

NEBRASKA NATURAL RESOURCES COMMISSION

Water Sustainability Fund

Application for Funding

Section A.

ADMINISTRATIVE

PROJECT NAME: ***Mitchell Wastewater Treatment System Improvements***

PRIMARY CONTACT INFORMATION

Entity Name: ***City of Mitchell***

Contact Name: ***Jeff Sprock, City Administrator***

Address: ***1280 Center Avenue, Mitchell, NE 69357***

Phone: ***308-623-1523***

Email: ***cityadmin@mitchellcity.net***

Partners / Co-sponsors, if any: ***City of Mitchell, Platte River Basin Environmental (land application site) and USDA Rural Development (funding)***

1. Dollar amounts requested: (Grant, Loan, or Combination)

Grant amount requested. \$ ***\$2,407,200***

Loan amount requested. \$ ***None***

If Loan, how many years repayment period? ***N/A***

If Loan, supply a complete year-by-year repayment schedule.
N/A

2. Permits Needed - Attach copy for each obtained (N/A = not applicable)

Nebraska Game & Parks Commission
(G&P) consultation on Threatened and
Endangered Species and their Habitat

N/A Obtained: YES NO

Surface Water Right	N/A <input checked="" type="checkbox"/>	Obtained: YES <input type="checkbox"/>	NO <input type="checkbox"/>
USACE (e.g., 404 Permit)	N/A <input checked="" type="checkbox"/>	Obtained: YES <input type="checkbox"/>	NO <input type="checkbox"/>
Cultural Resources Evaluation	N/A <input checked="" type="checkbox"/>	Obtained: YES <input type="checkbox"/>	NO <input type="checkbox"/>
Other (provide explanation below)	N/A <input checked="" type="checkbox"/>	Obtained: YES <input type="checkbox"/>	NO <input type="checkbox"/>

[Click here to enter text.](#)

3. Are you applying for funding for a combined sewer over-flow 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

If yes attach a copy to your application. **N/A**

If yes what is the population served by your project? **N/A**

If yes provide a demonstration of need. **N/A**

If yes and you were approved for funding in the most recent funding cycle, then resubmit the above information updated annually but you need not complete the remainder of the application.

4. If you are or are representing an NRD, do you have an Integrated Management Plan in place, or have you initiated one?

N/A YES NO

5. Has this application previously been submitted for funding assistance from the Water Sustainability Fund and not been funded?

YES NO

If yes, have any changes been made to the application in comparison to the previously submitted application? **N/A**

If yes, describe the changes that have been made since the last application. **N/A**

No, I certify the application is a true and exact copy of the previously submitted and scored application. (Signature required) **N/A**

6. Complete the following if your project has or will commence prior to next July 1st.

As of the date of submittal of this application, what is the Total Net Local Share of Expenses incurred for which you are asking cost share assistance from this fund?

No Local Share Expenses have been incurred at this time. The study phase for the project has been completed and a funding source determined. USDA Rural Development has indicated the project is eligible for a long term loan (a copy of the notice is included in the application packet). Once funding is finalized the project will move into the preliminary design and final design phases.

Attach all substantiating documentation such as invoices, cancelled checks etc. along with an itemized statement for these expenses. **N/A**

Estimate the Total Net Local Share of Expenses and a description of each you will incur between the date of submittal of this application and next July 1st for which you are asking cost share assistance from this fund.

The estimated expenses through July 1, 2016 - \$110,000 are as follows: land & right-of-way - \$10,000; engineering design fees - \$100,000 (50%+/- of fee)

Section B.

DNR DIRECTOR'S FINDINGS

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

YES NO

1(a). If yes (structural), submit a feasibility report (to comply with Title 261, CH 2) including engineering and technical data and the following information:

A discussion of the plan of development (004.01 A);

The proposed project will replace the City's existing controlled discharge wastewater treatment system with a new lagoon system to include land application of the treated wastewater. The proposed lagoons will total 50 acres of surface area. The land application site requires a minimum of 178 acres to apply the expected amount of wastewater while meeting a 14-inch per year irrigation allocation set by the North Platte Natural Resources District. Copies of two Preliminary Engineering Report (PER) Addendum's describing the proposed project in more detail are included in the application packet.

