage is currently forecast to peak at 52.4 MAF as opposed to the May forecast, in which, the system was to peak at 51.3 MAF.

On June 3, Lake Sakakawea was at an elevation of 1830.3 feet msl, 7.2 feet below the base of flood control. This is 5.4 feet lower than a year ago and 4.2 feet below its average end of May elevation. The minimum end of May elevation was 1808.8 feet msl in 2005 and the maximum end of May elevation was 1853.3 feet msl in 2011.

The elevation of Lake Oahe was 1600.6 feet msl on June 3, 6.9 feet below the base of flood control. This is 6.4 feet lower than last year and 3.9 feet lower than the average end of May elevation. The minimum end of May elevation was 1575.7 feet msl in 2005, and the maximum end of May elevation was 1617.7 feet msl in 1997.

The elevation of Ft. Peck was 2223.9 feet msl on June 3, 10.1 feet below the base of flood control. This is 12.8 feet lower than a year ago and 5.5 feet lower than the average end of May elevation. The minimum end of May elevation was 2198.8 feet msl in 2008, and the maximum end of May elevation was 2246.5 feet msl in 1979.

The Missouri River basin mountain snowpack normally peaks near April 15. On June 1, 2013 the mountain snowpack Snow Water Equivalent (SWE) in the "Total above Fort Peck" reach was 4.3", 26% of the normal April 15 peak. The mountain snowpack in this reach peaked on April 23 at 15.4", 95% of the normal April 15 peak. The mountain snowpack SWE in the "Total Fort Peck to Garrison" reach was 3.4", 24% of the normal April 15 peak. The mountain snowpack in this reach peaked on April 25 at 13.5", 95% of the normal April 15 peak.

The Corp's June 1 basic forecast for runoff into this system is 21.2 MAF. With this forecast navigation season will not be shortened and navigation releases for the second half of navigation season will be 4,200 cfs below full service. The actual length of the navigation season and

service level will be determined by the amount of water in storage on July 1. Currently navigation flows are at minimum service of 29,000 cfs. The forecasted system storage for July 1 is 52.4 MAF.

The Spring Pulse was not implemented this spring as a result of the Independent Science Advisory Panels (ISAP), a team of scientist contracted to review scientific findings associated with the Missouri River Recovery Program (MRRP), review of the spring pulse as a cue for spawning. In the ISAP report on Spring Pulse and Adaptive Management, finalized November 30, 2011, the ISAP stated "Given that the proposed spring pulse management action has not been implemented in all years, and shovelnose sturgeon and pallid sturgeon exhibited evidence of having spawned in all years studied, the ISAP concludes that the spring pulse management action, as currently designed and implemented, appears to be unnecessary to serve as a cue for spawning in pallid sturgeon." Consequently the Corps has foregone the 2013 spring pulse, taking into consideration the ISAP's recommendations. The Corps and F&WS have stated a 2014 spring pulse is still under evaluation.

Missouri River Recovery Implementation Committee (MRRIC)
During a meeting in Rapid City May 21-23, MRRIC finalized a recommendation to the U.S. Army Corps of Engineers that they employ easements as a strategy in obtaining lands in mitigation for the Bank Stabilization and Navigation Program (BSNP). Obtaining these lands through easements, as opposed to outright purchase, could enable some lands to stay in private ownership while contributing to the Missouri River Recovery effort. Corps leadership will be reviewing this recommendation and developing a response back to MRRIC.

The meeting also included discussions among the members and agencies on the proposed approach to developing a long-term adaptive management plan for the Missouri River Recovery Program (MRRP). The approach, which would guide development of the plan, was shared with the ISAP. The ISAP conducted an initial review of the approach and offered potential improvements for consideration as the approach is finalized and efforts to develop the plan get underway. The ISAP comments were considered as a positive direction forward by the many stakeholders present.

MRRIC also reached tentative consensus on a series of recommendations regarding recovery of the least tern and piping plover, including requesting agencies focus on piping plover populations, evaluate high-water reservoir habitat, and consider new population census techniques.

Surplus Water
On February 6, 2013, Colonel Cross, the Omaha District Commander, signed the first Surplus Water Agreement. Since May of 2010, the Corps has put a moratorium on access to water for water supply. This will be the first access since then. At this time the Corps is not asking for payment of storage. The Corps has put out a Notice of Intent (NOI) for rule making to determine the process for pricing storage. Once the rule making is done the parties that have entered into storage contracts will most likely be charged that rate.

On July 18, 2012 the Corps released a NOI stating their intent to develop a water supply storage reallocation study and an Environmental Impact Statement (EIS) for Missouri River municipal and industrial reallocation. Subsequently, public meetings were held in August throughout the basin. These meetings were meant to solicit comments on the release of the Environmental Assessment (EA) for surplus water storage for five of the six mainstem dams and to gather scoping comments for the reallocation study.

Water Resources Development Act of 2013 (WRDA)

The Senate passed the Water Resources Development Act on May 15. Senator John Hoeven was able to attach the States' Water Rights Act to WRDA to bar the U.S. Army Corps of Engineers from charging a storage fee for surplus water storage. The Amendment is as follows,

> Sec. 2060. Restiction on charges for certain surplus water.
>
> (a) In General. – No fee for surplus water shall be charged under a contract for surplus water if the contract is for surplus water stored on the Missouri River.
>
> (b) Offset.- Of the amounts made available under Public Law 113-6 (127 Stat. 198) for operations and maintneance under the heading "Corps of Engineers—Civls", $5,000,000 is rescinded.

This bill now moves to the House.

TS:KC:ph/1392

Memorandum

To: Todd Sando, PE, State Engineer, North Dakota State Water Commission

From: Jaret Wirtz, Executive Director, Western Area Water Supply Authority (WAWSA)

Date: June 4, 2013

Re: WAWSA Project Approval for 2013-2015 Biennium

As you are aware, WAWSA has been allocated $119 million in funding from various sources from the 63rd Legislative Assembly to continue to build water supply, treatment, transmission, and distribution infrastructure to provide the water supplies for the exploding population in northwest North Dakota. HB1020 provided $40 million in loan funds from the Bank of North Dakota with an emergency clause and $79 million through the State Water Commission from the Resources Trust Fund. In addition to the Legislature providing this funding, SB2233 requires WAWSA to submit its overall project plan to the State Water Commission for approval. Please accept this Memo and attachments as WAWSA's submittal for initial approval.

WAWSA has prioritized its list of projects for the 2013-2105 biennium. The projects WAWSA is requesting approval to move forward with at this time are summarized in Table 1. Also included in Table 1 is the best cost estimate to date and an approximate schedule as to when WAWSA would begin drawing funds for design or construction.

	Project	HB1020 Funding Draws		Estimated Project Cost (2014 Dollars)
		Estimated Start Date	Estimated Completion Date	
1	Williston Regional WTP Expansion (14-21MGD)	10/2012	04/2015	$25,436,745
2	West Williston By-Pass Transmission Lines (30" & 36")	10/2012	06/2014	$8,051,000
3	WRWD - West Expansion - Part 2 (Tank-Res/Pump Station)	10/2012	07/2014	$4,482,000
4	East MCWRD Transmission Imp.	10/2012	07/2014	$5,061,000
5	R&T WSCA Well Field Expansion & WTP Improvements	05/2013	12/2013	$1,400,000
6	WRWD - East Transmission - Part 1 (Hwy 2 to 133rd Ave and South)	08/2013	12/2014	$3,811,000
7	R&T - Epping Transmission - Part 1 (Ray High PT to Epping)	04/2013	12/2014	$7,400,000
8	MCRWD - System I (Watford City & Tobacco Garden)	08/2013	12/2015	$6,950,000
9	WRWD - East Transmission - Part 2 (East Williston By-Pass)	08/2013	06/2015	$10,135,000
10	Stanley - Distribution - Part 1 (Stanley Area East Branch)	08/2013	09/2015	$6,720,000
11	WRWD - Part 1 (Blacktail Dam Area Distribution)	08/2013	12/2015	$5,974,000
12	R&T - Rural Distribution - Part 1	08/2013	12/2015	$3,900,000
13	MCRWD - Rural Distribution (System IV Part 3a)	08/2013	09/2015	$3,760,000
14	BDW - Distribution - Part 1	08/2013	12/2015	$5,540,000
15	Williston Intake Improvements Preliminary Engineering	05/2013	TBD	$880,650
NA	Phase II Carryover	NA	NA	$8,622,658
	TOTAL PHASE III - INITIAL			$108,124,053

Table 1: Summary of WAWSA Phase III Projects for Initial SWC Approval

Memorandum
Re: WAWSA Project Approval for 2013-2015 Biennium
Date: June 4, 2013

Also included as supplements to Table 1 are Attachments No. 1 and No. 2 to better define each project timeline and provide a brief description of each project. Attachment No. 1 is an expanded spreadsheet of Table 1 indicating the projected dates for the start of design, when the project will be bid, the final completion date of each project, and how the money is anticipated to be spent over the duration of the project. Attachment No. 2 provides a brief description of each project listed in Table 1 to summarize the approximate miles of pipeline that will be installed, improvements needed to existing infrastructure, and how many users will be served by each project. Additionally, included is a map attachment indicating all of the projects that are listed in Table 1.

The projects summarized in Table 1 are the current top priorities for WAWSA. Accordingly, WAWSA is requesting approval from the State Water Commission for the projects shown in Table 1. The projects highlighted in yellow are currently under design, are anticipated to be bid over the next several months, and are scheduled for construction to begin this year. The projects highlighted in orange will begin design this year with bidding and construction in 2014 with the exception of Williams Rural Water cost sharing with a developer to jump-start construction on the R&T - Epping Transmission - Part 1 project to bring on some rural users in 2013. In addition, WAWSA will begin evaluating improvements to the intake for the Williston Regional Water Treatment Plant. The North Dakota Department of Transportation will begin expanding Highway 85 between Williston and Watford City from a two to a four lane highway later this year. That project may impact the existing intake for the Williston Regional Water Treatment Plant. As a result, WAWSA will begin the planning process to relocate the intake immediately.

In addition to the Phase III projects presented in Table 1, WAWSA also has a list of secondary projects it will be seeking approval to move forward with at a future State Water Commission meeting. WAWSA has elected to delay its request for State Water Commission approval for these projects for the following reasons: 1) to ensure that bids for initial projects are in line with engineering estimates to avoid investing capital in projects that cannot be funded; 2) establish a reasonable schedule for obtaining easements and permits; 3) to maintain a funding reserve should the Williston Regional Water Treatment Intake Improvement Project need to be contracted in the 2013-2015 biennium: and 4) to maintain a funding reserve to respond to growth patterns that may vary from projections. The secondary projects anticipated to be designed and begin construction in 2014 are summarized in Table 2.

	Project	Estimated Start Date	Estimated Completion Date	Estimated Project Cost (2014 Dollars)
1	Fill Depots	09/2013	12/2015	$2,153,915
2	WRWD - Transmission Line (13 mile to 29 mile)	09/2013	12/2015	$6,489,000
3	WRWD - Grenora (29 Mile to Grenora)	09/2013	12/2015	$1,648,000
4	WRWD - North Transmission - Part 1 (58th St. to 60th St.)	09/2013	12/2015	$655,080
5	WRWD - West Transmission North - Part 3 (Pump Sta. to 60th St.)	09/2013	12/2015	$3,275,400
	TOTAL PHASE III - SECONDARY			$14,221,395

Table 2: Summary of WAWSA Phase III Projects for Future SWC Approval

Memorandum
Re: WAWSA Project Approval for 2013-2015 Biennium
Date: June 4, 2013

As discussed previously, HB1020 provides WAWSA with $119,000,000 in funding for the 2013-2015 biennium. The projects summarized in Tables 1 and 2 have a total estimated project cost of $113,722,790. In addition to the projects shown in Tables 1 and 2, WAWSA was previously authorized by the State Water Commission to contract for up to $119 million for Phase I and II projects and design engineering for several Phase III projects. The best estimate for work contracted to date is estimated at $118,622,658 or $8,622,658 in carryover to be covered by the $119 million provided by the legislature. Adding the carryover to the project totals shown in Tables 1 and 2 results in a total estimate for projects to be completed this biennium of $122,345,448.

The proposed project lists summarized in Tables 1 and 2 are the result of WAWSA planning efforts that span the last two years. The proposed projects will be able to provide direct services to the following users that have requested service:

1. 305 traditional rural water users
2. 6,800 rural residential users (rural developments)
3. 300 commercial water users
4. City of Grenora

Beyond these service connections, the proposed Williston Regional Water Treatment Plant Improvements will benefit the entire WAWSA service area, a population currently estimated at 60,000 people.

