

# NEBRASKA NATURAL RESOURCES COMMISSION

## Water Sustainability Fund

Application for Funding

Section A.

### ADMINISTRATIVE

**PROJECT NAME:** Whitney Irrigation District Siphon Repair

**SPONSOR'S PRIMARY CONTACT INFORMATION (Not Consultant's)**

Sponsor Business Name: Whitney Irrigation District (WID)

Sponsor Contact's Name: Shelly Thompson

Sponsor Contact's Address: 3100 Missouri Street

Sponsor Contact's Phone: 308-430-3440

Sponsor Contact's Email: thompsons@bbc.net

1. **Funding** amount requested from the Water Sustainability Fund:

**Grant** amount requested. \$ 451,500

- If requesting less than 60% cost share, what %? 60%

**If a loan is requested** amount requested. \$ 0

- How many years repayment period? [Click here to enter text.](#)
- Supply a complete year-by-year repayment schedule. NA

2. **Neb. Rev. Stat. § 2-1507 (2)**

Are you applying for a **combined sewer overflow project**? YES  NO

**If yes:**

- Do you have a Long Term Control Plan that is currently approved by the Nebraska Department of Environmental Quality? **YES** **NO**
- Attach a copy to your application. NA
- What is the population served by your project? **NA**
- Provide a demonstration of need. NA
- **Do not complete the remainder of the application.**

3. **Permits Required/Obtained** Attach a copy of each that has been obtained. For those needed, but not yet obtained (box “**NO**” checked), 1.) State when you will apply for the permit, 2.) When you anticipate receiving the permit, and 3.) Your estimated cost to obtain the permit.

(N/A = Not applicable/not asking for cost share to obtain)  
 (Yes = See attached)  
 (No = Might need, don't have & are asking for 60% cost share to obtain)

G&P - T&E consultation (required)	<b>N/A</b> <input checked="" type="checkbox"/> Obtained: <b>YES</b> <input type="checkbox"/> <b>NO</b> <input type="checkbox"/>
DNR Surface Water Right	<b>N/A</b> <input type="checkbox"/> Obtained: <b>YES</b> <input checked="" type="checkbox"/> <b>NO</b> <input type="checkbox"/>
USACE (e.g., 404/other Permit)	<b>N/A</b> <input type="checkbox"/> Obtained: <b>YES</b> <input type="checkbox"/> <b>NO</b> <input checked="" type="checkbox"/>
FEMA (CLOMR)	<b>N/A</b> <input checked="" type="checkbox"/> Obtained: <b>YES</b> <input type="checkbox"/> <b>NO</b> <input type="checkbox"/>
Local Zoning/Construction	<b>N/A</b> <input checked="" type="checkbox"/> Obtained: <b>YES</b> <input type="checkbox"/> <b>NO</b> <input type="checkbox"/>
Cultural Resources Evaluation	<b>N/A</b> <input checked="" type="checkbox"/> Obtained: <b>YES</b> <input type="checkbox"/> <b>NO</b> <input type="checkbox"/>
Other (provide explanation below)	<b>N/A</b> <input checked="" type="checkbox"/> Obtained: <b>YES</b> <input type="checkbox"/> <b>NO</b> <input type="checkbox"/>

The Whitney Irrigation District will be applying for Nationwide NWP3

4. **Partnerships**

List each Partner / Co-sponsor, attach documentation of agreement:  
 There are no partners participating in this project.

Identify the roles and responsibilities of each Partner / Co-sponsor involved in the proposed project regardless of whether each is an additional funding source.

NA

5. **Other Sources of Funding**

Identify the costs of the entire project, what costs each other source of funding will be applied to, and whether each of these other sources of funding is confirmed. If not, please identify those entities and list the date when confirmation is expected. Explain how you will implement the project if these sources are not obtained.

Matching funds will be sought from the United States Bureau of Reclamation's Watersmart Program. Watersmart grant application are due in September 2021 with awards being anticipated to be announced within 90 days of the application deadline. Should the funding not be awarded, the district will investigate the use of loans, bonds and customer assessments.