A description of all field investigations made to substantiate the feasibility report (004.01 B);

A facilities plan reviewed the condition of the City's entire wastewater system. This included measurements of sewage flows, and assessments of the wastewater collection and the existing treatment systems.

Maps, drawings, charts, tables, etc., used as a basis for the feasibility report (004.01 C);

The attached PER Amendments include drawings showing the treatment alternatives investigated and the selected alternative.

A description of any necessary water and land rights and pertinent water supply and water quality information, if appropriate (004.01 D);

The project will require easements for siting a sewage lift station; a sewage force main to transfer the waste to the lagoon system from the lift station and an irrigation supply main to transfer the wastewater from the lagoons to the land application site. The City currently owns the land on which the wastewater lagoons will be located. An agreement between the City and land application site owner [Platte River Basin Environmental (PRBE)] detailing the delivery and use of the wastewater as an irrigation source will be executed. A draft letter of understanding between the City and PRBE is included in the application packet.

A discussion of each component of the final plan including, when applicable (004.01 E);

Required geologic investigation (004.01 E 1); **N/A**

Required hydrologic data (004.01 E 2); **N/A**

Design criteria for final design including, but not limited to, soil mechanics, hydraulic, hydrologic, structural, embankments and foundation criteria (004.01 E 3).

The project must comply with NDEQ requirements and standard engineering practices.

- 1(b). If no (non-structural), submit data necessary to establish technical feasibility including, but not limited to the following (004.02):

A discussion of the plan of development (004.02 A);
N/A

A description of field or research investigations utilized to substantiate the project conception (004.02 B); **N/A**

A description of the necessary water and/or land rights, if applicable (004.02 C); **N/A**

A discussion of 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).
N/A

2. Provide evidence that there are no known means of accomplishing the same purpose or purposes more economically, by describing the next best alternative.

The second most feasible treatment option was the construction of a wastewater treatment plant. The total estimated costs for this option are approximately 2.5% higher than the projected costs for the selected option. The yearly operation & maintenance costs for the second option are \$50,000 per year greater than the selected option. This equates to \$55 per year per customer). The attached PER Amendments describe the evaluation of the treatment options available to the City and the reasoning for selecting the chosen option in more detail.

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 shall be fifty (50) years or with prior approval of the Director, up to one hundred (100) years [T261 CH 2 (005)].

- 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).

The total cost of the proposed project is \$4,012,000. This is broken down as follows: 1) Administration/Legal - \$15,000; 2) Engineering Fees - \$466,000; 3) Construction - \$3,210,000; 4) Contingencies - \$321,000. Detailed cost estimates are included in the attached PER Amendments. Costs are included for the major components of the project along with the yearly operating & maintenance costs used to develop life cycle costs for each of the options.

- 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 any intangible or secondary benefits 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, such that the economic feasibility of the project can be approved by the Director and the Commission (005.02).

The monetary benefit of the project is to reduce the financial burden of the City's wastewater system customers by reducing the monthly user rates required for Rural Development loan repayment. The estimated yearly loan payment would be reduced by approximately \$87,500 per year. This is a savings of \$114 per year for the average sewer customer. This translates to a potential savings of \$3.5 million over the 40-year loan repayment period.

- All benefit and cost data shall be presented in a table form to indicate the annual cash flow for the life of the proposal, not to exceed 100 years (005.03).

A loan amortization table is included in the support information.

- 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, the economic feasibility of such proposal shall be demonstrated by such method as the Director and the Commission deem appropriate (005.04).

The existing treatment lagoons were constructed prior to implementation of the NDEQ's current regulations. As constructed, the allowable seepage from the lagoons was twice the current allowed seepage. The existing treatment system was also designed to periodically discharge wastewater to the North Platte River. The proposed project will include a synthetic liner (HDPE) that effectively reduces the seepage from the cells to zero. The excess wastewater that is not evaporated from the cells is land applied as irrigation water with regulations preventing any wastewater from leaving the application site. As a result, the project essentially eliminates untreated or partially treated wastewater from entering the underlying aquifer or surrounding surface waters.