The WAWSA appreciates your consideration of our request. Please contact me should you have any questions or if you would like additional information regarding our request. WAWSA representatives would appreciate an opportunity to provide a more detailed presentation of our request at your Board meeting scheduled for June 19, 2013.

North Dakota State Water Commission
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MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd S. Sando, P.E., Chief Engineer - Secretary
SUBJECT: Mouse River Enhanced Flood Protection Status Report
DATE: June 10, 2013

The Engineering Team has completed the Hydraulics and Hydrology Report for the project. This work provides the technical basis for evaluating flood protection measures throughout the basin. It consists of two parts. The first part is a hydrology study that analyzes the basin with respect to the source and magnitude of flood waters. USGS gages were used where they exist, and inflows from intervening ungaged areas were estimated using the Corps of Engineers Hydrologic Modeling System. The second part is the hydraulics report that addresses the behavior of the water as it enters the river and moves through the basin. This effort required creating an unsteady flow model extending from Sherwood to Westhope. This means that an entire hydrograph can be routed through the whole basin. One of the first tasks was to test the proposed levee projects in the communities for effects downstream. It was found that all impacts occurred within the project area and were incorporated into the project design. Both of these efforts created tools which were vital to the subsequent work, and will also be of great value in the upcoming effort on the ISRB Plan of Study.

The Rural Alternative Report has also been completed and delivered. This report identifies a number of potential measures for dealing with flooding in the rural areas and tests them for effectiveness using the tools described above. By their nature, the alternatives cannot be as specific as the plan described for the communities. Because each flooding site is individual and isolated, the measures for that site need to be specific. Rather, this report lays out a number of approaches which may be effective depending on the particular problem. It also eliminates a number that do not appear to be effective or are too costly.

Executive summaries of these reports are attached.

Parallel to this project, the International Souris River Board Task force has submitted a Plan of Study to review the Operating Plan for the existing flood control project. It contained three options for moving ahead: A minimum level of study, which the Task Force did not recommend; a medium level, which they regarded as the minimum necessary; and a full-fledged analysis, which was recommended. This Plan of Study was approved by the ISRB as recommended and submitted to the International Joint Commission. We recently learned that the IJC has approved the Plan as recommended and submitted it to the U.S. Department of State and the Canadian Department of Foreign Affairs and International Trade. The letter from the IJC regarding this study is attached.

TSS:JTF:pdh/1974
Attachment

EXECUTIVE SUMMARY

Mouse River Enhanced Flood Protection Plan

Hydrologic and Hydraulic Modeling Report

Prepared for North Dakota State Water Commission

Photo: USGS

BARR

ACKERMAN-ESTVOLD engineering and management consulting, inc.

CPS

moore engineering, inc.

April 2013

This report explains why the Mouse River hydrologic and hydraulic models were developed, what the models simulate, and how a levee-floodwall project in urban areas would affect other parts of the Mouse River Valley.

The 2011 flood caused significant damage to public infrastructure, private property, and agricultural areas throughout the Mouse River Valley.

Hydrologic modeling

Hydrologic models simulate the conversion of rainfall and/or snowmelt into surface runoff. Hydrologic model results include inflow hydrographs (Figure 1) that define inflow to a stream or river at a given location. These inflow hydrographs are used as inputs to the hydraulic model.

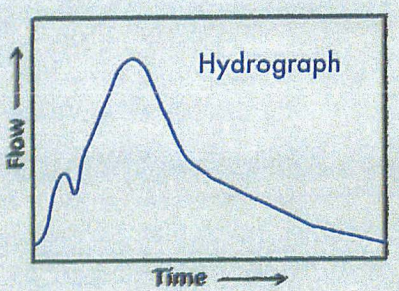


Figure 1: A hydrograph is a plot showing discharge versus time at a specific point in a river.

Hydraulic modeling

Hydraulic models simulate how the natural characteristics of a river system (e.g., topography and vegetation) and infrastructure (e.g., bridges and dams) affect the movement of water through a valley. Hydraulic model results provide water surface elevations that can be used to map inundation areas for a particular flood event.

Study background

The record-breaking Mouse River flood of June 2011 caused hundreds of millions of dollars of damage in North Dakota. There was extensive damage to public and private infrastructure in urban areas, while the summer-long inundation in rural areas took agricultural lands out of production and caused significant damage to private farmsteads.

In the aftermath of the 2011 flood, residents and local officials requested the investigation of flood mitigation solutions that will reduce the risk of flood damages. The North Dakota State Water Commission (NDSWC) retained a consulting team led by Barr Engineering Co. to develop a Mouse River Enhanced Flood Protection Plan to address flooding issues throughout the Mouse River Valley. The first study completed for the plan was the *Preliminary Engineering Report* in February 2012, which defined flood risk reduction measures for urban areas along the Mouse River between Burlington and Velva as well as for Mouse River Park.

In June 2012, the NDSWC initiated three subsequent studies as part of the Mouse River Enhanced Flood Protection Plan; these focus on the full Mouse River Valley in North Dakota. For this study, Mouse River Valley and Mouse River watershed (Figure 2) refer to the North Dakota portion of the larger Souris River Basin.

The new studies were: (1) an initial assessment of erosion and sedimentation issues, which was completed in January 2013; (2) this hydrologic and hydraulic modeling report; (3) an evaluation of alternatives to reduce flood impacts in rural areas, which was completed concurrently with this report.

Study purpose

This study documents the development of hydrologic and hydraulic models for evaluating floodplain management alternatives in the Mouse River Valley. The immediate objective for these tools was to evaluate the effects of the levee-floodwall Project defined in the *Preliminary Engineering Report* (Figure 3) on areas upstream of Burlington and downstream of Velva. The long-term objective for the modeling effort was to provide baseline models for advancing the Mouse River Enhanced Flood

Protection Plan. To achieve the study objectives the engineering team developed:

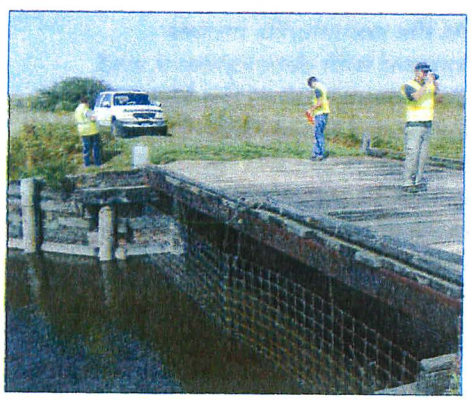
(1) A hydrologic model to simulate runoff from ungaged portions of the Mouse River watershed for use in the hydraulic model.

(2) A baseline hydraulic model simulating the movement of water through the Mouse River Valley for existing conditions.

(3) A second hydraulic model representing future conditions after construction of the levee-floodwall Project defined in the *Preliminary Engineering Report*.

Model development

The Mouse River has a large and complex watershed (Figure 2). The area draining to the North Dakota reach of the Mouse River is roughly 8,000-square miles. The Mouse River channel through North Dakota is over 300 miles long and passes through 11 dams and more than 90 bridges. Historic stream flow data from U.S. Geological Survey (USGS) gaging stations was used to quantify surface runoff during past flood events. USGS gaging station data was available for the Mouse River and its four major tributaries (Des Lacs River, Wintering River, Deep River, and Willow Creek). However, many of the smaller coulees and creeks in the watershed are ungaged.



The engineering team conducted a four-day field investigation to document floodplain characteristics and verify collected data for bridges in the study area.

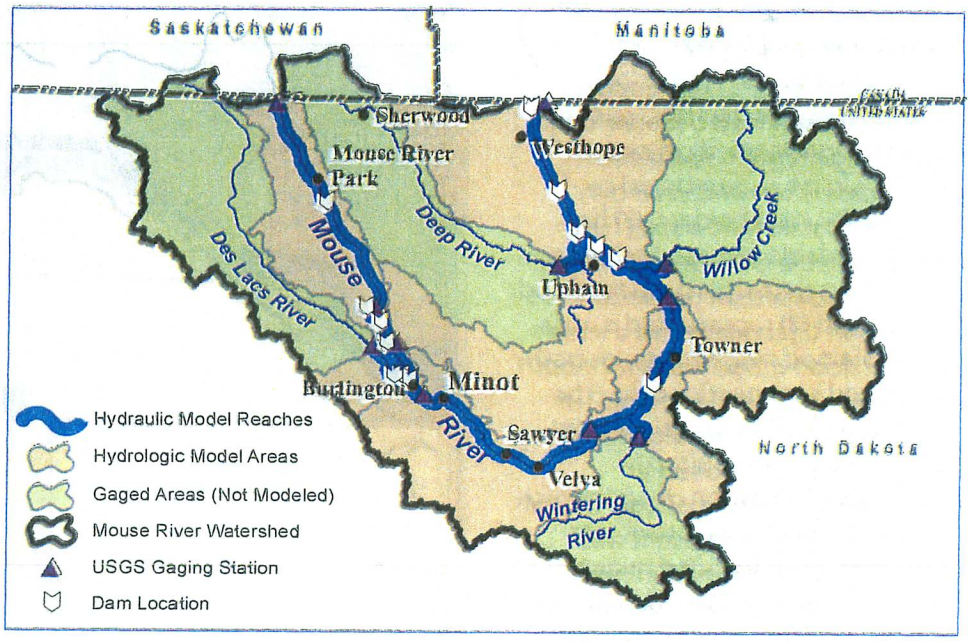


Figure 2: The hydrologic model calculated runoff from ungaged areas of the Mouse River watershed, and the hydraulic model simulated flow in the Mouse River and portions of its four major tributaries.

A hydrologic model was developed to simulate the timing and quantity of runoff from ungaged portions of the Mouse River watershed (Figure 2) for selected historic storm events. Every storm event is a unique combination of factors related to precipitation, temperature, topography, land cover, and soil properties. Simulating runoff from the Mouse River watershed was complicated by a topography characterized by prairie potholes, which reduce the effective area that contributes runoff to the river system during a given storm event. The hydrologic model calculated inflow hydrographs that were inputs for modeling floodplain hydraulics.

Previously developed hydraulic models of the Mouse River Valley were incapable of simulating the complexities of such a large natural system to the degree necessary to advance the Mouse River Enhanced Flood Protection Plan. The previous hydraulic models were steady-state simulations. More sophisticated unsteady flow modeling methods were necessary to evaluate impacts from the proposed levee-floodwall Project on other parts of the Mouse River Valley (steady-state vs. unsteady flow).

Steady-state vs. unsteady flow

Steady-state modeling creates a snapshot of flood conditions for a specific flow, irrespective of time. This modeling approach typically uses a peak flow rate to calculate the maximum water surface elevation for a flood. For example, the hydraulic model for the *Preliminary Engineering Report* was a steady-state model that simulated the design flow rate of 27,400 cfs to establish top-of-levee elevations.

Unsteady flow modeling simulates changes in flow, stage, and velocity over the duration of a flood event. The hydraulic model for this study routes flood hydrographs (Figure 1) through the Mouse River Valley (Figure 2) to represent the effects of dams, bridges, and other restrictions on flows over the course of each simulated flood event. Incorporating a time component significantly increases the complexity of the hydraulic model.

Hydraulic model simulations were developed for the 2009, 2010, and 2011 flood events. These flood events were selected because they: (1) were significant flood events that would be remembered by community stakeholders, (2) had better available climate and stream monitoring data than previous flood events, and (3) represented a wide range of flood magnitudes for both spring and summer flooding. The 2009 flood event was a significant spring flood that resulted in prolonged inundation of agricultural areas. The 2010 flood event was a summer flood that had minimal impact on urban areas, but damaged agricultural areas in McHenry and Bottineau counties. The 2011 flood event is the flood of record and the design flood for the levee-floodwall Project defined in the *Preliminary Engineering Report*.