6. **Overview**

In 1,000 words or less, provide a brief description of your project including the nature/purpose of the project and its objectives. Do not exceed one page!

The WID provides surface water for use on approximately 7,140 acres in northwest Dawes County, NE. In June, 2020 an inspection of the siphon pipe delivering water under Cottonwood Creek was conducted based on the presence of a leak observed on the ground surface. The steel pipe was drained and the inspection revealed extensive corrosion, ruptured and impregnated pipe walls and faults in the original welds. Similarly in 2018, the WID made repairs to the pipe in a different location for the same reasons. Consultation with the District's engineer indicated total pipe failure would be imminent. WID desired to replace the pipe prior to being subject to the situation that Gering – Fort Laramie Irrigation District faced in 2019. The current steel pipe has been in place since 1953. The project intends to replace the steel pipe and utilize PVC pipe with an estimated life of 70 years. If funded, the project could be completed prior to the 2022 irrigation season.

7. **Project Tasks and Timeline**

Identify what activities will be conducted to complete the project, and the anticipated completion date.

**For multiyear projects** please list (using the following example):

<u>Tasks</u>	<u>Year 1\$</u>	<u>Year 2\$</u>	<u>Year 3\$</u>	<u>Remaining</u>	<u>Total \$ Amt.</u>
Permits	\$18,000				\$18,000
Engineering		\$96,000			\$96,000
Construction		\$87,000	\$96,000		\$183,000
Close-out				\$8,000	\$8,000
				TOTAL	\$305,000

- What activities (Tasks) are to be completed.
- An estimate of each Tasks expenditures/cost per year.
- Activities in years 4 through project completion under a single column.

The project, as designed will be completed in one year.  
The activities and the costs are included in the following table

#### Siphon Replacement

Task	Quantity	Cost
Mobilization	1	\$60,000
36" PVC Pipe	5000 LF	\$500,000
Site Reclamation	5000 LF	\$10,000
Headwall Connection	4	\$80,000
Engineering/Inspection		\$102,600

Total Project Cost \$752,600

#### 8. **IMP**

Do you have an **Integrated Management Plan** in place, or have you initiated one? YES  NO  Sponsor is not an NRD

The WID does fall within the fully appropriated area of the Upper Niobrara White NRD. An Integrated Management Plan for this portion of the district has been completed.

#### Section B.

### DNR DIRECTOR'S FINDINGS

#### **Prove Engineering & Technical Feasibility**

(Applicant must demonstrate compliance with Title 261, CH 2 - 004)

1. Does your project include physical construction (defined as moving dirt, directing water, physically constructing something, or installing equipment)?

YES  NO

If you answered "YES" you must answer all questions in section 1.A.

If you answer "NO" you must answer all questions in section 1.B.

If "YES", it is considered mostly structural, so answer the following:

- 1.A.1 Insert a feasibility report to comply with Title 261, Chapter 2, including engineering and technical data; No formal feasibility analysis was completed as observation described in 1.A.3 below indicated that the Cottonwood Creek siphon is damaged and in need of immediate repair. Upon detection, consulting

engineers were contacted to prepare the documents provided to meet the requirements of 1.A.4.

- 1.A.2 Describe the plan of development (004.01 A); The project description, Sections 1.A.1., 1.A.3 and 1.A.4 provide information on the how the plans were developed.
- 1.A.3 Include a description of all field investigations made to substantiate the feasibility report (004.01 B); The June, 2021 field investigation is provided as an attachment to this application
- 1.A.4 Provide maps, drawings, charts, tables, etc., used as a basis for the feasibility report (004.01 C); The engineering documents as an attachment to this document
- 1.A.5 Describe any necessary water and/or land rights including pertinent water supply and water quality information (004.01 D); No additional water or land rights are necessary for this project. WID currently holds easement for the siphon location and water rights A-1603, A1625 and A1687 have been issued for the operation of the project
- 1.A.6 Discuss each component of the final plan (004.01 E); The final plan will involve complete replacement of the current steel siphon with PVC to ensure water can be delivered to 2,595 acres.
- 1.A.7 When applicable include the geologic investigation required for the project (004.01 E 1); No geologic investigation is required for the project
- 1.A.8 When applicable include the hydrologic data investigation required for the project (004.01 E 2); No hydrologic data investigation is required for the project
- 1.A.9 When applicable include the criteria for final design including, but not limited to, soil mechanics, hydraulic, hydrologic, structural, embankments and foundation criteria (004.01 E 3). The final design was based on

