

Agenda Item 9:

MEMORANDUM

TO: Programs, Projects and Operations Subcommittee

FROM: Martin P. Cleveland

SUBJECT: Papio Creek Watershed PL566 Structure #W-3
Rehabilitation Assistance
Supplemental Watershed Plan and Environmental Assessment and
Papillion Creek Watershed Agreement No. 8

DATE: January 29, 2007

Approximately six years ago, the USDA – Natural Resources Conservation Service (NRCS) initiated a dam rehabilitation assistance program to address the needs of aging dams throughout the United States, in particular those dams built through their Public Law (PL) 566 Program. The PL 566 Program has been designing/building dams for about 65 years.

The District owns/operates 83 dams, 50 of which were built via the PL 566 Program. The District's PL 566 dams built in the period from 1962 to 1997. In March 2005 the District initiated dam rehabilitation with NRCS on Papillion Creek Watershed PL 566 Structure #W-3 via execution of Memorandum of Understanding for rehabilitation assistance.

Enclosed is the Papillion Creek Watershed Supplemental Watershed Agreement No. 8 for structure #W-3 for your review. This agreement provides for rehabilitation to high hazard level with cost share and estimated costs for referenced dam (#W-3). This agreement is subject to NRCS and NRD funding. Also enclosed is a summary of Watershed Plan Supplement and Environmental Assessment for structure #W-3. This plan must be approved by local sponsor (NRD) prior to it being forwarded to NRCS headquarters in Washington, DC.

The estimated total rehabilitation project costs to be paid by sponsor (NRD) and NRCS are as follows:

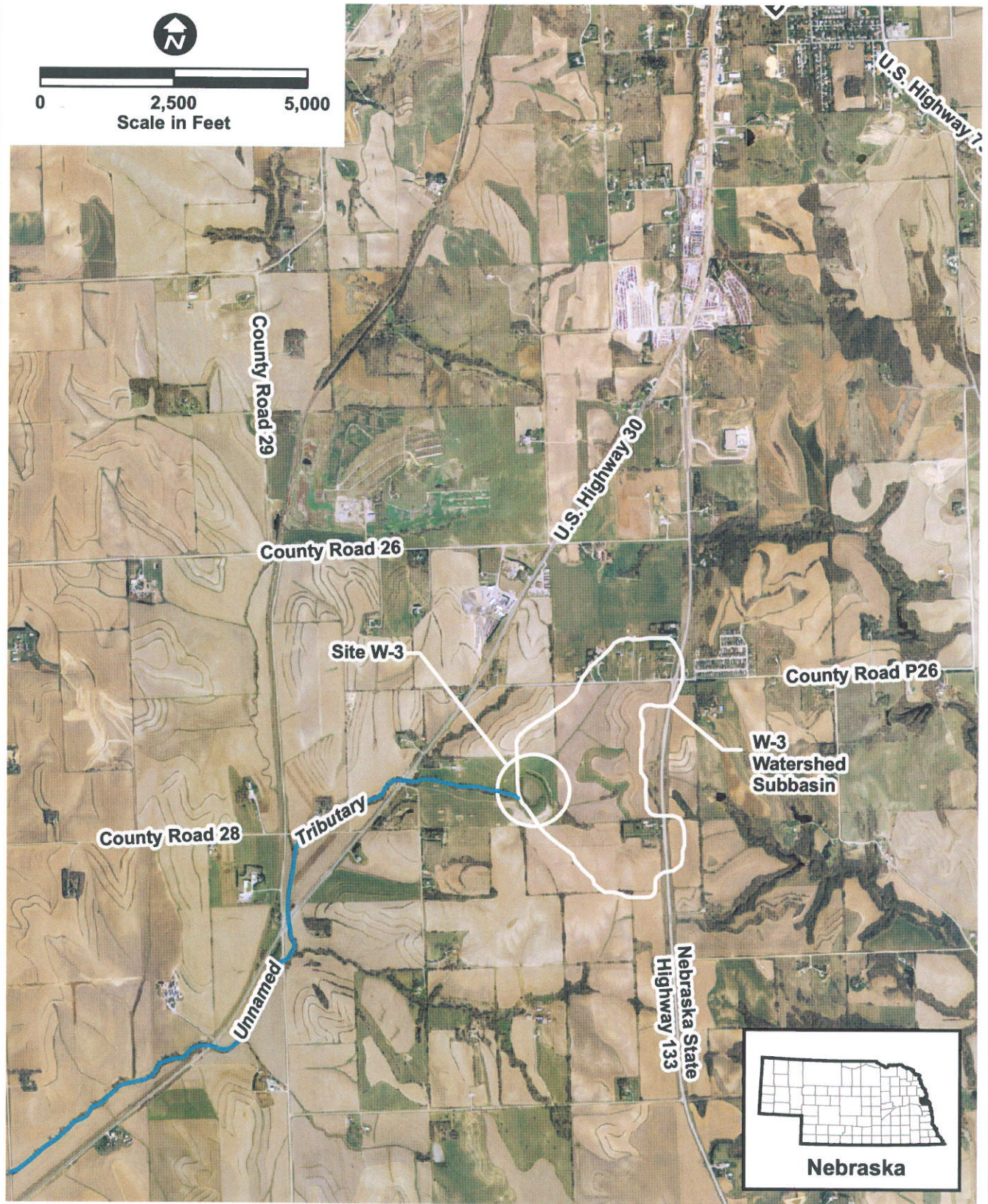
<u>Works of Improvement</u>	<u>Sponsors (NRD)</u>	<u>NRCS</u>	<u>Estimated Project Costs</u>
Rehabilitation Of GSS W-3	\$158,100 ^{2/}	\$293,600 ^{1/}	\$451,700
	35%	65%	100%

