NEBRASKA NATURAL RESOURCES COMMISSION

Water Sustainability Fund

Application for Funding

Section A.

ADMINISTRATIVE

PROJECT NAME: Lower Platte River & Tributaries – Water Conveyance and Habitat Improvement Project

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

Sponsor Business Name: Lower Platte Weed Management Area

Sponsor Contact's Name: Amanda Grint

Sponsor Contact's Address: 8901 S 154th Street, Omaha, NE 68138

Sponsor Contact's Phone: 402-315-1722

Sponsor Contact's Email: agrint@papionrd.org

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

   Grant amount requested. $ 250,000

   - If requesting less than 60% cost share, what %? 58

   If a loan is requested amount requested. $ 0

   - How many years repayment period? n/a
   - Supply a complete year-by-year repayment schedule. n/a

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. Click here to enter text.
- What is the population served by your project? Click here to enter text.
- Provide a demonstration of need. Click here to enter text.
- **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 three.) 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)	N/A☒	Obtained: YES☐	NO☐
DNR Surface Water Right	N/A☒	Obtained: YES☐	NO☐
USACE (e.g., 404/other Permit)	N/A☒	Obtained: YES☐	NO☐
FEMA (CLOMR)	N/A☒	Obtained: YES☐	NO☐
Local Zoning/Construction	N/A☒	Obtained: YES☐	NO☐
Cultural Resources Evaluation	N/A☒	Obtained: YES☐	NO☐
Other (provide explanation below)	N/A☒	Obtained: YES☐	NO☐

4. **Partnerships**

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

Lower Platte North NRD, Lower Platte South NRD, Papio-Missouri River NRD: The three NRDs partner together to provide services and cost share for the Lower Platte

Weed Management Area (LPWMA). The Lower Platte Weed Management Area (LPWMA) was established in 2003 with the mission to improve the health of the riparian areas throughout the Lower Platte River & Tributaries for the benefit of the landowners, recreationists, and the public. Our mission is to manage and prevent all riparian invasive plant invaders and improve wildlife habitat and stream flow capacity by managing the nonnative vegetation in the stream bed, banks and the adjoining floodplain throughout the Lower Platte River and tributaries. The Papio NRD administers the interlocal agreement and will be the fiscal agent and lead agency for reporting on this project. The 11 member counties of the LPWMA (Lancaster County, Butler County, Cass County, Dodge County, Douglas County, Platte County, Sarpy County, Saunders County, Seward County, Washington County, Colfax County) & Nebraska Game and Parks Commission: The Counties in the LPWMA all work together with the 3 NRDs and Nebraska Game and Parks Commission to control invasive weed species in the Lower Platte River. The Counties established a weed management area in 2003 through an interlocal agreement. All member Counties of the Lower Platte Weed Management Area (LPWMA) are active partners and contribute countless hours to the success of the Riparian projects. Each County Weed Superintendent participates in the LPWMA monthly meetings and annual spraying of phragmites and other invasive weed species in the Lower Platte. By having the Weed Superintendents take the lead and not hiring an outside coordinator, we are able to ensure our funding gets used to treat invasive vegetation rather than pay staff. Weed Superintendents are directly involved in the day-to-day operations, making contacts with landowners, surveying, monitoring, and treating the new and existing infestations. The three NRDs provide cost sharing for the spraying and also participate in the monthly meetings and administration of the LPWMA. Game and Parks is an active participant and coordinates Platte River Game & Parks property spraying with the group. The LPWMA is proud to partner with private landowners, local companies and utilities, County, State and Federal agencies.

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.

The cost of controlling phragmites in the Lower Platte River and tributaries is much more than the funds available to do the work however, past grants and spending indicate approximately $430,000 would allow the LPWMA to continue their efforts and include more tributaries of the Lower Platte River. The LPWMA works on limited funds that include contributions from the 3 Lower Platte NRDs (Lower Platte North NRD, Lower Platte South NRD and the Papio NRD) and in past years has also relied on State grants through the Nebraska Department of Agriculture. In 2024 the grant program was cancelled and to-date no additional State funds have been identified. The 3 Lower Platte River NRDs increased their contribution in 2024, from $30,000 each to $60,000 each, to allow the LPWMA to move forward with some phragmites spraying. Lancaster

County provides services to the LPWMA and contributes approximately $5,000 in administration and legal costs. Without WSF funds the spraying will again be limited to what the NRDs can contribute. The loss of state funding means that upstream weed management areas also had less funding and less spraying was completed. Less spraying upstream means more invasive weeds in the Lower Platte and more impact to conveyance and water supply. This is especially impactful in drought years.