If “NO”, it is considered mostly non-structural, so answer the following:

- 1.B.1 Insert data necessary to establish technical feasibility (004.02); No feasibility analysis was conducted as the repair is necessary to continue the current operation.
- 1.B.2 Discuss the plan of development (004.02 A); Upon discovery of the rupture pipe, the WID contacted a consulting engineering firm to conduct an initial assessment for replacement of the siphon.

- 1.B.3 Describe field or research investigations utilized to substantiate the project conception (004.02 B); There were no investigations conducted other than described in 1.A.3.
- 1.B.4 Describe any necessary water and/or land rights (004.02 C); No additional water or land rights are needed. WID currently hold the appropriate easements to operate and maintain the project.
- 1.B.5 Discuss the anticipated effects, if any, of the project upon the development and/or operation of existing or envisioned structural measures including a brief description of any such measure (004.02 D). The project will allow for the continued operation of the WID as designed and built. Failure to complete the project could result in the loss of 2,595 irrigated acres and adjudication of a portion of the granted water right(s).

### **Prove Economic Feasibility**

(Applicant must demonstrate compliance with Title 261, CH 2 - 005)

2. Provide evidence that there are no known means of accomplishing the same purpose or purposes more economically, by describing the next best alternative. Alternatives discussed were 1) do nothing and 2) line the existing pipe. 1) Doing nothing would result in the complete failure of the siphon and the inability to deliver water to 2,595 acres. 2) Initial estimated to line the existing pipe with an Omega Liner – Ultraviolet Cured In Plate Pipe liner would be \$300 per linear foot. The total cost of liner for the 5,000 feet of pipe would be \$1,500,000.
3. Document all sources and report all **costs** and **benefit data** using current data, (commodity prices, recreation benefit prices, and wildlife prices as prescribed by the Director) using both dollar values and other units of measurement when appropriate (environmental, social, cultural, data improvement, etc.). The period of analysis for economic feasibility studies is the project life, up to fifty (50) years; or, with prior approval of the Director up to one hundred (100) years, (Title 261, CH 2 - 005). The project is not intended to generate revenue. The cost of the project will be off-set by ensuring the 2,595 acres remain taxed as irrigated acres. Currently, Dawes County assesses irrigated parcels in the WID at \$1210/acre and dryland parcels at \$575/acre. The loss of irrigation on 2,595 acres would result in a loss of \$1,647,825 valuation. Additionally, dryland corn yields approximately 60 per acre with irrigated yields being 160 per acre. Based on a base price of \$5.55 per bushel the loss of revenue on a single year would be \$1,440,000.
- 3.A Describe any relevant cost information including, but not limited to the engineering and inspection costs, capital construction costs, annual operation and maintenance costs, and replacement costs. Cost information shall also

include the estimated construction period as well as the estimated project life (005.01). In order to complete the project, the engineering and inspection costs will be \$102,600. Annually, the WID budgets \$120,000 for operation and maintenance.