1/ Estimated Project Costs exclude \$60,100 in NRCS Engineering and Project Administration costs. NRCS pays 100% of planning and engineering costs.

2/ Sponsor (NRD) is required to secure land rights for this structure and the cost is credited towards sponsor's 35%.

It is Management's recommendation that the Subcommittee recommend to the Board that the General Manager be authorized to execute the proposed Papillion Creek Watershed Supplemental Agreement No. 8 with NRCS for rehabilitation of PL 566 Grade Stabilization Structure #W-3, subject to changes deemed necessary by the General Manager and approved to as to form by District Legal Counsel.

Z:\Projects\INRCS\28686_Dam_Rehab_Task_Order_2\map_docs\arcmap\Site_W-3\Site_W-3_Watershed.mxd



Source: Aerial Photography, Metropolitan Area Planning Agency, flown by Horizons Inc. in April 2004.



**Papillion Creek Watershed
Site W-3
Project Location Map**

DATE

Sept 2005

FIGURE

1

**PAPILLION CREEK WATERSHED
Supplemental Watershed Agreement No. 8**

For Grade Stabilization Structure (GSS) No. W-3

**Between the
Papio-Missouri River Natural Resources District
(Referred to herein as Sponsor)
and the
Natural Resources Conservation Service,
United States Department of Agriculture
(Referred to herein as NRCS)**

Whereas, the watershed work plan for Papillion Creek Watershed, State of Nebraska, executed by the sponsor named therein and NRCS, became effective on the twenty-second day of March, 1967; and

Whereas, a supplemental agreement for said watershed, executed by the Sponsor named therein and the NRCS became effective on the eighteenth day of November, 1969, to remove the Papio Watershed Board as the contracting agency and to provide that contracting be entered into on an ad hoc basis with the local governing body as contracting officer for those improvements within its boundaries; and

Whereas, a supplemental agreement for said watershed, executed by the Sponsor named therein and the NRCS became effective on the twelfth day of March, 1970, to provide that the Soil Conservation Service administer all construction contracts; and

Whereas, Whereas a supplemental agreement for said watershed executed by the Sponsor named therein and the NRCS became effective on the first day of October, 1971, to provide assistance and funds as needed to comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 – Public Law 91-646 (34 Stat. 1894); and

Whereas, a supplement agreement for said watershed, executed by the Sponsor named therein and the NRCS became effective on the twenty-third day of January, 1973, to name the Papio Natural Resources District as Sponsor; and

Whereas, a supplemental agreement for said watershed, executed by the Sponsor named therein and the NRCS became effective on the twelfth day of November, 1991, to move Grade Stabilization Structure W-42 approximately 400 feet upstream on to the road; and

Whereas, a supplement agreement for said watershed, executed by the Sponsor named therein and the NRCS became effective on the sixth day of April, 1995, to delete grade stabilization structures D-15, D-23, D-49, D-50, D-65, S-9, S-15, S-16 and W-20 from the plan; and

Whereas, a supplemental agreement for said watershed, executed by the Sponsor named therein and the NRCS became effective on the tenth day of June, 2005, to rehabilitate grade stabilization structures S-27, S-31, and S-32; and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act of 1954 (Public Law 83-566), as amended by the Small Watershed Rehabilitation Amendments of 2000 (Public Law 106-472) has been assigned by the Secretary of Agriculture to the NRCS; and

Whereas, a Supplemental Watershed Plan which modifies the watershed plan as supplemented on the twenty-second day of March, 1967 has been developed through cooperative efforts of the sponsor and NRCS;

Now, therefore, in view of the foregoing considerations, the Secretary of Agriculture, through NRCS, and the Sponsor hereby agree on this plan and that the works of improvement for this project will be installed, operated, and maintained in accordance with the terms, conditions, and stipulations of said watershed agreement:

- (1) Rehabilitation of grade stabilization structure No. W-3 of the Papillion Creek Watershed, State of Nebraska.
- (2) The term of this Watershed Agreement will be for a period of 100-years beginning with the completion of the structural measures proposed in this Watershed Agreement. The agreement may be amended at any time by mutual consent of all parties.
- (3) The amounts and percentages of total rehabilitation project costs to be paid by the Sponsor and by the NRCS are as follows:

Works of Improvement	NRCS	Sponsor	Total
Cost Sharable Items			
GSS Rehabilitation	\$293,600	\$94,600	\$388,200
Project Administration	NA	\$6,000	\$6,000
Land Rights Acquisition	NA	\$57,500	\$57,500
Subtotal: Cost-Share Costs	\$293,600	\$158,100	\$451,700
Cost-Share Percentages	65.0%	35.0%	
Non Cost-Sharable Items			
NRCS Engineering & Project Administration	\$60,100	\$0	\$60,100

Total project costs include construction, land rights, relocation, project administration, and engineering services provided by the sponsor. Not included is technical assistance provided by NRCS or cost of permitting and ordinance.

- (4) **Costs.** The costs shown in this plan are preliminary estimates. Final costs to be borne by the parties hereto will be the actual costs incurred in the installation of works of improvement. Total project costs include construction, land rights, administrative and legal expenses, technical assistance, architectural and engineering fees, project inspection fees, and engineering contingencies. Not included are the costs of permitting and ordinances.
- (5) **Water and mineral rights.** The sponsors will acquire or provide assurance that landowners or water users have acquired such water, mineral, or other natural resources rights pursuant to State law as may be needed in the installation and operation of the works of improvement. Any costs incurred shall be borne by the sponsor and these costs shall not be considered part of the total cost when calculating any cost share.

- (6) **Permits.** The sponsors will obtain and bear the cost for all necessary Federal, State, and local permits required by law, ordinance, or regulation for installation of the works of improvement. These costs shall not be considered part of the total cost when calculating any cost share.
- (7) **Flood plains.** The sponsors agree to participate in and comply with applicable Federal flood plain management and flood insurance programs before construction starts.
- (8) **NRCS assistance.** This agreement is not a fund-obligating document. Financial and other assistance to be furnished by NRCS in carrying out the plan is contingent upon the fulfillment of applicable laws and regulations and the availability of appropriations for this purpose.
- (9) **Additional agreements.** A separate agreement will be entered into between NRCS and sponsors before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.
- (10) **Amendments.** This plan may be amended or revised only by mutual agreement of the parties hereto, except that NRCS may de-authorize or terminate funding at any time it determines that the sponsor has failed to comply with the conditions of this agreement. In this case, NRCS shall promptly notify the sponsor in writing of the determination and the reasons for the de-authorization of project funding, together with the effective date. Payments made to the sponsor or recoveries by NRCS shall be in accord with the legal rights and liabilities of the parties when project funding has been de-authorized. An amendment to incorporate changes affecting a specific measure may be made by mutual agreement between NRCS and the sponsor(s) having specific responsibilities for the measure involved.
- (11) **Operation and Maintenance (O&M).** The sponsors will be responsible for the operation, maintenance, and any needed replacement of the works of improvement by actually performing the work or arranging for such work, in accordance with an O&M Agreement. An O&M agreement will be entered into before federal funds are obligated and continue for the project life. Although the sponsors' responsibility to the Federal Government for O&M ends when the agreement expires, the sponsors acknowledge that continued liabilities and responsibilities associated with works of improvement may exist beyond the project life. The term of this new Operation and Maintenance agreement will be for a period of 100 years, which is the life expectancy of the project.
- (12) **Nondiscrimination provisions.** The program conducted will be in compliance with the nondiscrimination provisions as contained in Titles VI and VII of the Civil Rights Act of 1964, as amended, the Civil Rights Restoration Act of 1987 (Public Law 100-259) and other nondiscrimination statutes, namely, Section 503 of the Rehabilitation Act of 1973, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, and in accordance with regulations of the Secretary of Agriculture (7 C.F.R. 15, Subparts A & B), which provide that no person in the United States shall, on the grounds of race, color, national origin, age, sex, religion, marital status, or handicap be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the Department of Agriculture or any agency thereof.
- (13) **Certification Regarding Drug-Free Workplace Requirements (7 CFR 3017, Subpart F).** By signing this watershed agreement, the sponsors are providing the certification set out below. If it is later determined that the sponsors knowingly rendered a false certification, or otherwise

violated the requirements of the Drug-Free Workplace Act, the NRCS, in addition to any other remedies available to the Federal Government may take action authorized under the Drug-Free Workplace Act.