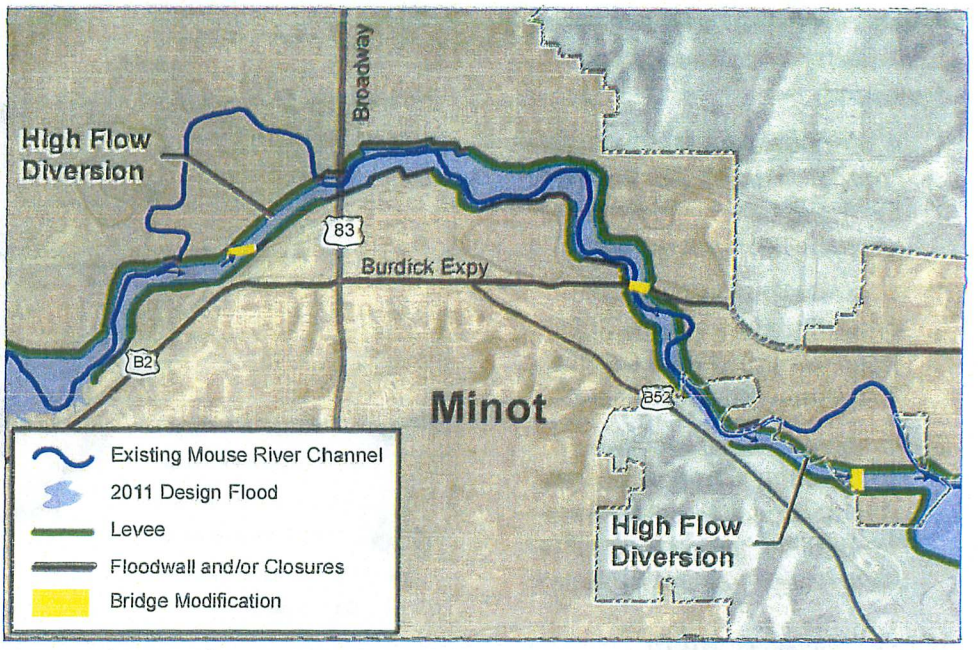


Figure 3: The Project features defined in the Preliminary Engineering Report include levees, floodwalls, channel excavations, channel realignments, bridge modifications, and two high-flow diversion channels in Minot.

Evaluating project impacts

The hydraulic models developed for this study were used to evaluate the effects of the proposed levee-floodwall Project throughout the Mouse River Valley.

With-Project modeled water surface elevations were compared to existing conditions water surface elevations for the three simulated flood events (Figure 4). The proposed Project would impact water surface elevations in the vicinity of the Project features, but would have minimal impact on flood elevations upstream of Burlington and downstream of Velva.

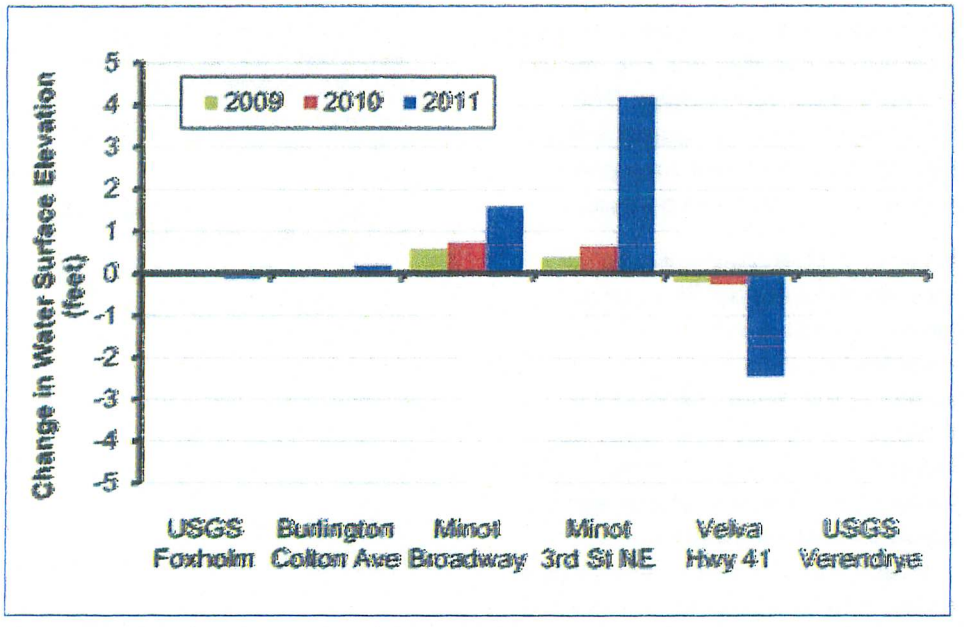


Figure 4: The Project would increase water surface elevations in the vicinity of Minot, but would have minimal impact upstream of Burlington and downstream of Velva.

Application of modeling tools

The hydrologic and hydraulic models are tools that will have broad application for the Mouse River Valley. The hydrologic model provides a framework for future hydrologic simulations for the Mouse River watershed, and the hydraulic models are being used to evaluate alternatives for reducing flood risk in rural areas of the Mouse River Valley.

The models have already been shared with the U.S. Army Corps of Engineers and National Weather Service to assist with flood forecasting during 2013 and in the future.

As the community moves forward with development and implementation of the Mouse River Enhanced Flood Protection Plan, the hydrologic and hydraulic models will be an important resource for evaluating and sizing floodplain management alternatives.

Executive summary

Background: the 2011 Mouse River flood

The erosion and sedimentation resulting from the 2011 flood of record were attributable to some of the most extreme conditions witnessed along the Mouse River in the last 150 years. The record runoff volume and high flow velocities resulted in what was likely the largest amount of sediment mobilized from the watershed and the river channel itself, leading to significant amounts of fine sediment being deposited in some areas of the floodplain.

Given the magnitude of the 2011 flood, there was remarkably little erosion in the most developed portions of the Mouse River between Burlington and Velva. The most significant erosion took place where river flow was most restricted, such as at bridge crossings (see Figure 1). Localized erosion was also observed in several sections of the river where levees had been constructed on one side of the river, which may have increased the erosive forces on the opposite bank.

Erosion in rural areas was highly localized. It occurred at bridge crossings and in locations where the flooding river is naturally constricted on one or both sides by valley walls. In addition, erosion was observed in locations where the river encountered loose sandy or silty soils with little cohesive material. In many cases, the material moved by localized erosion was deposited in backwater areas a short distance (1 to 2 miles) downstream.

Flood-related sedimentation impacts on the Souris Valley Golf Course in Minot were also notable because the golf course is one of the few areas in the city where the Mouse River is not confined by levees or steep valley walls directly on either bank. Several inches of fine sand were deposited on the golf course (Figure 2). Similar deposits of sand were observed near the Highway 2 bypass on the downstream side of Minot, where the absence of levees and steep valley walls allowed the Mouse River to flow out of its banks and onto the floodplain.

Although 32,000 acres of McHenry County farmland was affected by flooding, widespread sediment deposits were small (fractions of an inch in depth) because the river flooded at relatively shallow depths over a very large area. There was significant deposition of organic matter (algae) and flood debris on these lands. The largest sediment deposits—up to several feet in places—occurred mainly in old river channels (oxbows) and other lowlands, especially in northern McHenry County near the J. Clark Salyer National Wildlife Refuge.

The Mouse River, like any other river or stream, will have areas of observable erosion and sedimentation under natural conditions. Furthermore, changes over time in a river's course (called channel migration) are common, with erosion occurring on the outer banks of river bends and sedimentation on the inner banks as the river channel continuously reworks itself across its valley. Rivers move sediment in addition to water; this is their natural behavior. A river in a state of equilibrium does not translate into a channel of fixed dimensions or a completely static alignment. On the contrary, a river in equilibrium moves a bit in one place while not moving much in another place. Maintaining such equilibrium is the challenge for any project.

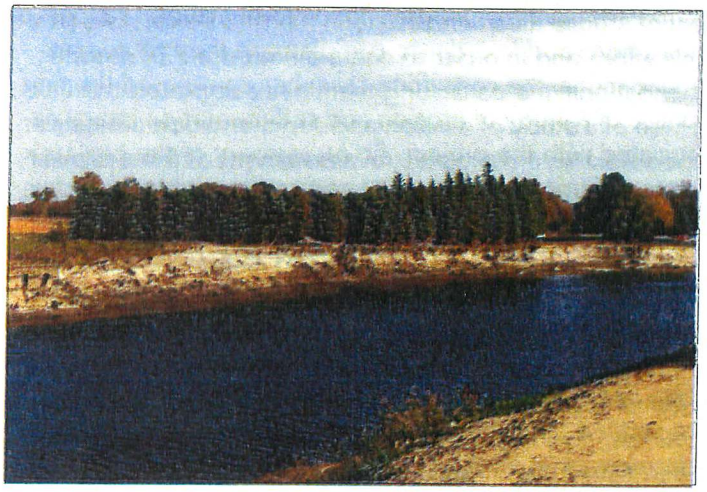


Figure 1: Significant erosion downstream of the Highway 41 bridge at Velva is illustrated by the proximity of the pine trees to the riverbank—before the 2011 flood, about 300 feet of land stood between these trees and the river

Figure 2: Sand deposition occurred on the Souris Valley Golf Course in Minot because it lies in an area where the river is relatively unconfined by levees or steep valley walls

Study purpose

In the aftermath of record flooding along North Dakota reaches of the Mouse River in June 2011, the North Dakota State Water Commission retained a consulting team led by Barr Engineering Co. to develop a plan to reduce the risk of flooding from future events of similar magnitude. The Preliminary Engineering Report (PER) for this plan, completed in February 2012, included a preliminary alignment for flood risk reduction. It also included engineering, environmental, and cost considerations for the project along the Mouse River reach between Burlington and Velva, as well as for Mouse River Park.

At the request of the Souris River Joint Board , the consulting team has turned its focus to rural areas along the entire Mouse River length within North Dakota. As part of this effort, and in order to complement the PER recommendations, the consulting team has completed the first phase of a study of erosion and sedimentation issues associated with the project. An assessment of the project's potential impacts on erosion and sedimentation may be necessary to support environmental review and permitting of the project, and is needed to determine whether the design of flood-risk-reduction features should be modified in future phases of plan development to help minimize impacts. This assessment considers not only the plan as presented in the PER, but also offers factors to consider during the development of river management alternatives in the rural areas.

Before the potential project impacts can be quantified, however, it is important to understand the processes that shape the landscape in the Mouse River watershed—including human influences and the basin's geologic history. Furthermore, this understanding provides a basis for estimating the likelihood and magnitude of any erosion and sedimentation impacts associated with the project.

The study's main findings are presented in this executive summary. Detailed information is contained in the main report and appendices. The general objectives of the study's first phase were to:

- Provide an initial characterization of the processes of erosion, transport and deposition of river sediment in the study area based on available data
- Use the initial characterization as the basis for conducting a preliminary qualitative evaluation of the project's potential to result in undesirable erosion and sedimentation
- Identify the modeling and additional data needed in the next phase of the study, during which the team will perform detailed field investigations and sediment transport modeling to not only quantify the project's potential impacts, but to propose measures for minimizing adverse impacts from implementation of the PER project

Report components

Geologic setting: The geologic history of the watershed and the basin-wide topography and land use have formed the landcape through which the Mouse River flows, and influence the long-term processes that shape the river. The report includes a literature review of the basin's geologic history and summarizes the watershed-wide conditions.

Valley and stream characteristics: By comparing characteristics of the river and its valley along the river's length, engineers and scientists can identify the broad sections of a river that behave differently from one another. The report includes analysis of the current conditions along the Mouse River and divides the river into nine distinct reaches.

Changes in river shape over time: The best way to understand a river's tendency to erode and deposit sediment is to look for changes in the river's position or cross-sectional shape over time--including changes such as channel straightening. The study includes analyses of both historic aerial photography of the Mouse River and a limited set of available historic cross-sectional surveys performed by the USGS.

Sediment characteristics: In order to quantify erosion and sedimentation, the type and quantity of sediment in the river system must be well defined because the erosion, transport, and deposition patterns vary among different types of soils. The report includes a compilation of the limited data available on river-bed sediment sizes and suspended sediment concentrations.

Lessons from the 2011 flood: The erosion and sedimentation issues caused by this massive flood highlight the areas of most concern on the Mouse River. The report includes a summary of erosion and sedimentation from 2011 based on a site visit and interviews with the U.S. Army Corps of Engineers and rural resource managers.

Geologic setting

The configuration of today's Mouse River Basin is the result of the area's glacial history. The basin's origins can be traced to a catastrophic outburst of glacial melt water in Canada about 11,000 years ago. Floodwaters from this outburst carved what are now known as the Des Lacs and Souris/Mouse River valleys (Figure 3). The melt water eventually flowed into glacial Lake Souris, which extended from Verendrye to the Canadian border, creating two distinct Mouse River reaches in North Dakota (upstream and downstream of Verendrye), each with its own behavior and structure.