4. Provide evidence that sufficient funds are available to complete the proposal.

The project has been selected for funding from USDA Rural Development's loan/grant program. A Rural Development letter documenting the selection is included in the application packet.

5. Provide evidence that sufficient annual revenue is available to repay the reimbursable costs and to cover OM&R (operate, maintain, and replace).

As part of the USDA RD funding requirements the City must increase the City's sewer user rates to generate the revenues necessary to satisfy the City's current financial obligations plus any debt burden resulting from the proposed project.

6. If a loan is involved, provide sufficient documentation to prove that the loan can be repaid during the repayment life of the proposal.

The City is requesting grant monies only under this application.

7. Describe how the plan of development minimizes impacts on the natural environment.

As noted previously, the combination of near zero seepage from the lagoons and land application requirements essentially eliminates untreated or partially treated wastewater from entering the underlying aquifer or surrounding surface waters of the North Platte River. The proposed lagoon system will be sited on lands that were previously used as settling ponds and the land application area is currently under center pivot irrigation thereby reducing the impacts on current land uses.

8. Explain how you are qualified, responsible and legally capable of carrying out the project for which you are seeking funds.

The applicant is a second class city.

9. Explain how your project considers plans and programs of the state and resources development plans of the political subdivisions of the state.

The proposed project will allow the City to conform with current NDEQ regulations for the handling of wastewater. The City is part of the North Platte NRD's Integrated Management Plan (IMP) and must comply with the restrictions concerning groundwater withdrawal and irrigation allocations included in the IMP.

10. Are land rights necessary to complete your project?

YES NO

If yes, provide a complete listing of all lands involved in the project.

1) City owned lands (lagoons), 2) county/private owned lands (easements for force main & irrigation supply main, 3) PRBE owned lands (land application site)

If yes, attach proof of ownership for each easements, rights-of-way and fee title currently held.

A copy of the deed for City ownership of the lagoon property is included in the application packet. A draft letter of understanding for use of the land application site is also included.

If yes, provide assurance that you can hold or can acquire title to all lands not currently held.

A Property Docket is submitted to the Rural Development prior to finalization of the funding package. The Property Docket includes documentation of ownership, easements and purchase options and a legal opinion of the City's ability to utilize the lands.

11. Identify how you possess all necessary authority to undertake or participate in the project.

The applicant is a second class city.

12. Identify the probable environmental and ecological consequences that may result as the result of the project.

No detrimental environmental or ecological consequences are anticipated. The Rural Development funding requirements include the preparation of an Environmental Assessment (EA). If any detrimental environmental or ecological consequences are noted during the preparation of the EA they will be mitigated as required.

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 in parenthesis. 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.

The proposed project is expected to provide an improvement to the overall quality of drinking water in the area through the reduction of wastewater being introduced to groundwater and surface water. The discharge of wastewater to the North Platte River will be eliminated. Seepage from the lagoon cells will be reduced to essentially zero amount. The improvement in quality is difficult to quantify; however, it is accepted that reductions in wastewater discharges to the environment are beneficial.

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.

The proposed project will comply with the North Platte NRD's IMP for the area. A baseline consumptive groundwater use has been established for the City with the City being responsible for offsetting all increases over the baseline amount. The IMP also establishes an irrigation allocation which the NRD has indicated will be imposed on the land application operations.

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.

While the proposed project eliminates the controlled discharge from the existing lagoon system the project reduces the burden on groundwater pumping in the area by eliminating the need for groundwater irrigation of the land application site. A net yearly reduction of approximately 137 ac-ft of groundwater is anticipated. A vicinity map indicating the location of the proposed improvements is included in PER Amendment #2.

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.

The proposed project will bring the City's wastewater treatment into compliance with state regulations. The land application process provides a direct beneficial use for the wastewater that would otherwise be discharged.

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.

The proposed project reduces the groundwater depletions in the area.

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.

Cost analyses are included in the PER information included with the application for each of the alternative options. In summary the proposed project costs are \$4,012,000. This is broken down as follows: 1) Administration/Legal - \$15,000; 2) Engineering Fees - \$466,000; 3) Construction - \$3,210,000; 4) Contingencies - \$321,000. This treatment option is the least expensive in terms of life cycle costs.

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.

N/A

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.