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 Lower Platte Weed Management Area (LPWMA) project will benefit all Nebraskans by improving stream flow, channel conveyance, water for human consumption and livestock, recreation and wildlife habitat throughout the Lower Platte River, its tributaries and floodplains. Implementation of the project is through a collaborative effort between the LPWMA and its partners; Lower Platte South NRD, Lower Platte North NRD, Papio-Missouri River NRD, Nebraska Game and Parks, and private landowners. This project includes surveying the Lower Platte River and tributaries for invasive species, namely phragmites but also other invasive weed species, marking the areas with GIS data points and providing that gathered data to our contractors whether that be aerial spraying by helicopter, drone or air boat. Providing GIS data for spot treatment assures we are extremely efficient and effective in our approach to controlling flow restrictive vegetation. Education and outreach has also been a goal of the LPWMA and will continue to be an important aspect for success in controlling invasive weed species. The LPWMA will continue efforts to build public awareness to both the general public and the Legislature about the importance of controlling invasive species to improve riparian area ecosystem health, channel conveyance and water availability. The LPWMA has in the past and if funds allow, will continue the partnership with the University of Nebraska to develop the most innovative integrated approach to weed management to date. This project would contribute funds to provide for research by the Biological Systems Engineering department at the University of Nebraska. The outcome of this research includes developing an intelligent sensing and application system for mapping and automatically differentiating nonnative phragmites in riparian areas, followed by site-specific application using the state of the art drone based platforms and artificial intelligence-based decision making.

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):

Tasks	Year 1$	Year 2$	Year 3$	Remaining	Total $ Amt.
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.

All tasks will be completed in Year 1. Beginning in August 2025, the Lower Platte River and tributaries would be surveyed by County Weed Superintendents through airboat, ATV, or helicopter. During this survey, invasive species locations are identified using GIS software as well as observing last year's spray areas and identifying successfully treated areas. From August through end of October (or killing frost), the Lower Platte River would be sprayed using helicopter, drone, ATV, airboat or manual removal applications. Throughout the year the UNL research would be on going, the installation of boot-brush stations that include public information on invasive weeds are ordered and installed when a location is identified. In Fall 2025 a Weed Watch insert is prepared and distributed to the counties in LPWMA to circulate as needed for public information.Tasks Included in Year 1 : Administrative and Legal $3,100, Direct Control (contracting and herbicide) $304,200, Education and Outreach $122,700, Total $430,0000. The WSF request is 58%, $250,000 and the local match from the 3 NRDs is $180,000.

8. **IMP**

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

The 3 contributing NRDs in the Lower Platte all have Integrated Management Plans.

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; Click here to enter text.

1.A.2 Describe the plan of development (004.01 A); Click here to enter text.

1.A.3 Include a description of all field investigations made to substantiate the feasibility report (004.01 B); Click here to enter text.

1.A.4 Provide maps, drawings, charts, tables, etc., used as a basis for the feasibility report (004.01 C); Click here to enter text.

1.A.5 Describe any necessary water and/or land rights including pertinent water supply and water quality information (004.01 D); Click here to enter text.

1.A.6 Discuss each component of the final plan (004.01 E); Click here to enter text.

1.A.7 When applicable include the geologic investigation required for the project (004.01 E 1); Click here to enter text.

1.A.8 When applicable include the hydrologic data investigation required for the project (004.01 E 2); Click here to enter text.

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). Click here to enter text.

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

1.B.1 Insert data necessary to establish technical feasibility (004.02); The approach taken in the recent years to survey and spray the Lower Platte River has been successful. A survey of the Lower Platte and tributaries is conducted in the

summer via helicopter with the County Weed Superintendents. This has proven to be an efficient way to indicate the presence of phragmites and is a useful tool to cover a large area in a short time. The superintendents also survey via ATV, airboat and vehicle. These points are collected on GIS and transferred back to a GIS workmap so that the locations can be easily seen and reviewed. This information is then used to send notices to landowners and by the helicopter pilot/drone pilot for spraying. During spraying the actual sprayed areas are also collected via GIS on the helicopter and from the drone companies and the LPWMA is able to identify the total area and location of spray zones. The accuracy increases each year and we are able to use technical data to make spraying more efficient. In addition to the data that is collected through the spraying season, the LPWMA is interested in furthering the research from UNL on using drone technology and artificial intelligence to identify phragmites in riparian areas while simultaneously spraying the weed.

1.B.2 Discuss the plan of development (004.02 A); The Lower Platte Weed Management Area (LPWMA) was established in 2003 with the mission to improve the health of the riparian areas throughout the Lower Platte River & Tributaries for the benefit of the landowners, recreationists, and the public. Our mission is to manage and prevent all riparian invasive plant invaders and improve wildlife habitat and stream flow capacity by managing the nonnative vegetation in the stream bed, banks, and the adjoining flood plain throughout the Lower Platte River & Tributaries. The LPWMA works diligently with numerous landowners along the Platte River and its tributaries. The high density of residents living along the river and its use for recreation and public access make it critical for our applications to be precise to prevent herbicide damage to neighboring properties as well as keeping the channels clear to prevent flooding to the properties. Each year in July and August the County Weed Superintendents (11 counties) and Game and Parks surveys the Lower Platte and tributaries for invasive weed species not inclusive but largely for phragmites. They survey via helicopter, airboat, ATV, and walking inspections. From August through the first kill frost, spraying of invasive weed species occurs. Drones and helicopter spraying are the most efficient but also backpack and ATV spraying and spraying from airboats is all used. The removal of phragmites and other invasive species is vitally important to our river ecosystem for habitat but also for channel conveyance during high water and ice jam season. Water consumption is another consideration as phragmites uses a lot of water for growth and many communities rely on the Lower Platte River for their water source. This is especially important during times of drought.