Controlled substance means a controlled substance in Schedules I through V of the Controlled Substances Act (21 U.S.C. 812) and as further defined by regulation (21 CFR 1308.11 through 1308.15);

Conviction means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes;

Criminal drug statute means a Federal or non-Federal criminal statute involving the manufacturing, distribution, dispensing, use, or possession of any controlled substance;

Employee means the employee of a grantee directly engaged in the performance of work under a grant, including: (i) all direct charge employees; (ii) all indirect charge employees unless their impact or involvement is insignificant to the performance of the grant; and, (iii) temporary personnel and consultants who are directly engaged in the performance of work under the grant and who are on the grantee's payroll. This definition does not include workers not on the payroll of the grantee (e.g., volunteers, even if used to meet a matching requirement; consultants or independent contractors not on the grantees' payroll; or employees of sub-recipients or subcontractors in covered workplaces).

Certification:

A. The sponsors certify that they will or will continue to provide a drug-free workplace by:

- (1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (2) Establishing an ongoing drug-free awareness program to inform employees about -
 - (a) The danger of drug abuse in the workplace;
 - (b) The grantee's policy of maintaining a drug-free workplace;
 - (c) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (d) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.
- (3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (1);
- (4) Notifying the employee in the statement required by paragraph (1) that, as a condition of employment under the grant, the employee will:
 - (a) Abide by the terms of the statement; and

- (b) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
- (5) Notifying the NRCS in writing, within ten calendar days after receiving notice under paragraph (4) (b) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;
- (6) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (4) (b), with respect to any employee who is so convicted—
 - (a) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
 - (b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.
- (7) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (1), (2), (3), (4), (5), and (6)
- B. The sponsors may provide a list of the site(s) for the performance of work done in connection with a specific project or other agreement.
- C. Agencies shall keep the original of all disclosure reports in the official files of the agency.

(14) Certification Regarding Lobbying (7 CFR 3018)

- (1) The sponsors certify to the best of their knowledge and belief, that:
 - (a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the sponsors, to any person for influencing or attempting to influence an officer or employee of an agency, Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - (b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

- (c) The sponsors shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.
 - (2) This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, of the U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
- (15) Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions (7 CFR 3017).**
- (1) The sponsors certify to the best of their knowledge and belief, that they and their principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.
 - (2) Where the primary sponsors are unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this agreement.

The Sponsor and NRCS further agree to all other terms, conditions, and stipulations of said watershed agreement not modified herein.

Papio-Missouri River Natural Resources District
8901 S. 154th St.
Omaha, NE 68138-3621

By _____

Title _____

Date _____

The signing of this Watershed Agreement as supplemented was authorized by a resolution of governing body of the Papio-Missouri River Natural Resources District adopted at a meeting held on _____ (Date).

Secretary

Address

Zip Code

Natural Resources Conservation Service
United States Department of Agriculture

Approved by:

State Conservationist

Date

DRAFT
WATERSHED PLAN SUPPLEMENT No. 8
AND
ENVIRONMENTAL ASSESSMENT
REHABILITATION OF GRADE STABILIZATION
STRUCTURE W-3
PAPILLION CREEK WATERSHED
WASHINGTON COUNTY, NEBRASKA
FEBRUARY, 2007



FINAL WATERSHED PLAN SUPPLEMENT NO. 8 AND ENVIRONMENTAL ASSESSMENT
for the
REHABILITATION OF GRADE STABILIZATION STRUCTURE W-3
PAPILLION CREEK WATERSHED
WASHINGTON COUNTY, NEBRASKA
1ST CONGRESSIONAL DISTRICT

ABSTRACT

This plan was developed in response to the varied concerns of the Local Sponsoring Organization, Papio-Missouri River Natural Resources District. Project benefits are grade stabilization and maintained land values. The recommended alternative, Rehabilitation to High Hazard Class would rehabilitate Structure W-3 to current NRCS high hazard class requirements and extend its life for 100 years. The following actions are proposed: the existing principal spillway would be removed and replaced, the existing auxiliary spillway would be raised and an additional auxiliary spillway would be constructed, and the top of dam would be raised to increase storage capacity. Existing embankment removed from the structure would be placed in the existing auxiliary spillway and graded to drain. Total project costs are \$511,800, of which \$363,700 is proposed to be paid by Public Law 566 funds and \$158,100 will be paid by the sponsor. This document is intended to fulfill requirements of the National Environmental Policy Act and to be considered for authorization of Public Law 566 funding.