Geologic events shaped not only the landscape but the paths the Mouse River now takes, affecting in particular its ability to convey water and sediment during extreme flood events. Signatures of the ancient glacial flood, such as shape and size of the Des Lacs and Souris/Mouse River valleys and the lack of a confining valley downstream of Verendrye, still influence certain aspects of water and sediment movement (Figure 4). The central issue for this study was that the highest potential for erosion will continue to exist in the river reaches upstream of Verendrye, while the downstream reaches will be more likely to experience sediment deposition in future floods.

Valley and stream characteristics and classification

Engineers and scientists use shared characteristics to group and describe river reaches as part of establishing baseline conditions for rivers and predicting their future erosion and sedimentation patterns. This practice is called stream classification. For this study, streams were classified according to features of both the valley and the river channel.

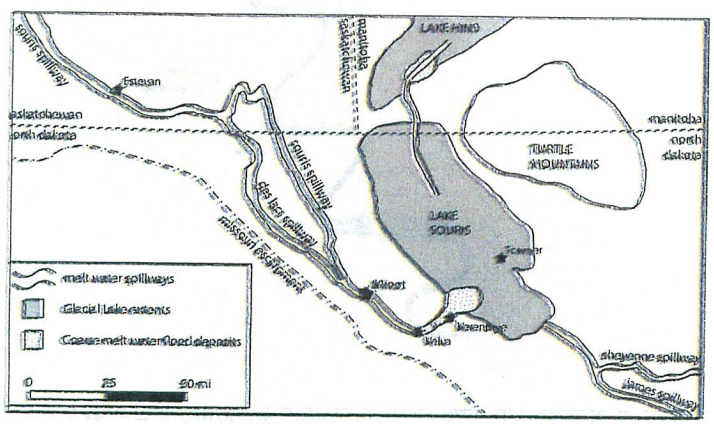


Figure 3: The Des Lacs and Souris/Mouse valleys were carved by an outburst of water from a glacial lake to the northwest, and entered Lake Souris near what is now Verendrye

The project team classified the Mouse River into nine reaches that vary in length and have been grouped according to similar valley, channel, and sediment characteristics (Figure 5). The nine reaches can be broadly considered as three groups: upstream of Burlington (reaches G, H, I); between Burlington and Verendrye (reaches D, E, F); and downstream of Verendrye (reaches A, B, C). This grouping corresponds to the major geologic shifts along the Mouse River: the confluence with the Des Lacs River at Burlington and the entrance to the bed of glacial Lake Souris at Verendrye.

The reaches of the Mouse River between Burlington and Verendrye (reaches D, E, F) received the most attention in this study because 1) they are the areas with the steepest river gradient and contain the soils most likely to be mobilized; 2) have been most affected by changes in the last several decades; and 3) will be the most directly affected by the proposed PER project. This section of the river is the most susceptible to erosion.

The reaches downstream of Verendrye (A, B, C) may also be influenced by the proposed project because they lie downstream of the project features and receive sediment carried from upstream reaches. These reaches represent the portions of the river that have 1) the lowest river gradients; 2) soils typically finer than those in upstream reaches; 3) the most open water and wetlands; and 4) the lowest channel banks. This section of the river is the most likely to experience sediment deposition.

The reaches upstream of Burlington (reaches G, H, I) will be less affected by the project partly because Lake Darling controls sediment movement through the system.

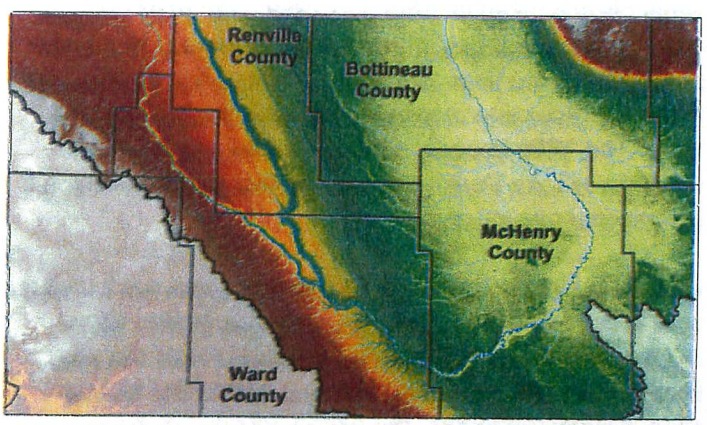


Figure 4: The glacial history of the Mouse River watershed can still be seen in the distinct valleys in Renville and Ward counties and the flat topography in McHenry and Bottineau counties (green depicts low elevations)

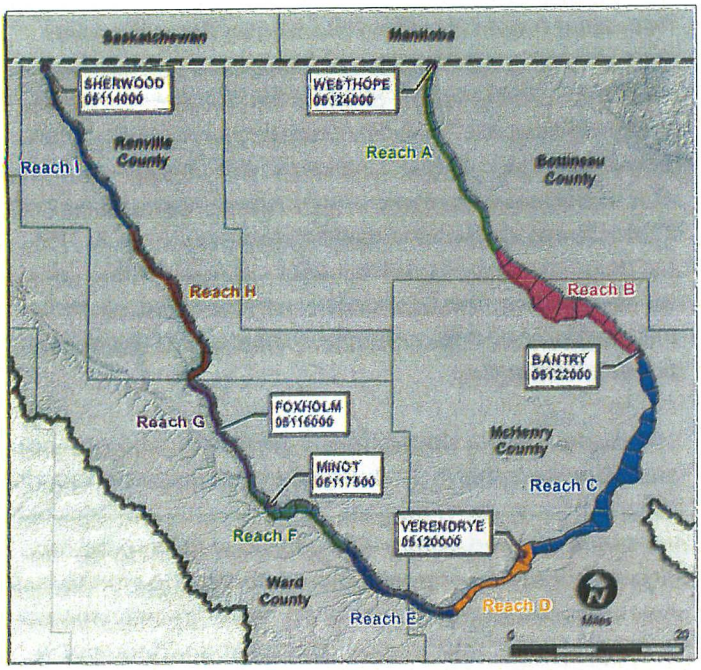


Figure 5: Stream classification yielded nine distinct reaches of the Mouse River (callouts show the locations of USGS flow-gaging stations)

Characteristics used in stream classification

- Valley width
- Valley slope (in direction of river flow)
- Valley sediment types (percent sand–see Figure 6)
- Land use
- Channel width
- Channel cross-sectional area
- Channel slope (in direction of river flow)
- Channel length per unit valley length (sinuosity)
- Channel course as viewed from above (Figure 7)

Figure 6: Watershed-wide information, including the different percentages of sand in surface soils, was used to characterize the Mouse River valley (the darkest shades indicate soils made up of at least 80% sand)

Changes in river shape over time

The Mouse River valley has undergone significant man-made changes in the past 150 years, including shifts in land use, increasing population, and construction of several federal flood-risk-reduction projects. The historical changes in the valley suggest how the river may adapt to future modifications of the channel and/or floodplain.

A key source of historic information about the Mouse River is aerial photography. The consulting team compared aerial photos taken in 1946 and 1969 with 2010 images, and assessed changes in the river's centerline. The 1969 photos show the river as it existed before the addition of flood-risk-reduction measures between Burlington and Velva. The 1946 images, although taken after the construction of Lake Darling, constitute the area's earliest full set of aerial photographs.

Comparing the images revealed that in areas not located near flood-risk-reduction works, changes in river alignment and in the river length (or sinuosity) over the past several decades have been minimal. While the Mouse River actively meanders, the observed rate of channel migration—the slow but constant reshaping of a sinuous river—is not high for a river with its characteristics.

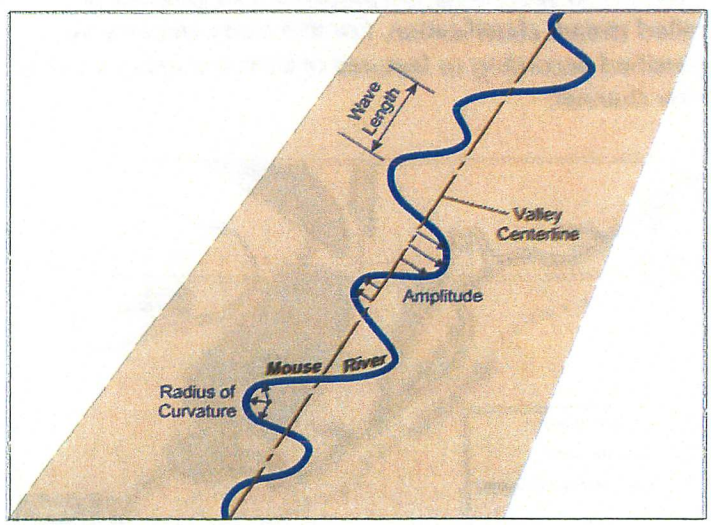


Figure 7: Stream classification included analyzing the river's pattern, which indicates how the river is responding to the forces that shape it

In contrast, pronounced changes in river length have occurred in reaches subject to the channel straightening and cutoff of bends that were part of federal projects (Figure 8). For the 10-mile-long section of river valley near Minot, these projects caused a reduction in stream length of more than 40% (9 river miles) between 1969 and 2010. The sinuosity (ratio of river length to valley length) for this section of the valley is now markedly different from that of the rest of the Mouse River valley, a condition that can cause excessive erosion and "unraveling" as the river attempts to compensate for the imposed redution in length. Although no observable major changes in other river characteristics have occurred since the federal projects were completed, there is a limit to how much straightening can be done without increasing erosion.

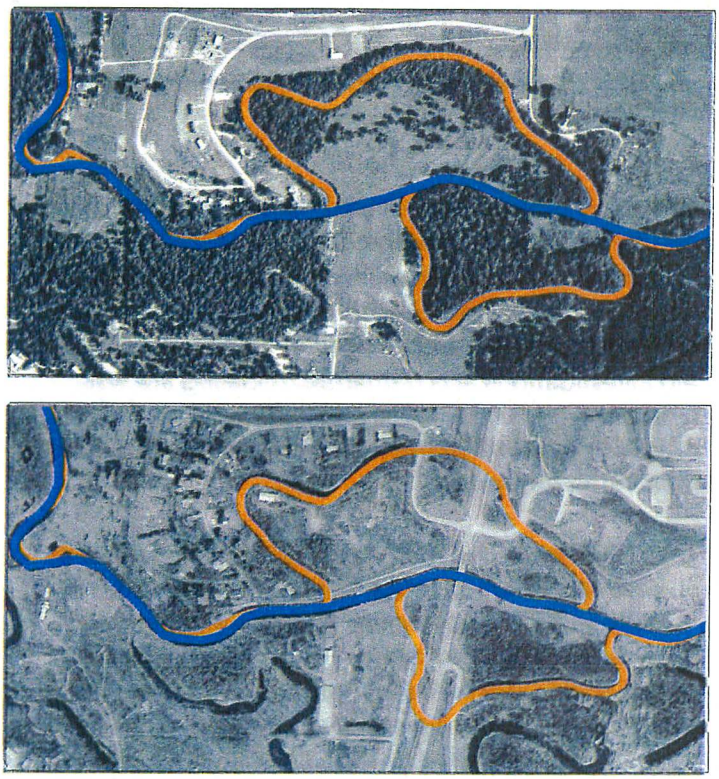


Figure 8: Aerial photos from 1969 (top) and 2010 show natural bends cut off by federal projects over the last several decades, which has reduced the river's length by 9 miles in the reach that includes Minot. The river's original course appears in orange; its current course in blue.

Sediment characteristics

Another important source of historic information is sediment transport data, including measurements of the type and quantity of sediment that is transported in the river system. Measurements of the channel bed material size are especially important, because different types of soil particles interact differently with flowing water.

The available sediment-transport data for the Mouse River was collected mostly by the U.S. Geological Survey in the 1970s. Because this data is very limited in the most sensitive Burlington-to-Verendrye reach (especially with respect to channel-bed material, and to sediment transport rates for a wide range of flows), the team could not quantify erosion or sedimentation potential. Based on the available data though, the Mouse River in the vicinity of Minot appears to have bed material of primarily fine sand and relatively low suspended sediment concentrations (Figure 9).

Preliminary evaluation of potential project impacts

Based on the initial characterization of the processes of erosion, transport, and deposition of river sediment in the study area, it is possible to offer a preliminary qualitative assessment of erosion and sedimentation impacts that may occur in the Mouse River if the proposed flood-risk-reduction project is implemented.