1.B.3 Describe field or research investigations utilized to substantiate the project conception (004.02 B); The LPWMA is continually searching for and using the latest innovative and unique methods to manage the invasive vegetation along the Lower Platte River and its tributaries. This year's project includes phase 2 of the research by the University of Nebraska Department of Biological Systems Engineering. The goal of this research includes developing an intelligent

sensing and application system for mapping and automatically differentiating nonnative phragmites in riparian areas, followed by site-specific application using the state-of-the-art drone-based platforms and artificial intelligence-based decision makings. Coordination of this technology brings innovation and experimentation. Additional innovative and unique tools and methods include:

- 50/50 landowner cost share, getting buy in from the landowners and building public relations between landowners and LPWMA partners.
- Working to identify pathways in which invasive spread to prevent new infestations.
- Treatments made with helicopter, drone, and airboat applications.
- Implementing mechanical shredding, mowing and deep disking of sandbars. .

1.B.4 Describe any necessary water and/or land rights (004.02 C); Each County Superintendent works with the landowners in their county to either enter into an agreement to spray the property or they issue a public notice which allows for the County to have the right to spray. No land rights are necessary for 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). There will be no effects on the operation of existing structural measures.

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. Working together as a group is economical because the planning, surveying and spraying can be done in large part by helicopter/drone and the Counties save on the cost of hiring a contractor each individually. The LPWMA has also established an approved contractor list for drone sprayers by comparing costs and qualifications to ensure that each County has access to qualified, cost approved companies. Every Nebraskan, especially those along the flowing rivers and streams will greatly benefit from the treatment of invasive vegetation to create a healthy riparian system. The economic impact of doing nothing to manage the invasive vegetation would be detrimental to the region. Increased risk of flooding, reduced water conveyance, reduced wildlife habitat, are just a few of the potential negative results. By utilizing our funding effectively and efficiently, everyone benefits; whether you're an environmentalist, recreationalist, live in the city and use the water, or drive over a bridge that is being protected by minimizing the risk of flooding, all Nebraskan's benefit from the work. The LPWMA will continue to manage for a positive economic impact with free-flowing

streams, water for human and livestock consumption and increased habitat for endangered species as well as other wildlife that depend on the riparian areas. Water is the State's most valuable resource, working in a cohesive effort and protecting this resource will remain our top priority.

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. (Title 261, CH 2 - 005). The estimated cost of the project is $430,000 based on the known costs of the LPWMA as well as an estimate of the amount of spraying that could be done with drone, helicopter and airboat. Each year there are more invasive species to spray than there are dollars to fund it. The alternative of not spraying invasive weed species, specifically phragmites could be very detrimental to the ecosystem, the water supply and to infrastructure, personal and property damages through flooding. Keeping the Lower Platte River channel conveyance intact is extremely important during high water and ice jam season. In addition, phragmites uses an abundance of water to grow and therefore reduces water available for habitat and consumption. A detailed cost benefit cost analysis in not practical for this type of project but it is evident that long term management phragmites in the Lower Platte River is essential to recreation, ecosystems, water supply and water conveyance. The project is an efficient way to help increase the beneficial uses of the Lower Platte River. The LPWMA is the first Weed Management Area (WMA) in Nebraska to require UAS (drone) applicators to bid on contracts to ensure cost effectiveness during applications. This bid process is now being utilized by other WMAs in Nebraska, including the Platte Valley WMA and Twin Valley WMA

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). The estimated costs are administrative for the LPWMA insurance, direct control which is contracted spraying and chemicals, education and outreach for UNL research and several outreach publications. No costs are included for engineering, inspection, construction and 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 benefits of removing invasive weed species in the Lower Platte River include improving channel conveyance which is vital during high water and ice jam season and could greatly reduce damages to infrastructure and private property. In addition, phragmites uses an abundance of water to grow and therefore reduces water available for habitat and consumption especially in times of drought. It is evident that long term management phragmites in the Lower Platte River is essential to recreation, ecosystems, water supply and water conveyance. The amount of the project compared to the benefits it provides is clear that there is an economic benefit.