- 3.B Only primary tangible benefits may be counted in providing the monetary benefit information and shall be displayed by year for the project life. In a multi-purpose project, estimate benefits for each purpose, by year, for the life of the project. Describe intangible or secondary benefits (if any) separately. In a case where there is no generally accepted method for calculation of primary tangible benefits describe how the project will increase water sustainability, in a way that justifies economic feasibility of the project such that the finding can be approved by the Director and the Commission (005.02). The primary benefit of the project is to ensure that the WID can continue to operate as designed.
- 3.C Present all cost and benefit data in a table to indicate the annual cash flow for the life of the project (005.03). The project is not intended to generate revenue. The cost benefit information is based upon the project versus the loss of irrigated valuation and production versus dryland crop assessments.
- 3.D In the case of projects for which there is no generally accepted method for calculation of primary tangible benefits and if the project will increase water sustainability, demonstrate the economic feasibility of such proposal by such method as the Director and the Commission deem appropriate (005.04). (For example, show costs of and describe the next best alternative.) As described in 2 above, the initial estimated to line the existing pipe with an Omega Liner – Ultraviolet Cured In Plate Pipe liner would be \$300 per linear foot. The total cost of liner for the 5,000 feet of pipe would be \$1,500,000. The current construction estimate for PVC pipe is \$752, 600 or \$151/foot.

### **Prove Financial Feasibility**

(Applicant must demonstrate compliance with Title 261, CH 2 - 006)

- 4. Provide evidence that sufficient funds are available to complete the proposal. The WID will be applying for both WSF and WaterSmart grants. Should one or both of these grants be denied, the WID will apply for loans, issue bonds and rely on user fees to complete the project.
- 5. Provide evidence that sufficient annual revenue is available to repay the reimbursable costs and to cover OM&R (operate, maintain, and replace). Annually, the WID establishes a budget to for operation and maintenance of district facilities. Each year the budget an assessment will be tailored to ensure sufficient funds are kept on-hand for maintenance of the siphon as well as other appurtenances.

6. If a loan is involved, provide sufficient documentation to prove that the loan can be repaid during the repayment life of the proposal. A grant is being applied for.
7. Describe how the plan of development minimizes impacts on the natural environment (i.e. timing vs nesting/migration, etc.). If approved, work will be conducted during the winter, outside of the irrigation season with the minimum amount of disturbance to the area. Following construction, the site will be returned to the preexisting condition.
8. Explain how you are qualified, responsible and legally capable of carrying out the project for which you are seeking funds. The WID has been formed under Neb. Rev. Stat 46-101 through 46-128. The WID board of directors is responsible and legally capable of carrying out the project. The design, engineering and inspection will be assigned to MC Shaff & Associates, engineers registered in the state of Nebraska. The construction companies bidding on the project will be thoroughly vetted to ensure that they are qualified and capable of completing the project.
9. Explain how your project considers plans and programs of the state and resources development plans of the political subdivisions of the state. The WID works with the State of Nebraska Department of Natural Resources to ensure that compliance is maintained and senior water rights receive water when needed as well as maintaining flows in the White River crossing the South Dakota State Line.
10. Are land rights necessary to complete your project? YES  NO

**If yes:**

- 10.A Provide a complete listing of all lands involved in the project. NA
- 10.B Attach proof of ownership for each easements, rights-of-way and fee title currently held. NA
- 10.C Provide assurance that you can hold or can acquire title to all lands not currently held. NA
11. Identify how you possess all necessary authority to undertake or participate in the project. NA
12. Identify the probable consequences (environmental and ecological) that may result if the project is or is not completed. NA



## Section C.

### NRC SCORING

In the NRC's scoring process, points will be given to each project in ranking the projects, with the total number of points determining the final project ranking list.

The following 15 criteria constitute the items for which points will be assigned. Point assignments will be 0, 2, 4, or 6 for items 1 through 8; and 0, 1, 2, or 3 for items 9 through 15. Two additional points will be awarded to projects which address issues determined by the NRC to be the result of a federal mandate.