As discussed above, the reaches of the Mouse River between Burlington and Verendrye are naturally more susceptible to erosion. Because the project will increase flow velocities in some locations during very high flow conditions, the project's most likely local impact is an increased risk of erosion. The design considerations of the preliminary alignment already are intended to reduce the potential for erosion by including areas of overbank excavation and widening many of the bridge openings

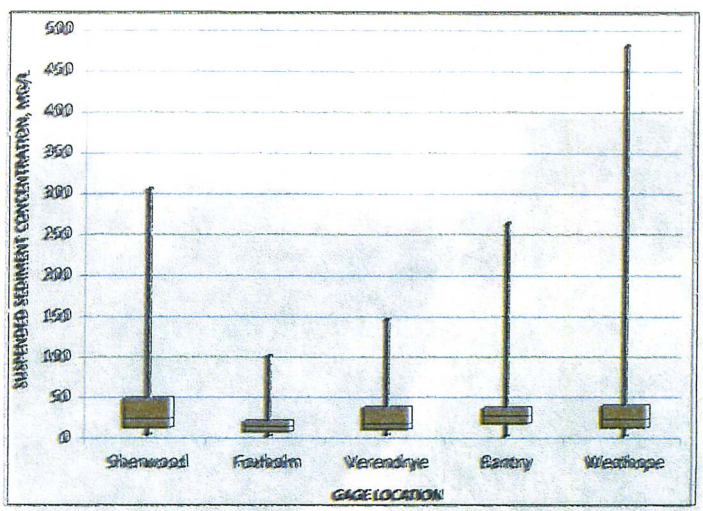


Figure 9: Suspended sediment concentrations vary along the Mouse River but are generally less than 50 milligrams per liter, indicating that typical flows in the river do not carry large amounts of sediment

(Figure 10), and by providing scour protection near diversion structures. However, current plans call for some bridge crossings to significantly constrict flood flows—a situation that may lead to erosion in extreme flood events.

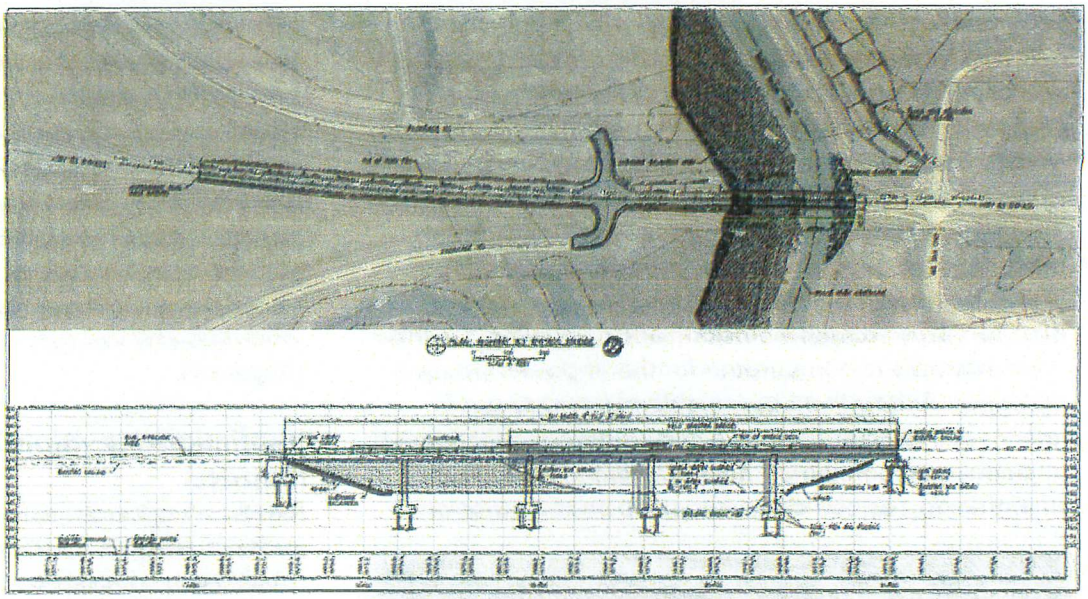


Figure 10: The PER includes designs to widen bridge crossings and reduce potential erosion—and therefore reduce downstream sedimentation

In addition, there is a risk of increased erosion (both bank erosion and channel scour) where the river channel is constricted by levees occupying a significant portion of the floodplain. This is particularly true in areas where the river is restricted to a very narrow region between a levee on one side and a valley wall on the other. At these locations, flow convergence may result in increased erosion (Figure 11).

The Souris Valley Golf Course in Minot will continue to be an area subject to sediment deposition. In the preliminary alignment created for this project, the golf course is the only area within Minot where the river has an appreciable floodplain, which reduces flow velocity even during very large floods and allows sediment deposition to occur. Similar deposition is also likely just downstream of Minot where the river will leave the protected area and return to its natural floodplain.

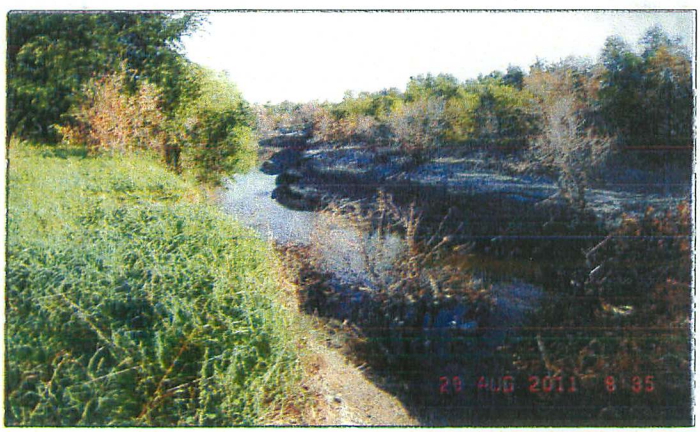


Figure 11: The most severe erosion in 2011 occurred where levees or steep valley slopes constricted the flow of water, such as this point on the Des Lacs River in Burlington

Judging by the characteristics of the Mouse River's valley and channel and by observations from the 2011 flood, it is unlikely that erosion and sedimentation impacts from the project will extend beyond the most sensitive reaches between Burlington and Verendrye. However, additional field investigations and numerical modeling are warranted to validate this initial conclusion, particularly as it relates to the development of river management alternatives in the rural areas.

There is not sufficient information available (especially on sediment characteristics) to numerically quantify the magnitude of the erosion and sedimentation impacts discussed above. These impacts can be quantified by modeling the most sensitive reaches of the river—modeling that accounts for driving forces (e.g., shear stress) and sediment characteristics (especially of the bed material and sediment load estimates).

One of the preliminary conclusions of this study is that despite the significant existing alteration of some Mouse River reaches (such as channel straightening and levee construction), only isolated erosion and sedimentation impacts were observed in a very extreme event (the 2011 flood of record). Additional river-alignment alterations associated with the PER project or alterations in the rural areas could translate into a different outcome.

Future tasks to improve impact assessment

The primary objective of this study was to characterize the river morphology and sediment transport processes in the study area, and to use this characterization to conduct a preliminary evaluation of the PER project's potential to result in undesirable erosion and sedimentation impacts. The evaluation has been qualitative due to the limited available historic information on sediment-related variables. The qualitative evaluation has served the purpose of identifying data gaps and additional analyses that will be required to determine the magnitude of the impacts and propose measures to lessen these impacts.

The main outstanding questions in this report that should be addressed in a next phase of erosion and sedimentation study are 1) how will the project change sediment transport upstream and downstream of project features, and 2) what will be the magnitude of the associated erosion or sedimentation responses?

A more quantitative analysis will likely be required to support the environmental review and design tasks; therefore, additional data collection, modeling, and analyses should be conducted in a future phase of study. These tasks should include:

- **Field sediment data collection.** It is recommended that data be collected on suspended sediment concentrations and gradations; bed and bank material gradations; and bed loading rates and gradations to use as input in the estimation of impacts (Figure 12).

Just as flood modeling requires an understanding of precipitation patterns and water flow behavior, answering the erosion and sedimentation questions above requires an understanding of the driving and resistant forces of sediment movement through the river system. It is important to quantify the balance between the magnitude and frequency of flows (the driving forces) versus the type of sediment in the watershed and in the channel (the resistant forces) in order to quantify sediment movement and associated erosion and sedimentation—under both existing conditions and with-project—so that impacts can be determined and engineering solutions can be proposed. **This may be necessary also to support environmental review and permitting of the project.**

- **Field channel cross-section surveys.** New data should be collected at a limited number of locations to increase understanding of the Mouse River's local geomorphology (landform-shaping processes) in areas most sensitive to project-related changes (see Figure 13).

- **Historic cross-section measurements.** Archived USGS data should be obtained to provide a better understanding of how the Mouse River has been affected by previous flood-risk-reduction efforts and how it might continue evolving after implementation of the proposed PER project or the river management alternatives in rural areas.

- **Sediment transport modeling.** Modeling is necessary to quantify the project's effects on sediment transport in the river. Depending on the degree of predicted impacts, changes to project features may be recommended.

Figure 12: Bed-material samplers are used to collect soil and sediment from river bottoms, a task recommended for a future phase of study

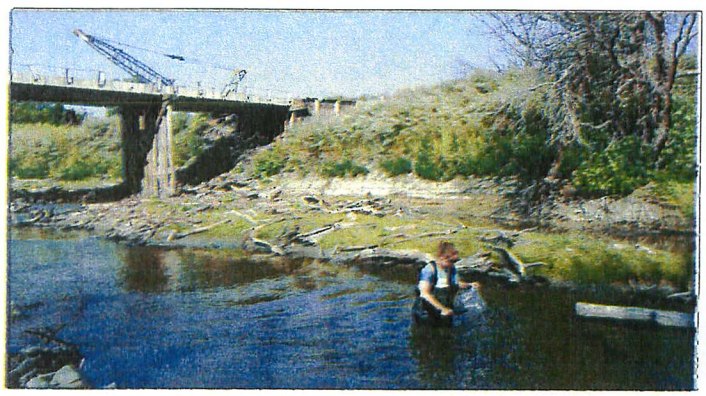
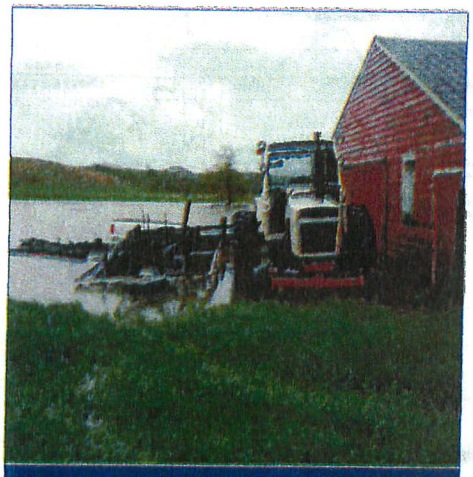


Figure 13: Field channel cross-section surveys include identifying indicators of predominant channel-shaping flows



Rural Flood Risk Alternatives Evaluation

Background and purpose

The Mouse River Valley of North Dakota has endured frequent flood damages over the last decade. Flooding has had significant impacts on the rural residents who make their livelihood along the river and within the floodplains of the Mouse River Valley. Impacts from flooding in the rural areas are varied and widespread, but have often included damage to agricultural areas resulting in reduced yields, damage to structures, adverse impacts to livestock, and loss of commerce due to inundated roads and bridges.

The Mouse River Enhanced Flood Protection Plan is designed to provide flood relief to Mouse River Valley residents. It was initiated by the North Dakota State Water Commission (NDSWC) in response to a request for assistance from the Souris River Joint Water Resources Board (SRJB) after the record-breaking Mouse River flood of June 2011. In the first phase the consulting team developed a plan to reduce flood risk in the river valley from Burlington to Velva and Mouse River Park, described in the *Preliminary Engineering Report* (PER) of February 2012.

After delivery of the PER the focus was shifted to the rural areas (Figure 1). This evaluation provides information for stakeholders to make informed decisions when considering basin-wide flood risk reduction measures within the Mouse River Valley. The Rural Flood Risk Reduction Alternatives Evaluation concentrated on obtaining answers to the following three questions:

(1) What are the effects of implementing the Project elements (as defined in the February 2012 PER) when compared to existing conditions?

(2) Are the proposed rural flood risk reduction alternatives effective in reducing flood impacts to agriculture and/or infrastructure?

(3) Are the rural alternatives implementable?