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 total project cost is estimated at $430,000 for one year. The 3 NRDs in the Lower Platte basin will contribute $180,000. Each NRD increased their contribution from $30,000 to $60,000 in 2024, in an effort to continue at least the spraying work because state funds through the Dept of Agriculture were not available. It is anticipated that the NRDs could again fund $180,000. As previously noted, there is not an acceptable way to calculate cost vs. benefit for controlling phragmites in the Lower Platte however, for over a decade it has been a successful project and more can be done. Some specific benefits include: 1. Increasing water conveyance by eliminating the large patches of phragmites on banks and islands. Increased water conveyance helps during high water events and also ice jam season. 2. Adding benefit to the rivers ecosystem as phragmites spreads very easily and can take over habitat on sandbars and shorelines. The removal of phragmites also increases recreation benefits. 3. By controlling phragmites, there is an increase in water for consumptive uses. Phragmites uses a lot of water for growth and unnecessarily stresses the water levels in the river especially in times of drought.

	NRDs	WSF	Total
Admin & Legal	$1,600	$1,500	$3,100
Direct Control	$129,320	$174,880	$304,200
Outreach	$49,080	$73,620	$122,700
Total	$180,000	$250,000	$430,000

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.) Please see 3.C above for costs. The alternative of not controlling invasive weed species specifically phragmites in the Lower Platte could lead to increased damages from flooding or ice jams which could impact costs to repair infrastructure and private property. In addition, consumptive water uses are vital as many constituents rely on the Lower Platte for groundwater. The infestation of phragmites could have similar effects on the MUD and Lincoln water systems that droughts do, meaning more cost, more regulations, etc. It is even more difficult to determine the economic impacts to river ecosystem health and recreation but the alternative to allow phragmites to infest the Lower Platte Basin would inherently impact such things.

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. Letters of support are attached. The LPWMA agreements show the commitment of the counties to do the work and the NRDs to help fund the efforts. The matching funds are identified in the interlocal agreement with the 3 NRDs.

5. Provide evidence that sufficient annual revenue is available to repay the reimbursable costs and to cover OM&R (operate, maintain, and replace). The Papio NRD will administer the grant and has historically provided the funds until the reimbursable costs were paid. The Papio-Missouri River NRD has estimated the 2024-2025 property tax request at 0.029568 cents per $100 of valuation resulting in $31,497,102 from property taxes with an operating budget of $89,150,425.

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

7. Describe how the plan of development minimizes impacts on the natural environment (i.e. timing vs nesting/migration, etc.). The timing of the spraying and the herbicides used are chosen to best suit the natural environment. To prevent contamination and degradation to the health of the river the LPWMA always follows Federal Law by using aquatic approved herbicides safe to the fish and wildlife that depend on the rivers and riparian areas. The equipment and methods used are proven to be safe and accurate, preventing any off-target applications.

8. Explain how you are qualified, responsible and legally capable of carrying out the project for which you are seeking funds. The LPWMA has successfully, for over two decades, sprayed phragmites on the Lower Platte River. Over the years, it has been learned that working together to share resources is a great benefit and pooling resources to find funding is also a great benefit to getting the invasive weed species sprayed. There is a proven record that the LPWMA has responsibly carried out this project. The WSF funds helps the LPWMA to expand the amount of spraying that is completed.

9. Explain how your project considers plans and programs of the state and resources development plans of the political subdivisions of the state. The project proposed by the LPWMA supports the Nebraska Department of Agriculture goals of removing invasive weed species in our rivers and floodplains.

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. Click here to enter text.

10.B Attach proof of ownership for each easements, rights-of-way and fee title currently held. Click here to enter text.

10.C Provide assurance that you can hold or can acquire title to all lands not currently held. Click here to enter text.

11. Identify how you possess all necessary authority to undertake or participate in the project. The authority to spray invasive weed species on private property is held by each County Weed Superintendent. Through public notices and individual agreements, notice to landowners and access for spraying is authorized.

12. Identify the probable consequences (environmental and ecological) that may result if the project is or is not completed. The alternative of not controlling invasive weed species, specifically phragmites, in the Lower Platte could lead to increased damages from flooding or ice jams which could impact costs to repair infrastructure and private property. In addition, consumptive water uses are vital as many constituents rely on the Lower Platte for groundwater. The infestation of phragmites could have similar effects on the MUD and Lincoln water systems that droughts do, meaning more cost, more regulations, etc. It is even more difficult to determine the economic impacts to river ecosystem health and recreation but the alternative to allow phragmites to infest the Lower Platte Basin would inherently impact such things. The economic impact of doing nothing to manage the invasive vegetation would be detrimental to the region. Increased risk of flooding, reduced water conveyance, reduced wildlife habitat, are just a few of the potential negative results. By utilizing our funding effectively and efficiently, everyone benefits; whether you're an environmentalist, recreationalist, live in the city and use the water, or drive over a bridge that is being protected by minimizing the risk of flooding, all Nebraskan's benefit from the work. The LPWMA will continue to manage for a positive economic impact with free-flowing streams, water for human and livestock consumption and increased habitat for endangered species as well as other wildlife that depend on the riparian areas. Water is the State's most valuable resource, working in a cohesive effort and protecting this resource will remain our top priority.

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 to 6 for items (1) - (9); and 0 to 3 for items (10) - (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 72 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.