#### **Notes:**

- The responses to one criterion *will not* be considered in the scoring of other criteria. Repeat references as needed to support documentation in each criterion as appropriate. The 15 categories are specified by statute and will be used to create scoring matrixes which will ultimately determine which projects receive funding.
- There is a total of 69 possible points, plus two bonus points. The potential number of points awarded for each criteria are noted above. Once points are assigned, they will be added to determine a final score. The scores will determine ranking.
- The Commission recommends providing the requested information and the requests are not intended to limit the information an applicant may provide. An applicant should include additional information that is believed will assist the Commission in understanding a proposal so that it can be awarded the points to which it is entitled.

Complete any of the following (15) criteria which apply to your project. Your response will be reviewed and scored by the NRC. Place an N/A (not applicable) in any that do not apply, an N/A will automatically be placed in any response fields left blank.

1. Remediates or mitigates threats to drinking water;
  - Describe the specific threats to drinking water the project will address.
  - Identify whose drinking water, how many people are affected, how will project remediate or mitigate.
  - Provide a history of issues and tried solutions.
  - Provide detail regarding long-range impacts if issues are not resolved.

There will be no negative impact on drinking water as a result of this project.

2. Meets the goals and objectives of an approved integrated management plan or ground water management plan;
  - Identify the specific plan that is being referenced including date, who issued it and whether it is an IMP or GW management plan.
  - Provide the history of work completed to achieve the goals of this plan.
  - List which goals and objectives of the management plan the project provides benefits for and how the project provides those benefits.

One of the goals of the integrated management plan for the UNWNRD is to manage the surface and ground water supplies in the fully appropriated portion of the District to be in balance with uses; so that the EXISTING domestic, agriculture, environmental, recreational, commercial, and industrial activities are preserved to maintain the economic viability, social and environmental health, safety and welfare of the District for both the near and long term. The project will accomplish this goal by ensuring the water will be delivered to XXXX acres in the WID.

3. Contributes to water sustainability goals by increasing aquifer recharge, reducing aquifer depletion, or increasing streamflow;

List the following information that is applicable:

- The location, area and amount of recharge;
- The location, area and amount that aquifer depletion will be reduced;
- The reach, amount and timing of increased streamflow. Describe how the project will meet these objectives and what the source of the water is;
- Provide a detailed listing of cross basin benefits, if any.

The project will not have any negative impact on aquifers or stream flow.

4. Contributes to multiple water supply goals, including, but not limited to, flood control, agricultural use, municipal and industrial uses, recreational benefits, wildlife habitat, conservation of water resources, and preservation of water resources;
  - List the goals the project provides benefits.
  - Describe how the project will provide these benefits
  - Provide a long range forecast of the expected benefits this project could have versus continuing on current path.

Water for the WID is diverted from the White River to Whitney Reservoir. During times of extreme flows in the White River, the intake structure is operated to allow the maximum amount of flow to be diverted from the river, into the reservoir thus reducing flood waters downstream. Water then is beneficially used for irrigation.

5. Maximizes the beneficial use of Nebraska's water resources for the benefit of the state's residents;

- Describe how the project will maximize the increased beneficial use of Nebraska's water resources.
- Describe the beneficial uses that will be reduced, if any.
- Describe how the project provides a beneficial impact to the state's residents.

As stated above, flood water is captured and utilized rather than flowing out of state. Should the siphon not be replaced, there will be a loss of irrigation on 2,595 acres.

6. Is cost-effective;

- List the estimated construction costs, O/M costs, land and water acquisition costs, alternative options, value of benefits gained.
- Compare these costs to other methods of achieving the same benefits.
- List the costs of the project.
- Describe how it is a cost effective project or alternative.

Estimated construction cost are \$752,000 and operation and maintenance will be included in the total annual O&M for the district which is \$120,000. The alternative considered would be to line the pipe with a sleeve at an estimated cost of \$1,500,000.

7. Helps the state meet its obligations under interstate compacts, decrees, or other state contracts or agreements or federal law;

- Identify the interstate compact, decree, state contract or agreement or federal law.
- Describe how the project will help the state meet its obligations under compacts, decrees, state contracts or agreements or federal law.
- Describe current deficiencies and document how the project will reduce deficiencies.