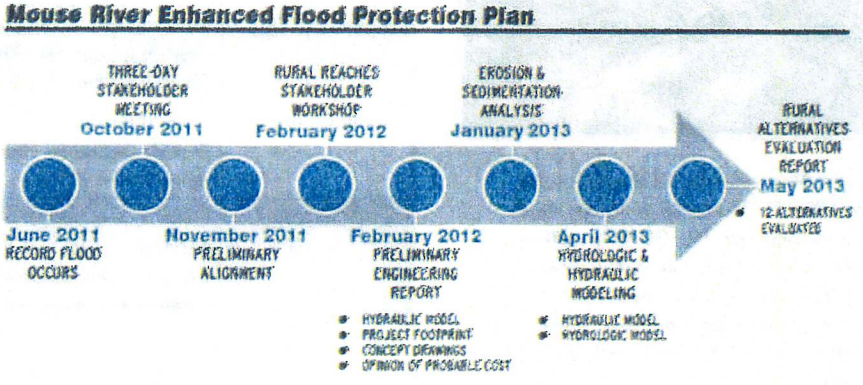


Figure 1: This Rural Alternatives report is the final report for this phase of the Mouse River Enhanced Flood Protection Plan; previous efforts focused on establishing a preliminary alignment for levees and floodwalls, an erosion and sedimentation analysis, and hydrologic and hydraulic modeling.

Contents

Study area

The study area consists of the main stem of the Mouse River within North Dakota, analyzed separately within four reaches. Only rural areas, buildings, roadways, railroads, and bridges were in this evaluation. Areas that would be protected by the PER flood risk reduction elements were excluded from the evaluations conducted for this study; the remaining rural areas from Burlington to Velva were included. The study area is shown in Figure 2.

Alternatives

Twelve alternatives were identified by stakeholders to address rural flooding concerns. These alternatives are summarized in Table 1. The with-Project conditions was compared to the existing conditions and then to each of the analyzed alternatives.

The Souris River Joint Board (SRJB) hosted a Rural Reaches Workshop in Minot, North Dakota, on February 16, 2012, to collect information from community stakeholders on the types of flooding problems experienced by rural landowners, river stages and time frames when flooding is an issue, and potential risk-mitigation alternatives.

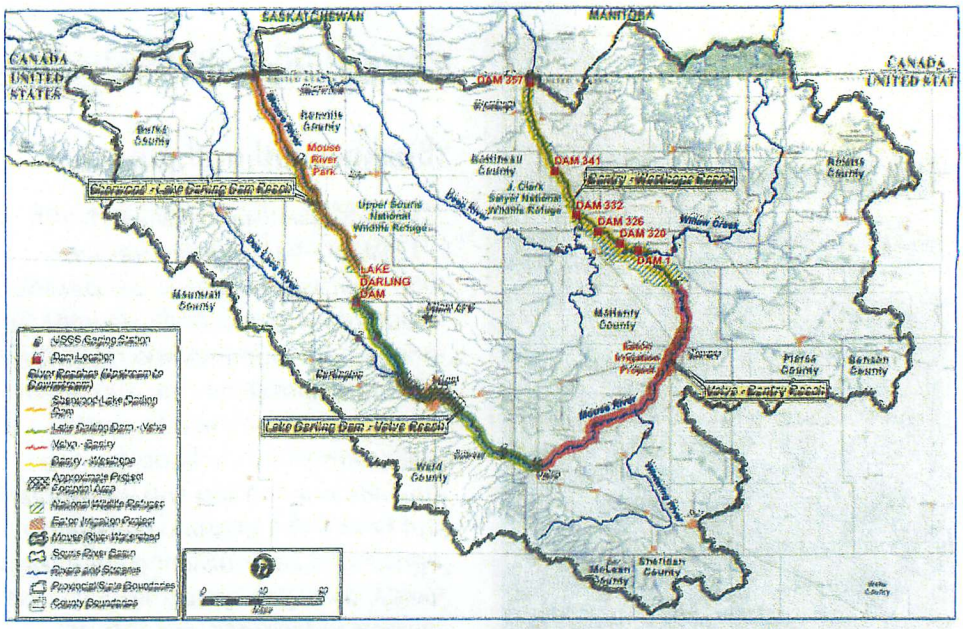


Figure 2: Map of the study area; alternatives were evaluated for four reaches of the Mouse River: (1) Sherwood to Lake Darling Dam, (2) Lake Darling Dam to Velva excluding Project footprint areas, (3) Velva to Bantry, and (4) Bantry to Westhope.

Table 1: Rural Flood Risk Reduction Alternatives	
ALTERNATIVE 1	ADVANCED DISCHARGE FROM LAKE DARLING *Modify the operating plan of Lake Darling Dam to drawdown pool level to the maximum drawdown level (El. 1,591) prior to spring flood events.*
ALTERNATIVE 2	INCREASED TARGET DISCHARGE AT MINOT *Modify the operating plan of Lake Darling Dam to allow discharges up to 10,000 cfs at Minot.*
ALTERNATIVE 3	NON-STRUCTURAL FLOOD STORAGE INCREASE IN LAKE DARLING *Increase the storage capacity of Lake Darling by lowering the maximum allowed drawdown level by 7 feet (to El. 1,584).*
ALTERNATIVE 4	STRUCTURAL FLOOD STORAGE INCREASE IN LAKE DARLING *Increase the storage capacity of Lake Darling by raising the dam. (Increase maximum flood storage level by 10 feet to El 1,611.)*
ALTERNATIVE 5	RING DIKES *Provide ring dikes around homes, businesses, and farmsteads in rural areas.*
ALTERNATIVE 6	BOUNDARY DIVERSION *Provide a high-flow diversion from Sherwood to Westhope to divert high flows away from the Mouse River Valley in North Dakota.*
ALTERNATIVE 7	CHANNELIZATION IMPROVEMENTS DOWNSTREAM OF VELVA *Provide increased channel flow capacity through channelization in select areas downstream of Velva.*
ALTERNATIVE 8	BRIDGE MODIFICATIONS *Raise or enlarge openings of select bridges over the Mouse River to allow key transportation corridors to remain open during flood events and to provide increased conveyance capacity at bridges.*
ALTERNATIVE 9	MODIFY J. CLARK SALYER REFUGE DAM OPERATIONS *Modify the operations of JCSNWR dams so that all water control structures remain open during events like the 2009, 2010, and 2011 historic events.*
ALTERNATIVE 10	MODIFY J. CLARK SALYER REFUGE HYDRAULIC STRUCTURES *Modify the physical parameters of the five JCSNWR dams to re-create conditions that existed prior to dam reconstruction work in the early 1990s.*
ALTERNATIVE 11	REMOVE TRAPPED FLOODWATER AFTER THE FLOOD RECEDES *Improve drainage of low-lying overbank areas to remove trapped floodwater from the floodplain after the flood recedes.*
ALTERNATIVE 12	FLOOD STORAGE ON TRIBUTARIES TO THE MOUSE RIVER *Provide floodwater storage in tributary watersheds.*

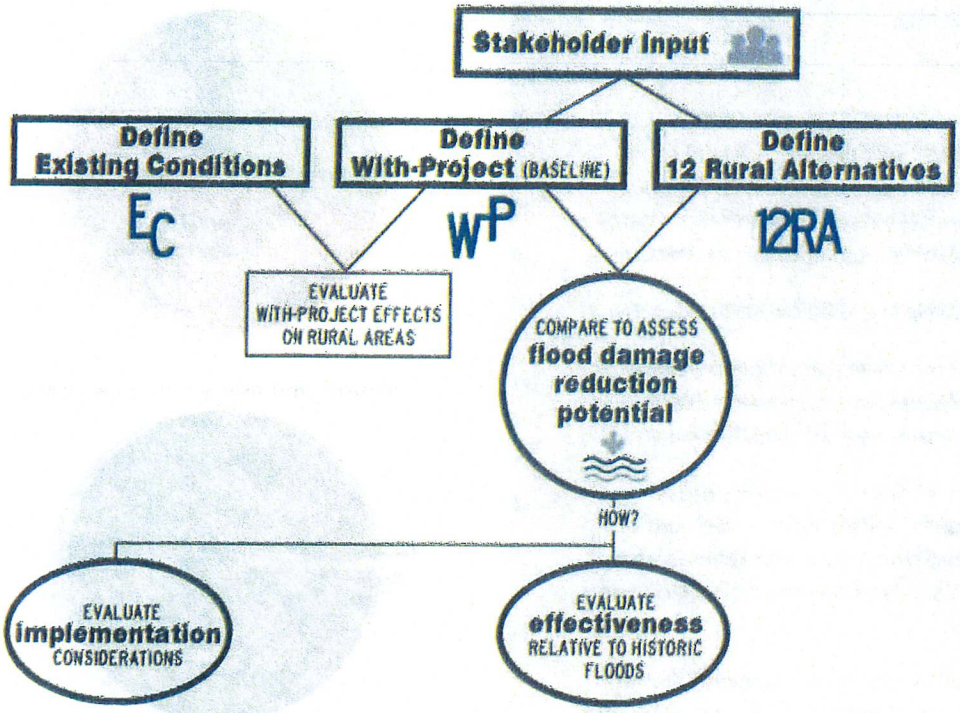


Figure 3: The evaluation process started with stakeholder input; 12 alternatives were identified and compared to assess flood risk reduction potential and implementability.

Study approach

The approach to the rural flood risk reduction alternatives evaluation was: (1) to engage stakeholders in identifying rural area flood concerns and alternatives to be studied, (2) to develop hydrologic and hydraulic models for the entire study area, and (3) to evaluate alternatives using stakeholder criteria and modeled flood scenarios.

The resulting alternatives were evaluated for their effectiveness in reducing flood impacts using qualitative analysis of historic floods as well as computer simulations of specific scenarios. This evaluation relies on the hydrologic and hydraulic models constructed of the Mouse River Valley for both the existing and with-Project conditions. Alternatives were also assessed for implementability to assess the degree of difficulty that might be expected in implementing a particular alternative under practical, technical, and regulatory constraints (Figure 3).

Effectiveness evaluation

The initial evaluation of each alternative was an assessment of the potential for the alternative to provide meaningful flood risk reduction, based on the established stakeholder criteria. USGS gage data for 14 historic floods were used to determine how likely each alternative would be to provide a flood risk reduction benefit under various flood conditions.

The effects of a flood on infrastructure are primarily related to the magnitude of the flood, with "major" flood damage resulting from flows above 5,000 cfs in most areas. Infrastructure impacts would be reduced by decreases in the peak flows or by local protection measures (ring dikes or bridge modifications). Impacts to transportation infrastructure are classified as affecting local roads, county roads, highways, or railroads.

The effects of a flood on agriculture are related to both the magnitude and timing of the flood. "Problematic" flooding occurs at flows above 3,000 cfs in most areas, but even flows above 500 cfs can cause significant impacts to agriculture if they occur during the peak growing season. Agricultural impacts would be reduced by decreases in the peak flows and the duration of high flows in the growing season. Agricultural impacts are defined based on the amount of farmland inundated and the timing/duration of the inundation.

Implementation evaluation

The implementation evaluation assessed the degree of difficulty that might be expected in implementing each alternative under practical, technical, and regulatory constraints. This qualitative analysis identified potential issues with permitting, legal issues, capital cost range, and constructability challenges (Table 2).

Table 2: Implementation Evaluation Criteria	
1	Stakeholder Acceptance*
2	Impacts to Transportation, Commerce, Emergency Response
3	Water Rights Impacts/Issues
4	Impacts to Canada
5	Agricultural Impacts
6	Flood Insurance Impacts
7	Social Impacts
8	Capital Cost Range
9	Operation/Maintenance Requirements
10	Erosion/Sedimentation Impacts
11	Environmental Impacts
12	Permit Requirements
13	Constructability

**While "stakeholder acceptance" is a critical component of implementability, it was not rated as part of this evaluation. The engineering team recognizes that it cannot assume to understand this criterion before stakeholders have had the chance to review and comment on this report.*

Historic flood evaluation

An evaluation of historic floods in the Mouse River Basin was critical to understanding flood-related problems and to defining the potential effectiveness of alternatives in reducing flood impacts for observed floods. Figure 4 summarizes the primary contributing drainage area and the type of flood (snowmelt, rainfall, or combination) for the top 28 floods at Verendrye.

Analysis of historic floods since 1937 resulted in the following conclusions:

- Snowmelt combined with coincidental or subsequent rainfall was the primary cause of the majority of the largest floods. However, over a quarter of the floods at Verendrye were the result of rainfall events.
- The drainage area upstream of Lake Darling Dam was the primary contributor to the majority of the largest floods. About 25 percent of the largest flood events were generated primarily from drainage areas downstream of the dam; therefore, Lake Darling Reservoir provides no flood risk reduction for those events.
- For flood risk reduction measures to be effective in reducing flooding and flood damages for the reaches downstream of Velva, measures that consider flood runoff from all portions of the upstream drainage areas should be considered.