The original work plan was prepared, and works of improvement have been installed, under the Authority of Public Law 83-566 (as amended) - Watershed Protection and Flood Prevention Act of 1954. This supplement is prepared under the Authority of Public Law 83-566 (as amended) - Watershed Protection and Flood Prevention Act of 1954 as further amended by Section 313 of Public Law 106-472 and in accordance with Section 102 (2) (c) of the National Environmental Policy Act of 1969, Public Law 91-190, as amended (42 U.S.C. 43221 et seq).

Prepared by:

Papio-Missouri River Natural Resources District
U.S. Department of Agriculture, Natural Resources Conservation Service

For Additional Information Contact:

Stephen K. Chick, State Conservationist,
Natural Resources Conservation Service,
Federal Building, Room 152
100 Centennial Mall North
Lincoln, NE 68508-3866
Phone: 402-437-5300

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DRAFT
WATERSHED PLAN SUPPLEMENT NO. 8 AND ENVIRONMENTAL ASSESSMENT
for the
REHABILITATION OF GRADE STABILIZATION STRUCTURE W-3

PAPILLION CREEK WATERSHED
WASHINGTON COUNTY, NEBRASKA

Prepared by
U.S. Department of Agriculture, Natural Resources Conservation Service
and
Papio-Missouri River Natural Resources District

Prepared under the Authority of the Watershed Protection and Flood Prevention Act, Public Law 83-566, as amended by Section 313 of Public Law 106-472, The Small Watershed Rehabilitation Amendments of 2000, and in accordance with Section 102 (2) (c) of the National Environmental Policy Act of 1969, Public Law 91-190, as amended (42 USC 43221 et seq.).

For submitting comments or requesting additional information, contact:

Stephen K. Chick
State Conservationist
Natural Resources Conservation Service
Federal Building, Room 152
100 Centennial Mall North
Lincoln, NE 68508-3866
Tele. 402-437-5300

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SUMMARY

WATERSHED PLAN SUPPLEMENT NO. 8 AND ENVIRONMENTAL ASSESSMENT FOR PAPILLION CREEK WATERSHED WASHINGTON COUNTY, NEBRASKA 1ST CONGRESSIONAL DISTRICT

Sponsoring Local Organization (SLO)

Papio-Missouri River Natural Resources District

Proposed Action

The proposed action (the Project) is the rehabilitation of Papillion Creek Watershed Structure W-3 (see Figure S-1, Project Location Map) for the SLO under the Natural Resources Conservation Service (NRCS) Watershed Rehabilitation Program.

Purpose and Need for Action

The purpose of this Federal action is to continue to provide grade stabilization and incidental flood control protection in a manner that minimizes the risk of loss of human life and is both cost efficient and environmentally acceptable.

The structure was designed and built as a low hazard structure. The structure is currently a high hazard structure and does not meet the required criteria.

Rehabilitation of Structure W-3 will provide continuation of grade stabilization and incidental flood control protection for an additional 100 years, minimize the risk of loss of life, and address all identified problems.

Description of the Preferred Alternative/Plan

The Rehabilitation to High Hazard Class Alternative would rehabilitate Papio W-3 to a high hazard class dam and extend its life for 100 years. The existing principal spillway would be removed, replaced, and enlarged, the existing auxiliary spillway would be raised and an additional auxiliary spillway would be constructed, and the top of dam would be raised to increase storage capacity.



Figure S-1. Location map of Papio Structure W-3.

Resource Information

Table S-1 provides relevant information for the Project.

**Table S-1
Resource Information**

Resource	Structure W-3
Existing Structure Dimensions (per As Built Plans)	Structure Height – 39 feet Structure Width – 130 feet at base and 14 feet at top Structure Length – Approximately 900 feet Principal Spillway Size and Type – 132 feet of 24-inch-diameter CMP Auxiliary Spillway Width – 50 feet Normal Pool Area – 5.9 acres Maximum Pool Depth – 16 feet Floodwater Retarding Capacity (at Auxiliary Spillway Crest) – 83.2 ac-ft
Watershed Size (acres)	Structure W-3 – 276 acres Papillion Creek Watershed – 245,800 acres
Topography	Rolling to hilly, with small valleys with narrow floodplains
Annual Precipitation	30 inches average annual precipitation
Climate	Continental and temperate, characterized by hot summers; cold winters; mild, wet springs; and mild, dry falls. Mean winter and summer temperatures are about 23°F and 73°F respectively.
Latitude and Longitude	41° 29' 45.8" W; 96° 9' 29.7" N
11-Digit Hydrologic Unit Code	10230006210
Population/Demographics (Washington County)	Population – 19,772 Demographics: White – 97.2% Hispanic – 1.3% African American – 0.5% American Indian and Alaska Native – 0% Asian – 0.5% Native Hawaiian and other Pacific Islander – 0% Some other race – 0% Two or more races – 0.5% Total Households – 6,940 Households with Income Below Poverty Level – 425 Percent of Households Below Poverty Level – 6.1% Median Household Income – \$51,500 Total Population – 18,800 Age 17 and Under – 4,500 Age 18-64 – 11,800 Age 65 and over – 2,500
Land Ownership	100% private, 22.1 acres SLO easement
Washington County Average Farm Size Farms Present	319 acres 760