Many people rely on groundwater from the Lower Platte River Basin for drinking water. MUD and City of Lincoln are the largest users. In recent years, the drought has shown what impacts low water levels have on domestic water users. Impacts can lead

to voluntary water conservation to mandatory conservation measures. In addition to MUD and the City of Lincoln, many private wells are located in the Lower Platte Basin. Phragmites is a large and fast-spreading plant that uses river and groundwater to grow. Studies have been completed at the Great Lakes to determine the amount of consumptive water use by phragmites and although the size and number of plants would vary to the point that it would be difficult to compare, the study shows that 32 inches per year in that location is lost to phragmites with July through August being the highest use months. Removing this vegetation is one tool to save on unnecessary water use in the Lower Platte River. Because phragmites spreads so quickly, there is the potential to occupy all sandbars and shorelines and in low water times, when water is needed the most, it can take over more area. The LPWMA uses a wide variety of tools to achieve our weed management goals. As technology continues to improve, we've been able to use technology to become more efficient in surveying and treating vegetation. Surveys and herbicide treatments are performed by helicopter, airboat, Argo, and Unmanned Aerial Systems (drones). To complement our herbicide treatments, we use mechanical removal with shredding, mowing and deep disking to improve the health of the riparian area. LPWMA brings coordination of multiple contractors together that normally wouldn't work in the same scope. One example is the LPWMA was the first WMA to use airboats to move drone applicators up and down the river to launch at various locations to treat invasive vegetation. The LPWMA project is intending to increase aerial spraying efforts in the Lower Platte River and tributaries. Being at the lower end of the river basin, it is important for upstream weed management areas to also control phragmites since it will spread through wind and water. Considering that, the LPWMA has made strides to reduce phragmites but there will likely always be a need to control this invasive weed species.

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 project directly supports the Papio NRDs Integrated Management Plan Objective 1.2 listed: OBJECTIVE 1.2 - Minimize invasive vegetation encroachment in the river channels .Invasive species can reduce channel capacity and inhibit scouring flows that would otherwise create and improve the necessary habitat of the native species of the Platte River. Invasive species also reduce the availability of the water resources to the native plant communities through elevated evapotranspiration. Removal of invasive vegetation helps to maintain the health of the Lower Platte Basin for the benefit of native species. Action Item 1.2.1 Provide financial and administrative support to weed management activities in river channels. (P-MRNRD)Action Item 1.2.2 Encourage removal of invasive species to improve channel conveyance.(P-

MRNRD) The project also indirectly supports goals from each of the participating NRDs Groundwater Management and Integrated Management Plans such as protecting conjunctive management of surface and groundwater, participating in basin wide water management activities, and protecting water supply. Since 2003, the LPWMA has worked toward this goal however it is an ongoing effort and being at the lower end of the basin it will likely continue to be an effort that must continue. This project directly benefits and is an action item for the Papio NRD Integrated Management Plan Objective 1.2.

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 LPWMA's project targets invasive aquatic vegetation as well as invasive woody vegetation which threatens to turn the braided stream into permanent middle and high sandbars. Many of the barren or intermittently vegetated sandbars have been invaded by an intermingling of willows, cottonwoods, false indigo as well as purple loosestrife, saltcedar, and phragmites reducing flow capacity. Middle to high sandbars, primary Platte River channel nesting habitat of the least tern and piping plover, is being lost to vegetation. These middle to high sandbars poses a risk of reduced stream flow and channel conveyance as well as increased ice jams and flooding if left unaddressed. The recent research conducted by the United States Geological Society and Army Corps of Engineers demonstrated the current persistence of these middle to high sandbars in the lower Platte River basin. If the sandbar persists for more than one to two years, there is a greater than 60% likelihood that the sandbar will become a permanent sandbar. These permanent sandbars pose a danger to becoming quickly inhabited by invasive woody trees and invasive weeds establishing where the seeds and plant propagules plant themselves on the upstream and downstream areas of these islands. The sandbar establishment results in water loss that would otherwise be utilized for agriculture, human consumption, wildlife habitat, and recreation. The channels of the Lower Platte would lose the ability to handle the melted flow of ice jams during the warming transition from winter to spring. Addressing these islands and controlling new woody invasive growth and invasive species is a proactive management strategy that fosters a sustainable water supply for the future while proactively managing for efficient channel conveyance of water and lowering the risk for damaging ice out conditions which rely on clear, braided river system. It is critical to keep the channel conveyance open in the LPWMA section of the Platte River watershed to ensure adequate

water to well fields that are vital to keeping Lincoln and other communities with clean, safe drinking water. The project proposed by the LPWMA, continues work the group is already doing in the Lower Platte River and adds to the amount of area that invasive weed species can be controlled. The LPWMA includes the Platte River and tributaries and floodplain from Platte County and Butler County to the confluence of the Platte and Missouri River. This directly impacts the amount of aquifer recharge and decreases aquifer depletion as well as increasing streamflow. It is difficult to determine exact amounts as it depends on the infestation. Phragmites plants use surface and groundwater and have a high evaportranspiration rate. By controlling phragmites, and the more you control, the more you can decrease this unnecessary water use and more water is available for streamflow, aquifer, wildlife, etc. This project provides benefits to the Lower Platte Basin as well as downstream in the Missouri River Basin. Any upstream weed control will help the downstream population.