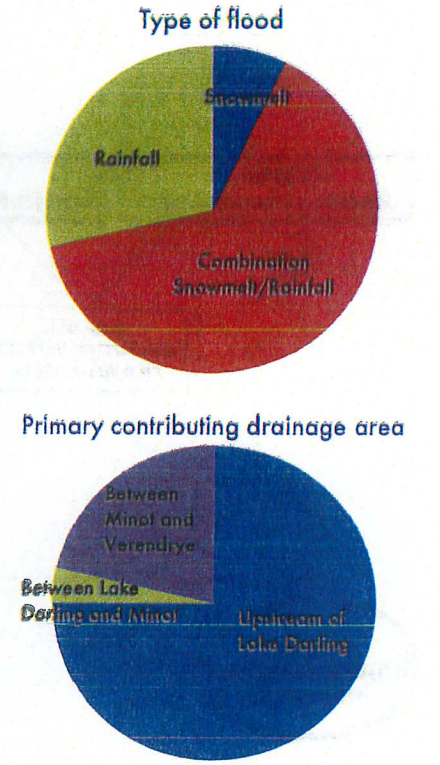


Figure 4: A summary of the primary contributing drainage area and type of flood for the top 28 floods at Verendrye

Conclusions

Effect of Burlington-to-Velva flood risk reduction measures

The hydraulic model of the Mouse River was developed to assess the changes in river hydraulics that could be expected with flood risk reduction measures in place (Figure 5). The results indicate the Project has very little impact on water surface elevations outside of the Burlington-to-Velva Project areas. With the Project elements in place, the impacts to inundated rural areas, number of inundated rural buildings, length of inundated roads, length of inundated railroads, and number of inundated bridges were relatively unchanged from existing conditions for all years (2009, 2010, and 2011) modeled.

Rural flood risk alternatives

The effectiveness and implementation assessments for the 12 alternatives are summarized in Table 3 on the following pages.

Change in water surface elevation due to Project

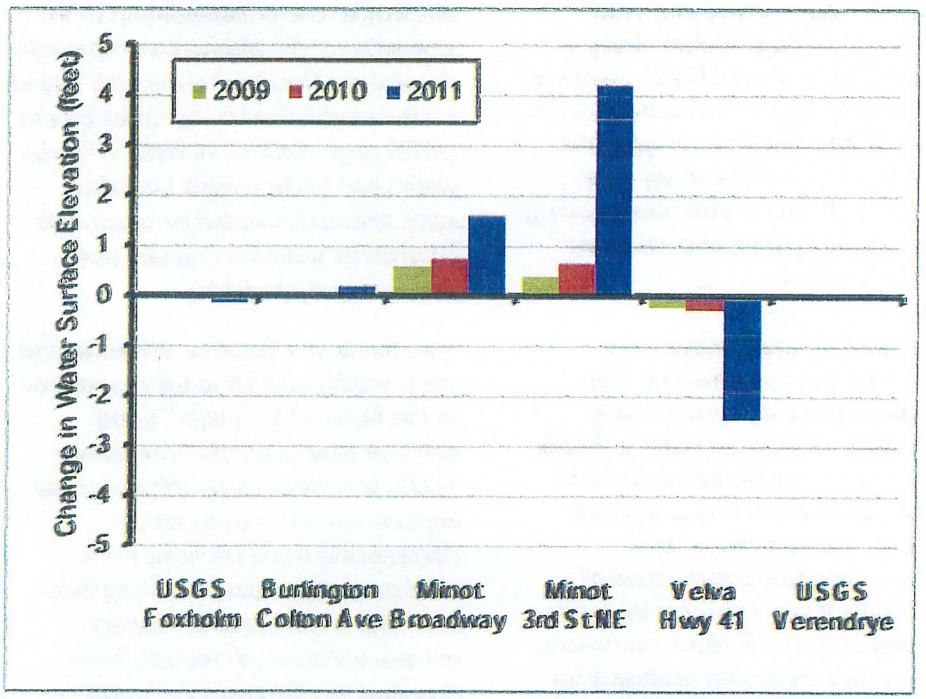


Figure 5: Hydraulic modeling of the 2009, 2010, and 2011 flood events was performed with and without the PER Project elements in place. The Project will minimally impact water surface elevations upstream of Burlington and downstream of Velva, while water surface increases in the developed areas will be contained between the proposed Project levees.

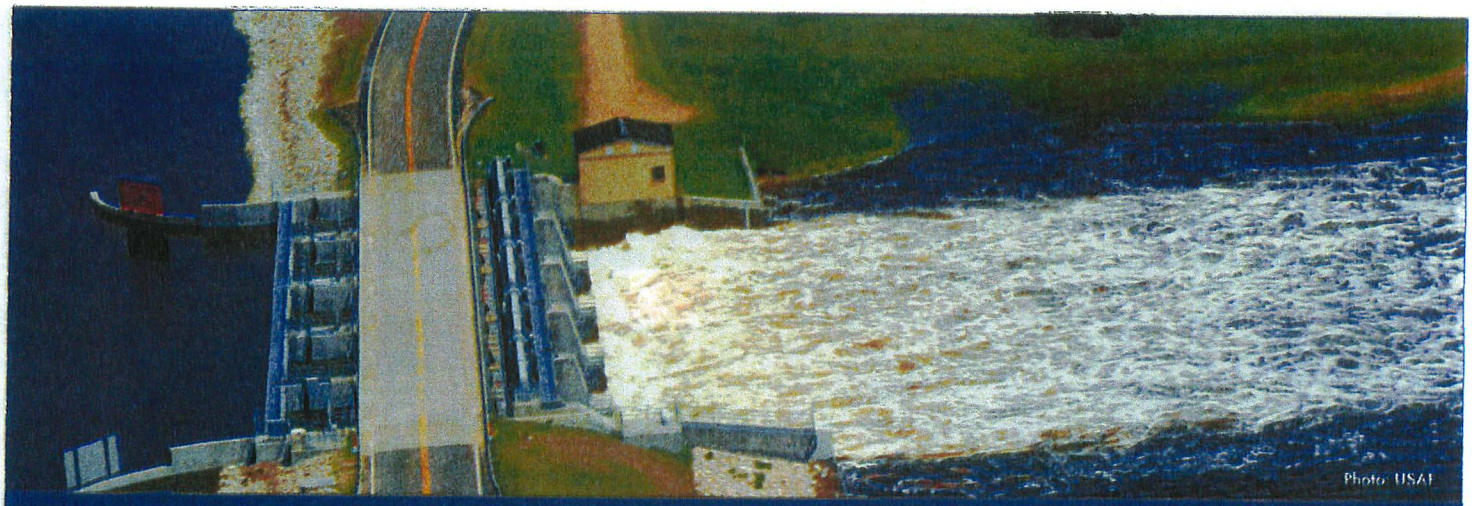


Table 3: Summary of Findings and Conclusions

	Effectiveness Assessment		Implementation Evaluation		
Alternative	Agricultural Impact Reduction	Infrastructure Impact Reduction	Overall Implementability	Greatest Challenges	Anticipated Cost Range
ALTERNATIVE 1 Advanced Discharge from Lake Darling ★	Effective at reducing duration of inundation from Velva to Bantry during 1999 and 2001 floods; also somewhat effective for the 1975 and 1979 floods	Minor reduction of impacts for other select floods	✓	Concerns about increased winter discharges; requires modification of Annex A; possible water rights and refuge compatibility issues	$ Minimal capital cost
ALTERNATIVE 2 Increased Target Discharge at Minot	Minor reduction of impacts for the 2011 flood; effective at reducing duration of inundation from Velva to Bantry for the 1975, 1976, and 1979 floods	Minor reduction of impacts for the 2011 flood; infrastructure impacts worsened for the 1975, 1976, and 1979 floods	✗	Increased inundation for some floods; more homes in 100-year floodplain; possible water rights and refuge compatibility issues	$ Minimal capital cost
ALTERNATIVE 3 Non-Structural Flood Storage Increase in Lake Darling ★	Effective at reducing duration of inundation from Velva to Bantry for the 1970, 1974, 1975, 1976, and 1979 floods	Minor reduction of impacts for other select floods	!	Concerns about increased winter discharges; requires modification of Annex A; possible water rights and refuge compatibility issues (more so than Alternative 1)	$ Minimal capital cost
ALTERNATIVE 4 Structural Flood Storage Increase in Lake Darling	Minor reduction of impacts for the 2011 flood	Minor reduction of impacts for the 2011 flood	✗	Relocations, cost, coordination with Canada, recreational concerns	$$$ ($200-700 million)
ALTERNATIVE 5 Ring Dikes ★	No agricultural impact reduction (ring dikes only protect structures)	Effective at reducing impacts to buildings for floods up to the 2011 magnitude flood, but no reduction of impacts to roadways, railroads, or bridges	✓	Individual landowners must provide cost share and conduct maintenance	$$ ($10-50 million)
ALTERNATIVE 6 Boundary Diversion	Effective at reducing impacts for the 2011 flood in all reaches	Effective at reducing impacts for the 2011 flood in all reaches	✗	Major negative impacts likely for many of the criteria, including permits, impacts to Canada, relocations, constructability	$$$$ ($2-3 billion)

★ Most attractive basin-wide alternative

Implementability

✓ Minimal challenges currently foreseen to implement the alternative

! Some challenges currently foreseen to implement the alternative

✗ Significant challenges currently foreseen to implement the alternative

Anticipated cost range

$ Minimal cost ($0 to $10 million)

$$ Moderate cost ($10 to $300 million)

$$$ High cost ($300 million to $1 billion)

$$$$ Very high cost (>$1 billion)

Table 3: Summary of Findings and Conclusions

	Effectiveness Assessment		Implementation Evaluation		
Alternative	Agricultural Impact Reduction	Infrastructure Impact Reduction	Overall Implementability	Greatest Challenges	Anticipated Cost Range
ALTERNATIVE 7: Channelization Improvements Downstream of Velva	Minor reduction of impacts	For the Velva to Bantry reach, effective at reducing impacts to buildings for the 2009 flood; minor reductions in impacts to roadways and railroads for the 2009, 2010, and 2011 floods	✗	Likely difficulty in obtaining USACE permit for channel excavation	$$ ($100-400 million)
ALTERNATIVE 8 Bridge Modifications	Minor reductions of impacts	Effective at reducing impacts to bridges, but minor or no reduction of impacts to buildings, roadways, or railroads	✓	Some environmental and erosion/sedimentation impacts	$$ ($30-100 million)
ALTERNATIVE 9 Modify JCSNWR Dam Operations	Minor reduction of impacts for the 2010 flood in the Bantry to Westhope reach	Minor reduction of impacts to roadways and railroads for the 2010 flood in the Bantry to Westhope reach	✗	Likely difficulty in obtaining USFWS and USACE permits; compatibility issues with refuge missions	$ Minimal capital cost
ALTERNATIVE 10 Modify JCSNWR Hydraulic Structures	Minor reduction of impacts for the 2009, 2010, and 2011 floods in the Bantry to Westhope reach	Minor reduction of impacts for the 2009, 2010, and 2011 floods in the Bantry to Westhope reach	✗	Likely difficulty in obtaining USFWS and USACE permits; compatibility issues with refuge missions	$$ ($30-100 million)
ALTERNATIVE 11 Remove Trapped Water after the Flood Recedes	Impact reduction is likely if (1) topography allows the trapped water to be conveyed back to the channel by gravity and (2) elevation of the river has receded below the drain outlet by approximately May 31	Minimal reduction of impacts expected; depends on final locations implemented	✓	Concerns about erosion downstream of culverts; ongoing maintenance to maintain effectiveness	$ ($3-10 million)
ALTERNATIVE 12 Flood Storage on Tributaries to the Mouse River	50% and 70% reduction scenarios are effective at reducing inundation during the 2009 and 2010 floods	50% and 70% reduction scenarios are effective at reducing inundation during the 2009 and 2010 floods	!	Site identification; possible difficulty in obtaining permits	$$ ($10-340 million)

Effectiveness criteria were developed to help determine which rural alternatives would be identified as the most effective. The objective of the effectiveness criteria was to identify alternatives that appear to provide some substantive relief (greater than 25 percent reduction in inundation area or flood duration or reduces the inundation of some infrastructure) for at least two of the historic flood events.