Sources: Lancaster County Soil Survey; U.S. Census, 2000; USDA 2002 Census of Agriculture; USDA/NRCS WETS Table for Washington County, Nebraska

Structure W-3 is in Washington County under the jurisdiction of the City of Blair. For purposes of administering planning-related ordinances, including zoning, a Nebraska city may treat the jurisdiction as though it were within the corporate limits of the municipality. The predominant existing use of land in the Project area is for cultivated agriculture (Table S-2). There is no set plan or timetable for development in this area, but the most likely future development is conversion from agricultural uses to rural residential acreages similar to that which has already occurred in the watershed. Some development restrictions will apply to the watershed as it is in a wellhead protection area.

Table S-2
Summary of Land Use

Land Use Class	Area (acres ¹)
W-3 Watershed	
Cultivated	159
Terraced	60
Unterraced	99
Pasture/Grass/Dam	18
Forested, windbreak, and riparian	4
Roadway and borrow ditches	7
Residential including farmsteads	37
W-3 Reservoir	4
W-3 Watershed Total	229
Diverted Watershed	
Cultivated – Unterraced	46
Pasture/Grass/Dam	<1
Forested, windbreak, and riparian	<1
Diverted Watershed Total	47
Total Watershed	276
Downstream Breach Area	
Cultivated	47
Pasture	12
Forested, windbreak, and riparian	33
Roadway and borrow ditches	5
Residential including farmsteads	9
Total Breach Area	106
Total Project Area	382

Note:

¹ Rounded to the nearest acre.

Alternative Plans Considered

A range of alternatives to satisfy the purpose of the Project was initially considered. The range of alternatives included both structural and non-structural concepts with which to meet the Project purpose. Table S-3 summarizes the alternatives considered in conjunction with the rehabilitation of Structure W-3. After consideration of costs, project objectives, and site constraints, the longest reasonable period of 100 years was selected with regards to the Rehabilitation to High Hazard Class Alternative.

**Table S-3
Range of Alternatives Considered**

Alternative	Summary of Alternative	Screening of Alternative	Carried Forward for Detailed Study
No-Action/ Future Without Federal Project	This alternative is the most likely course of action, should the NRCS withdraw federal involvement to the project and the SLO receives a short-term legal mandate to fix or remove the dam. This would likely result in a "sponsor's breach" that involves construction of a breach (cut) through the embankment and seeding.	The total estimated cost for this alternative is \$62,000. This alternative does not meet purpose and need for the Project, but is required to be carried forward.	Yes. This alternative was carried forward for detailed study.
Federal Decommissioning	This alternative would result in the complete removal of the constructed embankment and deposited sediment, reconnection and restoration of the stream and floodplain, construction of two concrete drop structures and a drainage channel on each tributary entering the reservoir, and seeding.	The total estimated cost for this alternative is \$841,500. This alternative is unable to fulfill the Project purpose of floodwater retarding.	No. This alternative was not carried forward for detailed study.
Rehabilitation to High Hazard Class with Structure Modifications	This alternative would rehabilitate the grade stabilization structure to High Hazard Class requirements and extend its life for 100 years ¹ .	The total estimated cost for this alternative is \$575,900. This alternative does meet the purpose and need of the project.	Yes. This alternative was carried forward for detailed study.
Rehabilitation to Grade Stabilization Structure	This alternative would rehabilitate the structure to full-flow grade stabilization requirements and extend its life for 100 years ¹ .	Total estimated cost of this alternative is \$281,500. This alternative is unable to fulfill the Project purpose of floodwater retarding.	No. This alternative was not carried forward for detailed study.
Rehabilitation to Low Hazard Classification by purchasing downstream easements in the breach area	This alternative would rehabilitate the structure to low hazard classification requirements and extend its life for 100 years. This alternative involves rehabilitating the structure, bringing it to current low hazard classification criteria, constructing a levee around the inundated residence, and purchasing easements on 188 acres in the breach inundation area downstream.	Total estimated cost of this alternative is \$1,293,500.	No. This alternative was not reasonable due to cost.
National Economic Development (NED) Alternative	The NED Alternative is the alternative or combination of alternatives that reasonably maximizes the net economic benefits consistent with protecting the nation's resources.	The NED Alternative for this Project is Rehabilitation to High Hazard Class.	Yes. This alternative was carried forward for detailed study.