The project will not impact any compact, decree, state contract or agreement or federal law.

8. Reduces threats to property damage or protects critical infrastructure that consists of the physical assets, systems, and networks vital to the state or the United States such that their incapacitation would have a debilitating effect on public security or public health and safety;

- Identify the property that the project is intended to reduce threats to.

- Describe and quantify reductions in threats to critical infrastructure provided by the project and how the infrastructure is vital to Nebraska or the United States.
- Identify the potential value of cost savings resulting from completion of the project.
- Describe the benefits for public security, public health and safety.

The project will not have any impact on property, infrastructure or public security, health and safety.

9. Improves water quality;

- Describe what quality issue(s) is/are to be improved.
- Describe and quantify how the project improves water quality, what is the target area, what is the population or acreage receiving benefits, what is the usage of the water: residential, industrial, agriculture or recreational.
- Describe other possible solutions to remedy this issue.
- Describe the history of the water quality issue including previous attempts to remedy the problem and the results obtained.

The project will not impact water quality.

10. Has utilized all available funding resources of the local jurisdiction to support the program, project, or activity;

- Identify the local jurisdiction that supports the project.
- List current property tax levy, valuations, or other sources of revenue for the sponsoring entity.
- List other funding sources for the project.

The current assessment withing the WID is \$XX per acre. Additionally, funds matching funds will be requested from the US Bureau of Reclamation's WaterSmart program.

11. Has a local jurisdiction with plans in place that support sustainable water use;

- List the local jurisdiction and identify specific plans being referenced that are in place to support sustainable water use.
- Provide the history of work completed to achieve the goals of these plans.
- List which goals and objectives this project will provide benefits for and how this project supports or contributes to those plans.
- Describe and quantify how the project supports sustainable water use, what is the target area, what is the population or acreage receiving benefits, what is the usage of the water: residential, industrial, agriculture or recreational.
- List all stakeholders involved in project.
- Identify who benefits from this project.

The project is sponsored by a local irrigation district whose intent is to continue providing irrigation water to the entire irrigation district area.

12. Addresses a statewide problem or issue;

- List the issues or problems addressed by the project and why they should be considered statewide.
- Describe how the project will address each issue and/or problem.
- Describe the total number of people and/or total number of acres that would receive benefits.
- Identify the benefit, to the state, this project would provide.

The project will address a local problem and will ensure that reliable irrigation water is delivered to 2,595 acres.

13. Contributes to the state's ability to leverage state dollars with local or federal government partners or other partners to maximize the use of its resources;

- List other funding sources or other partners, and the amount each will contribute, in a funding matrix.
- Describe how each source of funding is made available if the project is funded.
- Provide a copy or evidence of each commitment, for each separate source, of match dollars and funding partners.
- Describe how you will proceed if other funding sources do not come through.

Funding of the project will meet a portion of the match requirements from the WaterSmart grant application. \$300,000 is being applied for. If other funding sources are not received, the WID will determine make application for a loan and rely upon annual user assessments for repayment.

14. Contributes to watershed health and function;

- Describe how the project will contribute to watershed health and function in detail and list all of the watersheds affected.

The project will have no negative impact on the White River watershed.

15. Uses objectives described in the annual report and plan of work for the state water planning and review process issued by the department.

- Identify the date of the Annual Report utilized.
- List any and all objectives of the Annual Report intended to be met by the project
- Explain how the project meets each objective.

The repair is an immediate need that has not been identified by the state. The situation is similar to the Gering-Fort Laramie canal failure that occurred in 2019.

16. Federal Mandate Bonus. If you believe that your project is designed to meet the requirements of a federal mandate which furthers the goals of the WSF, then:

- Describe the federal mandate.
- Provide documentary evidence of the federal mandate.
- Describe how the project meets the requirements of the federal mandate.
- Describe the relationship between the federal mandate and how the project furthers the goals of water sustainability.

The project to does not meet assist in meeting federal mandates.