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.

   Specific goals of the LPWMA project include:1. Increasing water conveyance by eliminating the large patches of phragmites on banks and islands. Increased water conveyance helps during high water events and also ice jam season. This can decrease flood damages. 2.Adding benefit to the rivers ecosystem as phragmites spreads very easily and can outcompete other species on sandbars and shorelines decreasing the diversity. The removal of phragmites also increases recreation benefits by clearing views and removing plant density for access to river. 3. By controlling phragmites, there is an increase in water for consumptive uses. Phragmites has a large consumptive water rate and left untreated could unnecessarily stress the water levels in the river especially in times of drought. This impact has the potential to affect domestic water users through private wells or municipal wells. The long-term plan for invasive weed species control in the Lower Platte will take the collaboration of all counties and the lower river basins can only be controlled as much as the upper basin is so the need for vegetative management is statewide. Every aspect of this LPWMA project is working toward long-term results. Landowner education and participation are key to long-term sustainability and the LPWMA has been successful in partnering with landowners since the beginning. We have formed strong partnerships in our 11-County region and continue to work with stakeholders to improve the long-term results of spraying for nonnative invasive weed species. The LPWMA will continue to assess the effectiveness of our

eradication efforts by continually evaluating how we manage the flowing streams. LPWMA partners are always looking at ways to ensure our efforts are ongoing and not just short-term fixes. Recent surveys show we've substantially reduced the number of acres of nonnative vegetation, an indication of long-term benefits for the health of the riparian area. Future maintenance and administration support of the project will be achieved through financial commitments from our partners and federal and state grants.

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 LPWMA project intends to maximize water conveyance, ecosystem habitat and diversity, increase available consumptive water and increase recreational benefits in the Lower Platte River. The removal of phragmites, and other nonnative, invasive weed species allows for better water conveyance which can reduce flood damages to infrastructure and private property in times of high water and also allows for a clear conveyance path during ice out season helping to reduce ice jam potential. The ability of phragmites and other invasive weed species to outcompete and take over wetland and other low lying areas is extreme and its rapid spread eliminates vegetative diversity. Large stands of phragmites use water from the stream and groundwater to grow. These plants can grow up to 4.75 inches per day and they consume a lot of water. Removing phragmites allows for that water to be used as a benefit for Nebraska's water resources and the constiutents that rely on Lower Platte water for drinking water. Phragmites grows tall, up to 15 ft, and spreads rapidly in thick patches with leaves that can be cutting. By removing phragmites from the river and tributaries, recreation opportunities are increased by unobstructing views, creating a less dense and safer path to enjoy the Lower Platte River and floodplain areas. All these objectives of the project increase benefits to Nebraska's residents. Water is the State's most valuable resource, working in a cohesive effort and protecting this resource will remain our top priority.

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.

The LPWMA continues to be cost effective in its management of noxious and invasive species within the entire watershed. Our aggressive management over the last 20 years has reduced our infested acres to less than 5% of the approximate 40,000 acres of flowing water within the Lower Platte River. The LPWMA is coordinated, at no cost, by the Weed Superintendents and partners to ensure the funding is used to improve water conveyance. Weed Superintendents also contribute many hours of In-kind contributions that ensure the funding is maximized above and beyond the funding received. The use of aerial spraying, drone spraying and utilizing GIS data to identify specific zones of invasive weeds has all helped to make the removal and control of invasive weed species more effective. The LPWMA's helicopter applicator uses the GPS survey data for annual control efforts instead of a search and destroy method. By using precision technology data point information, we are extremely efficient and effective in our approach to controlling unwanted vegetation ensuring priority areas are proactively managed instead of relying on a contractor to fly the whole project area, identify target species, and search and destroy those targets. This method ensures the grant dollars for control are accounted for and allows for landowner cost share of acres surveyed and sprayed. Each GPS survey point is controlled by the contractor and reduces the risk of leaving untreated areas. Treatment of invasive species along the flowing rivers and streams will be made by helicopter, airboat, and Unmanned Aerial Systems (UAS) to maximize our control cost. LPWMA contractors are required to bid on our projects ensuring we are getting the best value with both qualified and cost-effective applications. The estimated cost of the project is $430,000 which includes all components of the project from administration to direct costs for contracting and herbicide as well as education and outreach. There are no engineering, construction O/M or land acquisition costs. The alternative of mechanical removal would be exponentially higher as well as the limited access in the river makes it an unacceptable alternative. The other alternative of not controlling the invasive weed species has many costs both direct and indirect. Direct costs are to consumptive water use which has proven to be invaluable especially in times of drought. Other direct cost savings are the reduction in flood damages to infrastructure and private property due to improved channel conveyance. Indirectly, the improvements to habitat diversity and recreational benefits are harder to quantify but important none the less. The project also has a component of research to further the efficiency of invasive weed spraying. The LPWMA has already contributed to UNL research to support innovative approaches to weed management, and this project allows that research to continue to develop an intelligent sensing and application system for mapping and automatically detecting nonnative phragmites in riparian areas using drone technology. This would dramatically impact the effectiveness of weed management and lessen the cost.