¹ Rehabilitation with a 50-year design life was considered but not further pursued because it was possible to plan rehabilitation with a 100-year design life, which better met the objectives of the SLO. In addition, the incremental costs associated with providing an extra 50 years of design life are less than the incremental benefits associated with providing an extra 50 years of design life.

Project Costs

Table S-4 summarizes the allocation of Project construction costs between the SLO and NRCS for the Rehabilitation to High Hazard Class Alternative for Structure W-3.

Table S-4
Allocation¹ of Total Estimated Eligible Project Costs,
Rehabilitation to High Hazard Class Alternative

Works of Improvement	SLO	PL 83-566 Funds	Total Estimated Eligible Project Costs ²
Rehabilitation of Structure W-3	\$94,600	\$293,600	\$388,200

Notes:

¹ Cost share on Structure W-3 is 65 percent PL 83-566 funds and 35 percent SLO. The cost share percentages are computed for and administered during construction.

² Estimated Eligible Project Cost excludes \$60,100 in NRCS Engineering and Project Administration costs. If these administration costs are included, the total cost of the project is \$353,700.

Project Benefits

Project benefits are continued grade stabilization and minimized risk of loss of human life and/or extensive land damages. Primary benefits of the preferred alternative are sediment storage and grade stabilization.

Net Beneficial Effects

Economic benefits and impacts associated with Structure W-3 were calculated based on the grade stabilization benefits the structure was intended to provide, although incidental flood control benefits were taken into consideration.

The National Economic Development (NED) alternative is the alternative that has the highest net economic benefits while protecting the nation's natural resources. Table S-5 compares each alternative relative to potential benefits derived or reduced for each.

Table S-5
Economic Benefits¹ and Comparison of Alternatives

Alternative	Average Annual Cost ²	Average Annual Benefits	Benefit-Cost Ratio (Most Probable Value) ³
No-Action/Future Without Federal Project	\$3,000	\$0	0.0
Rehabilitation to High Hazard Class	\$27,100	\$15,500	0.57

Notes:

¹ Price base February, 2007, amortized over 100 years at a discount rate of 4.875%.

² Average annual cost includes installation and operation and maintenance.

³ The benefit-cost ratio is the benefit of an activity per dollar of cost. The higher the ratio number, the greater the benefits are compared to the cost of the Project.

Period of Analysis

The period of analysis is 100 years.

Project Life

The Project life is based on a 100-year design life.

Environmental Considerations and Effects

Table S-6 describes all resource elements that were identified during scoping and summarizes the potential impacts related to the Rehabilitation to High Hazard Class Alternative.

**Table S-6
Summary of Resource Concerns and Impacts of the
Rehabilitation to High Hazard Class Alternative**

Identified Resource Concerns	Summary of Concern	Effects Summary for Rehabilitation to High Hazard Class (Preferred/NED) Alternative
Human Health and Safety	Even though the primary purpose of the structure is to provide grade stabilization, there are safety concerns associated with a potential breach and downstream inundation.	The risk of breach inundation to existing and future downstream property and roads would be reduced. By rehabilitating to current high hazard safety criteria, any downstream homes would have additional incidental flood control protection.
Existing Structure W-3	Current dam safety criteria and the need to meet High Hazard Class dam requirements.	The structure would be rehabilitated to meet current high hazard class criteria.
Water Quality	Water quality as it relates to sedimentation is a potential concern.	There would be no change in the downstream sediment delivery from the current situation, therefore having the least impact on water quality compared to the current situation. Downstream water quality benefits would be maintained.
Erosion and Sedimentation	As the primary purpose of the structure is grade stabilization control, control of erosion and sedimentation is a concern.	This alternative would continue preventing gully erosion in the watershed and maintain existing erosion and sedimentation conditions. The enlarged reservoir would provide storage volume for 100 years of additional sediment accumulation. Downstream sediment load would remain at the existing 41 tons per year
Flood Control	While the primary purpose of the existing structure is grade stabilization control, incidental flood control opportunities also occur.	The auxiliary spillway crest elevation would be raised. Existing flood control benefits would be maintained.
Land Use	Future land use planning in the area has occurred under the premise that Structure W-3 would be retained. Loss of the structure and associated pool area, could affect future land use plans.	The dam, auxiliary spillway, and reservoir pool would be enlarged for this alternative. The normal pool would increase from about 5.9 to 12.6 acres by inundating land currently used for grazing. Enlargement of the dam would require about 2 acres of land that will be excluded from grazing. Enlargement of the existing auxiliary spillway and construction of a second auxiliary spillway would require that about one acre of terraced, cultivated land be taken out of production.