Based on the results of this rural flood risk reduction evaluation, the most effective basin-wide rural alternatives for reducing impacts to agriculture are Alternatives 1 (Advanced Discharge from Lake Darling) and 3 (Non-Structural Flood Storage Increase in Lake Darling). The most attractive basin-wide alternative for reducing impacts to infrastructure is Alternative 5 (Ring Dikes). Alternatives 1 and 5 have minimal implementation challenges, while Alternative 3 would be more challenging to implement. Additional considerations for these alternatives are shown in Table 4.

Many of the alternatives, including those that were not identified as "most effective," could provide some level of benefit even if the alternative was only partially implemented (i.e., implemented on key tributaries or at key locations along the Mouse River) and would need to be evaluated on a case-by-case basis. The results indicate that no single alternative is likely to provide all-encompassing flood risk reduction in rural areas. However, the most effective basin-wide approach for reducing rural flood impacts to both agricultural land and infrastructure along the Mouse River would likely consist of a combination of two or more of the alternatives.

Next steps

Flooding has had significant impacts on the rural residents who make their livelihood along the river and within the floodplains of the Mouse River Valley. Recognizing that stakeholder acceptance is the key to moving towards implementation of any rural flood risk reduction alternative, the most important next step is to gather feedback from those stakeholders and policy makers who have a vested interest in protecting agricultural land, homes, and infrastructure in the rural areas along the Mouse River.

Table 4: Additional Considerations for Most Effective Basin-Wide Alternatives

Alternative	Potential Advantages	Potential Limitations	Other Considerations	Potential Next Steps
ALTERNATIVE 1 Advanced Discharge from Lake Darling	Relatively inexpensive to implement; reduces agricultural impacts for select floods by allowing earlier access to fields adjacent to the river	Does not provide comprehensive flood risk reduction for all floods; little or no reduction of infrastructure impacts	Assumes that discharges can be predicted months ahead of time, which is not feasible	Study for the review of Annex A currently underway by the International Souris River Board which will review optimizing the operations of Lake Darling Dam
ALTERNATIVE 3 Non-Structural Flood Storage Increase in Lake Darling	Relatively inexpensive to implement; reduces agricultural impacts for select floods by allowing earlier access to fields adjacent to the river	Does not provide comprehensive flood risk reduction for all floods; little or no reduction of infrastructure impacts	Assumes that discharges can be predicted months ahead of time, which is not feasible	Study for the review of Annex A currently underway by the International Souris River Board which will review optimizing the operations of Lake Darling Dam
ALTERNATIVE 5 Ring Dikes	Effective in reducing risks of damage to buildings for floods up to June 2011 flood levels	No reduction of agricultural impacts or impacts to roads, railroads, or bridges	Fewer evacuations in major floods may result in more residents without transportation links due to inundated roads	Obtain input from landowners and compile list of potential ring dike locations; for each potential location compare cost of ring dike, structure relocation, and acquisition; conduct hydraulic modeling, especially in areas with large or many proposed ring dikes

International Joint Commission
Canada and United States

Commission mixte internationale
Canada et États-Unis

June 7, 2013

The Honorable John Kerry
Secretary of State
U.S. Department of State
2201 C St. NW
Washington, DC 20520

The Honorable John Baird
Minister of Foreign Affairs
Foreign Affairs and International Trade Canada
125 Sussex Dr.
Ottawa, ON, Canada
K1A 0G2

Subject: **Plan of Study: For the Review of the Operating Plan Contained in Annex A of the 1989 International Agreement between the Government of Canada and the Government of the United States of America.**

Dear Secretary Kerry and Minister Baird:

The unprecedented flooding in the Souris River basin in 2011 prompted calls from both sides of the border to review the existing agreement that deals with water supply and flood control in the Souris Basin. The governments subsequently requested that the Commission develop a "Plan of Study" (POS) to identify what needs to be done to address this issue. In particular, the focus should be on evaluating the Operating Plan, but also on identifying potential additional measures to help alleviate flooding in the basin. An integral part of this analysis should be to assess the impacts of climate change in light of the increasing magnitude of floods. The International Joint Commission's International Souris River Board established the Souris River Basin Task Force on February 22, 2012 to develop a POS and provide a range of options for addressing this issue. The Board recently submitted its final report to the Commission. There was a 30 day public consultation period, and the input from stakeholders and the public is captured in the report.

The Task Force identified three funding options based on the scope and level of effort required:

1. Minimum Scope - $1.05M
2. Medium Scope - $1.33M
3. Full Scope - $2.14M

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The advantages and limitations of each option are clearly laid out in the Executive Summary of the POS (**Attachment 1**). As proposed in the POS, the work would take two years to complete and the funding should be equally shared between the two countries. The Task Force, after extensive consultations with International Souris River Board, stakeholders and the public concluded that Option 3 should be pursued, as it provides the most comprehensive assessment. The Commission supports this recommendation and encourages the governments to provide a Reference and commit to this level of funding in a timely manner so that this important work can proceed.

This year's flooding in the basin is again severe, and significant public concern is being voiced on both sides of the border. The work that would be carried out under the POS is viewed by the public and other stakeholders, as well as the Commission and our International Souris River Board, as being important for developing a basin-wide strategy aimed at reducing the impacts of severe floods.

Sincerely,

Lana Pollack
Chair
US Section

Joseph Comuzzi
Chair
Canadian Section

Dereth Glance
Commissioner
U.S. Section

Richard Moy
Commissioner
U.S. Section

Attachment

1. Plan of Study: For the Review of the Operating Plan Contained in Annex A of the 1989 International Agreement between the Government of Canada and the Government of the United States of America.

cc.
Russell Boals, Canadian Co-Chair, International Souris River Board
Todd Sando, US Co-Chair, International Souris River Board

North Dakota State Water Commission
900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer/Secretary
SUBJECT: 2013 Flood Update
DATE: June 7, 2013

Snowmelt

If weather conditions had been "normal" for North Dakota this spring, then widespread, near record flooding likely would have occurred. April brought well-below normal temperatures statewide. In fact, all major weather reporting stations including Bismarck, Dickinson, Fargo, Grand Forks, Jamestown, Minot, and Williston had one of the top five coldest April on record. Fargo set a new record for latest 50-degree day in any year on April 26th and tied the latest 60-degree day record.

The snow pack leading into the late April/early May melt had emergency planners concerned for good reason. Snow Water Equivalent (SWE) values were reminiscent of spring 2011 and with the late start to the melt the potential for rapidly warming temperatures was likely. Fargo's normal high temperatures for late April are in the low 60s. If the stretch of 60-degree weather Fargo experienced at the end of April had continued through early May, a rapid melt would have occurred potentially leading to one of the five worst flood crests in Fargo's history. Instead, overnight low temperatures cooled off into the 30s and by May 1st a return to 40 and 50-degree weather was seen.

Another benefit to the temperatures this spring is their undoubted contribution to soil infiltration. The ground warmed up just enough to allow a significant amount of snowmelt to infiltrate, whereas it otherwise would have contributed to a widespread overland flooding if the frost had remained in place. In addition, the drought conditions that occurred last year left soils dry, enabling moisture to infiltrate instead of running off.

The Red River at Fargo crested at 33.31 feet on May 1st, making this the 12th highest on record. This was very significant because the forecast was for a potential crest of 38 to 42 feet.

The Mouse River saw very high snow amounts as well, which resulted in the dams above Minot being drawn down below the target elevation. As was seen across the rest of the State the soil absorbed more runoff than was predicted causing the predicted river crests to be lower than expected. The peak from snowmelt at Minot was 2,640 cfs.

In comparison to the conditions that brought flooding to the Missouri and Mouse River Basins in 2011, we were fortunate that there were not any significant spring rains to rapidly accelerate the snowmelt and bolster the amount of water passing through these systems this season. Two weeks after many rivers across the state were finally reaching their early May crests, record setting May rainfall events began across western and central North Dakota and continued

through early June. Had these seven to ten inch cumulative rains coincided with the snowmelt in late April or early May, widespread flooding would have occurred.

May Rainfall

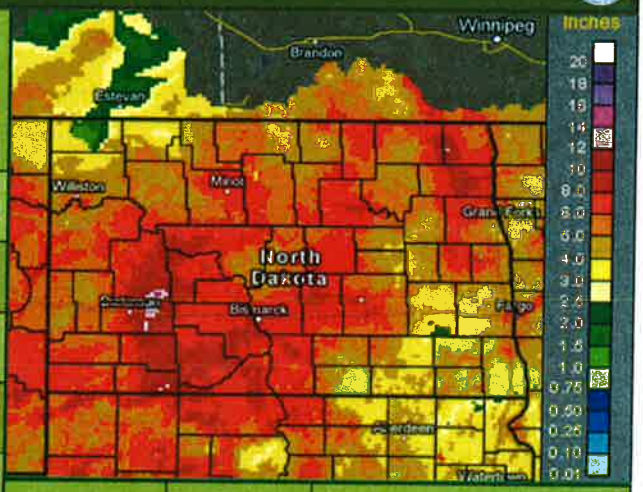
On Thursday, May 16, the National Weather Service forecasted severe thunderstorms possible late Friday, especially in southwest North Dakota. Severe thunderstorms were also forecasted again later Saturday and Sunday, especially in the south central and southeast parts of the state with total rain amounts of 1.5 to 4 inches forecasted through Tuesday. By Tuesday, May 21, rainfall totals across the entire state averaged nearly three inches, with areas in the northeastern portion of the State receiving 5.5 to 11 inches.

The rainfall that occurred the second half of May set records all over the State, including Bowman, Marshall, Taylor, Killdeer, Flasher, Dunn Center, Hettinger, Bismarck, Grassy Butte, New Salem, and Dickinson. See Figure 1.

Figure 1

May 2013 Western and Central ND Rainfall Summary

Location	2013 May Rainfall (in.)	Record
Bowman	10.61	*New Record (previously 6.73 in 1982)
Marshall	10.18	*New Record (previously 5.79 in 2011)
Taylor 7NNW	9.18	*New Record (previously 5.54 in 2011)
Killdeer	9.15	*New Record (previously 6.64 in 2011)
Flasher	8.53	*New Record (previously 6.37 in 2007)
Dunn Center 1E	8.11	*New Record (previously 7.20 in 2011)
Hettinger	8.02	*New Record (previously 4.48 in 2011)
Bismarck	7.37	*New Record (previously 7.04 in 1927)
Garrison	6.82	8.51 in 2007
Minot	6.75	7.04 in 2007



Grassy Butte	6.69	*New Record (previously 5.83 in 2010)
New Salem 5NW	6.66	*New Record (previously 6.64 in 1927)
Dickinson	6.03	*New Record (previously 5.87 in 2005)
Williston	4.99	7.38 in 1965
Jamestown	4.40	6.24 in 2004
Willow City	4.13	7.63 in 1999

NWS Bismarck, North Dakota

Dams and cities throughout the State had issues. Cavalier and Akra in Pembina County, Crystal in Walsh County, Belcourt in Rolette County were evacuated and Hebron in Morton County had a voluntary evacuation. Several Roads were inundated including I-94 near Jamestown.

Renwick Dam, located in Pembina County about 6 miles upstream of the City of Cavalier on the Tongue River, experienced a rapid rise in water level. In an effort to prevent water from flowing through the auxiliary spillway, a dike was constructed in the auxiliary spillway to near top of dam elevation. The City of Cavalier was evacuated on May 21st as a precaution. On May 22nd, the water level peaked at 987.99 feet, 4.7 feet above the crest of the auxiliary spillway. Two days later the water level receded to the auxiliary spillway crest and continued to drop. Upstream of Renwick Dam, the following five dams had flow through their auxiliary spillways: Herzog, Morrison, Goschke, Olson, and Bourbanis dams. Willow Creek Dam #1, located on a tributary of the Park River in Pembina County, also experienced flow through its auxiliary spillway. Some of these structures sustained damage to their auxiliary spillways.

The same mid-May precipitation caused the Park River at Grafton to crest a second time in the same month near the peak of record stage of 16.15 feet. On May 23rd, the Park River at Grafton peaked at a stage of 16.16 feet. This peak came after a near record stage of 16.11 feet on May 1st. Grafton had a third peak of 13.25 feet on June 2. National Weather Service has categorized 13.5 feet as Moderate Flood Stage and 14.5 feet as Major Flood Stage at Grafton.

The rain the Mouse River basin received in May refilled the dams to above target levels. The USACE raised releases from Lake Darling Dam in May to try to lower the reservoir to its target level by June 1st. Flows above 300 cfs inundate hay land in the Towner area acting as natural flood irrigation if this water stays there after June 1st producers cannot access the fields. With the continued rain flows in the Mouse River have been very high. As of June 10 the flow is 4,160 cfs.

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