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 LPWMA project generally meets the program elements of the Platte River Recovery Implementation Program by managing and attempting to eliminate depletions as well as improve habitat diversity in the Platte River however, slightly downstream of the target area for that program.

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.

Without treatment to control phragmites, there is the potential for very large populations to expand. Phragmites spreads fast and while the Platte River levels have been low, that is the prime time for them to really populate the channel. Once this happens, without treatment, the phragmites creates an obstruction to flood flows and/or ice as it tries to move downstream. This obstruction can cause increase damage to critical infrastructure and private property. Improving channel conveyance by removing phragmites and other nonnative invasive species helps to reduce flood damages and is a benefit to public 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 removal of phragmites and other nonnative invasive weed species as planned with this LPWMA project, would increase diversity in vegetation on the Lower Platte River and therefore, would improve water quality. Phragmites has the ability to outcompete other vegetation and reduced diversity in wetland plants. In 2024, more than 667 acres of invasive weed species were sprayed and with additional grant funding, even more acres could be treated. The Lower Platte River and tributaries are recreational, agricultural and residential mainly.

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.

For several years, the LPWMA was able to secure funding through the Department of Agriculture to keep up with the demand for spraying nonnative, invasive species. The 3 Lower Platte NRDs have also contributed each year to continue efforts. In 2024, funding was no longer available through the Department of Agriculture and the NRDs doubled their contributions to $60,000 each so that the work of the LPWMA could continue. Support letters are attached and the participating members of the LPWMA support this project. The members are the Lower Platte South NRD, Lower Platte North NRD, Papio-Missouri River NRD, Nebraska Game and Parks, Lancaster County, Platte County, Butler County, Dodge County, Douglas County, Sarpy County, Seward County, Colfax County, Washington County, Saunders County and Burt County.

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 three NRDs that contribute funding and participate in the LPWMA are the Lower Platte South NRD, Lower Platte North NRD and Papio-Missouri River NRD all have Groundwater Management Plans and Integrated Management Plans to support sustainable water use within their respective Districts. The LPWMA's aggressive weed management over the last 20 years has reduced our

infested acres to less than 5% of the approximate 40,000 acres of flowing water within the Lower Platte River. The LPWMA is coordinated, at no cost, by the Weed Superintendents and partners to ensure the funding is used to improve water conveyance. Weed Superintendents also contribute many hours of In-kind contributions that ensure the funding is maximized above and beyond the funding received. The LPWMA's helicopter applicator uses the GPS survey data for annual control efforts instead of a search and destroy method. By using precision technology data point information, we are extremely efficient and effective in our approach to controlling unwanted vegetation ensuring priority areas are proactively managed instead of relying on a contractor to fly the whole project area, identify target species, and search and destroy those targets. This method ensures the grant dollars for control are accounted for and allows for landowner cost share of acres surveyed and sprayed. Each GPS survey point is controlled by the contractor and reduces the risk of leaving untreated areas. Treatment of invasive species along the flowing rivers and streams will be made by helicopter, airboat, and Unmanned Aerial Systems (UAS) to maximize our control cost. LPWMA contractors are required to bid on our projects ensuring we are getting the best value with both qualified and cost-effective applications. The three NRDs also participate in several Lower Platte coordination groups that have various goals and objectives to manage depletions, plan for drought conditions and work together to improve recreation and water quality. The LPWMA, which includes the counties of the Lower Platte from Platte and Butler County to the mouth of the Missouri, all participate along with NE Game and Parks and the NRDs to address the objective of sustainable water by reducing phragmites and other invasive species. The benefits of weed management include improved water availability, recreation and channel conveyance. Every Nebraskan, especially those along the flowing rivers and streams will greatly benefit from the treatment of invasive vegetation to create a healthy riparian system. The economic impact of doing nothing to manage the invasive vegetation would be detrimental to the region. Increased risk of flooding, reduced water conveyance, reduced wildlife habitat, are just a few of the potential negative results. By utilizing our funding effectively and efficiently, everyone benefits; whether you're an environmentalist, recreationalist, live in the city and use the water, or drive over a bridge that is being protected by minimizing the risk of flooding, all Nebraskan's benefit from the work. The LPWMA will continue to manage for a positive economic impact with free-flowing streams, water for human and livestock consumption and increased habitat for endangered species as well as other wildlife that depend on the riparian areas. Water is the State's most valuable resource, working in a cohesive effort and protecting this resource will remain our top priority.