Identified Resource Concerns	Summary of Concern	Effects Summary for Rehabilitation to High Hazard Class (Preferred/NED) Alternative
Transportation	Some alternatives could have short-term effects on local transportation systems due to construction activities.	Construction activities would present the only effects on transportation for this alternative. All fill material required for W-3 would come from on-site excavation. Any excess excavated material from auxiliary spillway construction would be wasted on-site.
NRCS Planning Requirements	Summary of Planning Consideration	Effects Summary for Rehabilitation to High Hazard Class (Preferred/NED) Alternative
Cultural Resources	The Nebraska State Historic Preservation Office (SHPO) is being contacted. The area of potential effect has been identified for each alternative and then reviewed by the NRCS Cultural Resources Specialist who will coordinate with the State Historic Preservation Officer as needed.	The area of potential effect has been identified and reviewed by the NRCS Cultural Resources Specialist who found that it is unlikely that any unknown cultural resources are present that would be affected by the implementation of this alternative. Nebraska State Historical Society, State Historic Preservation Officer (SHPO) is being contacted.
Endangered and Threatened Species	The U.S. fish and Wildlife Service, Mountain-Prairie Region has a listing of potential species and habitat by county. For Washington County the two species listed are: bald eagle (<i>Haliaeetus leucocephalus</i>) and the pallid sturgeon (<i>Scaphirhynchus albus</i>).	<p><u>Bald eagle:</u> No effect. No active nest or winter roost sites are known within 1 mile of the Project area. The proximity of the Missouri River provides favorable areas during construction for the bald eagles to hunt and roost with ample food sources and without the disturbance of residential development or agricultural practices. USFWS would be contacted if construction were to take place between November 1 and April 1 and an active winter roost site is found within ½ mile of the Project, or if construction were to take place between February 1 through August 15 and an active nest site is found within ½ mile of the Project.</p> <p><u>Pallid Sturgeon:</u> No effect. The listing of the sturgeon for this county is based upon the Missouri River habitat that is on the eastern border of the county. This project area and the associated reaching area of potential effects does not reach the sturgeon habitat.</p>

NRCS Planning Requirements	Summary of Planning Consideration	Effects Summary for Rehabilitation to High Hazard Class (Preferred/NED) Alternative
Fish and Wildlife Resources	Alternatives involving stream modifications will need to have a consultation completed with the U.S. Fish and Wildlife Service and full considerations given to their recommendations. Fish and wildlife habitat and populations are present in the Project area and compliance with the Fish and Wildlife Coordination Act is required.	Effects on regional wildlife or habitats would be perceptible but localized within a small area. <u>Plant and Animal Wildlife:</u> Disturbance of habitat near W-3 would occur as a result of construction activities. However, there is adequate suitable habitat available for wildlife to migrate to during and after construction. <u>Aquatic Habitat:</u> Water depths would be deep enough to support year-round passive fishing provided water quality and fish populations were properly managed. Due to the increased size of the normal pool the deep water habitat would more than double and the associated fringe habitat would increase by 0.5 acres.
Migratory Birds	Migratory birds may use the areas surrounding the existing project for nesting.	To avoid impacts, needed vegetation clearing would be proposed to occur outside of the primary nesting period of April 1 to July 15.
Prime and Unique Farmlands	Some prime farmland and farmland of statewide importance are present in the Project area.	Impacts are below the threshold of concern as identified by the score on Form AD-1006 "Farmland Conversion Impact Rating".
Riparian Area	Riparian areas exist within the Project area.	There would be loss of 75 feet of stream channel downstream, of which 0.09 acres has riparian type habitat present.
Wetlands – NRCS policy	Wetlands are present. A total of 5.5 acres of artificial wetlands and 1.3 acres of linear wetlands were identified.	The normal pool area would increase from 5.9 acres to 12.6 acres. This would provide increased deep water habitat and more available hydrology to the associated wetlands. This alternative would increase the associated fringe length and could potentially cause a permanent increase to the 0.5 acres of existing palustrine emergent wetlands. There would be a loss of 75 feet of stream channel (averages 50 feet in width) where the downstream toe of the larger structure would extend. The 0.05 acres of palustrine emergent habitat at the pool-creek confluence would also be lost.
Wetlands – Other Clean Water Act, etc.	Wetlands, as waters of the U.S., and other waters of the U.S are present as regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act.	Project activities would qualify for a Nationwide Permit #43.

Mitigation

No mitigation is anticipated after preliminary in-house review. However, the U.S. Army Corps of Engineers (USACE) will further review the project through the Section 404 Permit process. However, the planning process has identified the preferred alternative as a candidate for the Nationwide Permit #43.

Major Conclusions

The Rehabilitation to High Hazard Class Alternative had the greatest benefit-cost ratio and presented insignificant environmental effects.

Areas of Controversy

None identified.

Issues to be Resolved

None identified.