N/A

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 proposed project is expected to provide an overall improvement of the drinking water quality in the area through the reduction of wastewater being introduced to groundwater and surface water. The discharge of wastewater to the North Platte River will be eliminated and seepage from the lagoon cells will be reduced to essentially zero. The improvement in groundwater quality is difficult to quantify; however, it is accepted that reductions in wastewater discharges to the environment are beneficial. The removal of partially treated wastewater from the North Platte River improves its surface water quality experienced by recreational users of the river.

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 City of Mitchell is the local jurisdiction supporting the project. The City has secured funding for the project through the Rural Development loan program. The revenues required for repayment of the loan will be generated by increases in sewer system user rates. No other sources of funding are anticipated.

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 City of Mitchell is the local jurisdiction and is included in the North Platte NRD's IMP. A baseline consumptive groundwater use has been established for the City with the City being responsible for offsetting all increases over the baseline amount. The IMP also establishes an irrigation allocation which will be imposed on the land application operations. While the proposed project eliminates the existing controlled discharge the project reduces the burden on groundwater pumping in the area by eliminating the need for groundwater irrigation of the land application site. A net yearly reduction of approximately 137 ac-ft of groundwater is anticipated. The beneficiaries of the project are the residents & businesses of the City of Mitchell, the area groundwater users and persons

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.

N/A

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.

N/A

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 proposed project reduces the organic loading reaching the North Platte River system by eliminating the discharge of wastewater to the river. This improves the habitat for aquatic life in the river as well as wildlife and recreational users of the river system.

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.

N/A

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.

N/A

Section D.

PROJECT DESCRIPTION

1. Overview

In 1,000 characters or less, provide a brief description of your project including the nature and purpose of the project and objectives of the project.

The proposed improvements will convert the wastewater treatment from the existing controlled discharge lagoon system to a system using lagoon treatment and subsequent land application of the treated wastewater. Approximately 50 acres of wastewater lagoons will be constructed. A minimum of 178 acres of land is required for the irrigation component. The improvements will include a lift station on the main outfall sewer to transfer the wastewater to the lagoons and an irrigation pump station to supply the center pivot irrigation equipment at the land application site.

Approximately 4,000 lineal foot of force main is required between the outfall lift station and the lagoons and approximately 11,450 lineal foot of irrigation supply main is required between the lagoons and the land application pivot.

The wastewater lagoons will be constructed on a site that had previously been used as settling ponds for a local sugar beet factory. The proposed lagoon cells will use the general form of the previous ponds; however, the new cells will be designed to conform to NDEQ wastewater regulations. The cell construction will include an HDPE liner system to essentially eliminate seepage.

The proposed land application site is currently irrigated farm land using groundwater as the water source. The current groundwater allocation for the irrigated lands will be replaced by wastewater from the lagoon system. The wastewater discharge from the existing system to the North Platte River will be curtailed. A net reduction in overall water consumption is anticipated.

The proposed lagoons will be constructed on land currently owned by the City of Mitchell. A long term agreement will be executed between the land application site land owner and the City to address the wastewater use as an irrigation source. The proposed force mains will be installed in existing right-of-ways to the extent possible to minimize disruption of existing land uses.

2. Project Tasks and Timeline

Identify what activities will be conducted by the project. For multiyear projects please list what activities are to be completed each year.

The project is expected to be completed over a two-year period starting in January 2016 and finishing in January 2018. The project design, agency review and bidding/contract award activities are scheduled through December 2016. The start of construction is slated to begin in January 2017 with final completion in late December 2017/January 2018.

3. Partnerships

Identify the roles and responsibilities of agencies and groups involved in the proposed project regardless of whether each is an additional funding source. List any other sources of funding that have been approached for project support and that have officially turned you down. Attach the rejection letter.

The City of Mitchell is the primary 'agency'. The Platte River Basin Environmental group will partner for the land application aspect of the treatment system. USDA Rural Development is providing the funding for the City's share of the project.

4. 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.

USDA Rural Development is the funding source for the City's share of the project.

5. Support/Opposition

Discuss both support and opposition to the project, including the group or interest each represents.

No public opposition against the project has been brought forward. The funding process will offer additional opportunities for public input on the project.