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.

Invasive weed species are a statewide problem and each county has a weed superintendent that is charged with addressing this issue. The LPWMA is a collective of these County Weed Superintendents along with other supporting agencies and NRDs that have chosen to work together to address the issue for the sake of efficiency and cost savings. The Lower Platte and tributaries is a very large area to address for weed management and collectively the group is able to manage this large task much better than as individuals. The benefit to the state is controlled invasive weed species which in turn improved channel conveyance, increasing water availability and improving recreation.

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.

The LPWMA has in the past operated with NRD contributions and Department of Agriculture grants. In 2024, the LPWMA was not awarded the Department of Agriculture grant and was entirely funded by contributions from the Lower Platte South NRD, Lower Platte North NRD and the Papio-Missouri River NRD. Each NRD contributed $60,000 for a total budget of $180,000. With the availability of drones and helicopter spraying, the area can be increased to remove more invasive weed species however the LPWMA is limited by funding. Support letters are included from the NRDs and Counties. If additional funding is not secured, the LPWMA will again be limited by funds and will need to reduce the areas sprayed for invasive weed species.

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.

By managing the nonnative vegetation, the LPWMA project will have a positive impact on the environmental benefits along the Lower Platte River and tributaries, including increased stream flows, water for human consumption, livestock, agriculture, as well as creating and protecting habitat for the endangered species. The LPWMA focus is always on the positive environmental

impact we have on the riparian areas we manage. Sandbars free of vegetation are viable nesting habitat for Nebraska's threatened and endangered bird species the Interior Least Tern and the Piping Plover. However, new, small infestations of invasives are threatening to re-establish these clean sandbars. If left untreated, invasives will become a negative change agent for the river corridor, resulting in water lost to woody and invasive plants that would otherwise be available and utilized for agriculture, human consumption, wildlife, and recreation. By reducing invasive weeds, specifically phragmites, the channel is clear of vegetation and is able to convey water more efficiently. Channel conveyance is important for moving water through the system during times of high water and ice jam season. Reducing the population of phragmites also helps to make more water available for habitat, recreation and consumption. Phragmites uses a lot of water and grows rapidly, up to 4.5 inches or more a day. More water is available for other uses when the invasive weed species are controlled. The available water benefits the river ecosystem, consumptive uses and recreation. Phragmites spreads quickly and outcompetes other wetland vegetation. By controlling phragmites a more diverse vegetation can grow which is a benefit to habitat and water quality.

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.

Nebraska Department of Natural Resources 2024 Annual Report outlines six main goals and this project addresses five of the six.

<u>Establish strong science based decisions necessary to sustain state and local water management outcomes</u>
This objective is achieved by including the weed control experts. The LPWMA takes pride in the role the County Weed Control Superintendents play. Our goal from day one was to make sure the funding received by the WMA is used to better the Lower Platte River & Tributaries. By having the Weed Superintendents take the lead and not hiring an outside coordinator, we are able to ensure our funding gets used to treat invasive vegetation rather than pay staff. Weed Superintendents are directly involved in the day-to-day operations, making contacts with landowners, surveying, monitoring, and treating the new and existing infestations.

<u>Provide high quality services in floodplain management, flood mitigation planning dam safety and survey to promote the safety of all Nebraskans</u>
This objective is met by improving channel conveyance in the Lower Platte River and tributaries. Conveyance can be significantly compromised by fast growing and dense

phragmites vegetation. It can have impacts on larger systems like the Platte River but more specifically on the smaller tributaries. Removing phragmites can mitigate flood damages by improving conveyance.

Develop customized water management plans established through collaboration with NRDs for long term sustainability of the states water resources
This project specifically addresses an objective in the Papio NRDs Integrated Management Plan to reduce invasive vegetation as a means to improve water availability, improve channel conveyance and improve the river ecosystem. Not only does the LPWMA project address an objective of a water management plan, the group itself works together to manage the Lower Platte River and tributaries weed management. The collaboration allows for more efficient use of funds and more can be accomplished.

Encourage strong public engagement with stakeholders in planning and implementation activities to ensure that local and state needs are addressed
The LPWMA project includes components of stakeholder engagement and public outreach. The LPWMA is proud to partner with private landowners, local companies and utilities, County, State and Federal agencies. Many have been financial contributing partners since our beginning in 2003. Along with the 11-member County Weed Departments, we also have strong support from the Lower Platte South, Lower Platte North, and Papio-Missouri NRD's, Nebraska Game & Parks Commission, UNL Tern and Plover Conservation and UAS (drone) research partnerships. LPWMA is consistently reaching out and developing relationships with current and perspective partners.

Protect existing water uses through collaborative investments in water resource projects
This objective of the 2024 report is met by the LPWMA project due to the collaboative nature of the group, formed through an interlocal agreement in 2003. The control of invasive weed species protects existing water uses by removing that unnecessary water user and establishing a diverse, natural ecosystem in the Lower Platte River.

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