Application Preparation by:

LOWER PLATTE SOUTH
natural resources district

FYRA
ENGINEERING

Water Sustainability Fund Application
Deadmans Run Flood Reduction Project
July 31, 2019

Enclosed in this document, in its entirety, is an application for the Nebraska Natural Resources Commission's (NRC) Water Sustainability Fund that has been divided into four categories.

The **Cover Letter** introduces the project and states the Applicant's intent.

The **Application** follows the format in the Application Form provided by the NRC answering all questions and requests for information in Sections A, B, and C. The responses and information provided are intended to address the information requested as directly as possible.

The Application references the **Supplemental Information Attachment (SIA)** where supporting documentation and additional information is contained. The SIA provides additional data and references to support the responses offered in the Application. The information in the SIA is provided in the same order and is numbered the same manner as in the Application. Note that not all sections of the Application will have information included in the SIA.

At the end of the SIA is a **Bibliography** for all external reports, design guidance or other material referenced in the Application. This Bibliography provides the reviewer with additional references relevant to the Application. The combined size of these references prohibits the inclusion of the references within the SIA. Digital copies of the references can be obtained by contacting Kent Zimmerman at NDNR (kent.zimmerman@nebraska.gov) or Mike Sotak at FYRA Engineering (msotak@fyraengineering.com). The information provided in the Bibliography is alphabetical, but each entry is cross referenced back to the Application/SIA section to which it pertains and is referenced.

Cover Letter

Application

Supplemental Information Attachment

Bibliography

COVER LETTER

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July 31, 2019

Mr. Jeff Fassett, P.E.
Director, Nebraska Department of Natural Resources
via Electronic Submission

Re: Lower Platte South Natural Resources District Deadmans Run Flood Reduction Project
Application for Water Sustainability Fund Grant

Director Fassett and member of Natural Resources Commission:

In accordance with the rules, regulations and guidelines for Nebraska's new Water Sustainability Fund Grant Program, please accept this grant application on behalf of the Lower Platte South Natural Resources District (LPSNRD) for the above-referenced project.

This project is somewhat unique in that it broken into federal and non-federal project components. The Deadmans Run Flood Reduction Project was accepted into the United States Army Corps of Engineers (USACE) Section 205 Continuing Authorities Program to plan and construct small flood damage reduction projects. Through the planning process, USACE identified design components that the USACE will complete as a federal project and separated out design components as a non-federal project to be completed by local authorities. The flood reductions cannot be achieved without the combination of both federal and non-federal components and are therefore considered one project for the purpose of the WSF application. The costs and benefits are assessed together, but funding assistance is only requested for the costs to be incurred by the local project sponsors.

In addition to the application form posted on the NDNR website, which has been copied verbatim into this grant application, there is also an attachment referenced as the Supplemental Information Attachment (SIA) to this application. Contained within the SIA is a bibliography of technical documents related to the project that contain additional information that can be reviewed if desired. In an effort to keep this application as concise as possible, Kent Zimmerman at NDNR will be provided an electronic copy of all of the documents referenced in the bibliography and therefore, copies of said information can be obtained through Mr. Zimmerman. The goal of this application structure was to first provide reviewers with the information required to directly answer the questions in the official application form at a concise level, second to provide additional maps, charts and supporting documents to address

the required information in the SIA, and then finally to provide the overall documents that any information provided originates from (assuming it is from another document.) We trust that this allows you to quickly review the information you desire and gather additional data as each individual reviewer sees fit.

"Water Sustainability" is defined in Nebraska Title 264 as *when water use is sustainable when current use promotes healthy watersheds, improves water quality, and protects the ability of future generations to meet their needs.*

Recognizably, sustainability has varied meanings across the State, in Eastern Nebraska, watershed health is related to reducing the threat of flood damage first and foremost. Nearly every watershed plan in this region addresses flood control first. And as argued above, finding any project that would protect the ability of future generations to meet their needs would be difficult, given the protection this project provides to one of Nebraska's thriving communities and contributor to the State economy.

We thank you for your acceptance of this application and stand ready to provide any clarification on any information provided during your review.

Sincerely,

Paul Zillig
General Manager

APPLICATION

LOWER PLATTE SOUTH
natural resources district

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NEBRASKA NATURAL RESOURCES COMMISSION

Water Sustainability Fund

Application for Funding

Section A.

ADMINISTRATIVE

PROJECT NAME: Deadmans Run Flood Reduction Project

SPONSOR'S *PRIMARY CONTACT INFORMATION*

Sponsor Business Name: Lower Platte South Natural Resources District (LPSNRD)

Sponsor Contact's Name: Paul Zillig, General Manager

Sponsor Contact's Address: 3125 Portia Street, Lincoln, NE 68521

Sponsor Contact's Phone: 402.476.2729

Sponsor Contact's Email: pzillig@lpsnrd.org

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

   Grant amount requested. $ 5,857,792

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

   If a loan is requested amount requested. $ 0

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

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.
- What is the population served by your project?
- Provide a demonstration of need.
- **Do not complete the remainder of the application.**

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

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

G&P - T&E consultation (required)	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☒

Permit to Impound Water from NDNR
National Pollutant Discharge Elimination System (NPDES) Permit

4. **Partnerships**

List each Partner / Co-sponsor, attach documentation of agreement:

United States Army Corps of Engineers (USACE)
City of Lincoln

See attachments to Supplemental Information Attachment (SIA) for copies of the agreements.

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

The LPSNRD, USACE and City of Lincoln are taking lead roles in the planning, design and land acquisitions for designated components of the Deadmans Run Flood Reduction Project (Project). Each agency is a funding partner and is discussed in greater detail in A.5 below. University of Nebraska-Lincoln (UNL) East Campus is also acting in cooperation with this Project since a large portion of the Deadmans Run channel improvements are taking place on segment of channel that runs through East Campus.

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 costs associated with Project are broken out by the components required to complete the Project in Table 1 below. The USACE will provide funding for the federal project components (with local match requirements). The LPSNRD and City of Lincoln will contribute funds for the local match requirement to the federal project components, and for the non-federal project components. A detailed funding breakdown is included in SIA Section A-5. The breakdown results in a WSF application request of $5,857,792.

Table 1. Capital Cost Summary

Project Feature	Cost
Federal Construction	
Widen Channel	$7,796,000
Concrete Flume	$2,182,000
Relocated Access Road	$747,000
Baldwin Ave Termination	$298,400
Federal Subtotal	**$11,023,400**
Non-Federal Construction	
33rd St Bridge Installation	$2,087,341
38th St Bridge Replacement	$1,267,112
48th St Bridge Replacement	$2,254,156
Detention Basin	$3,000,000
Non-Federal Subtotal	**$8,608,610**

Professional Services	
Federal	$1,784,000
Non-Federal	$1,617,003
Prof. Services Subtotal	**$3,401,003**
Land Rights	
Federal	$1,726,000
Non-Federal	$2,006,340
Land Rights Subtotal	**$3,732,340**
Project Total	**$26,765,352**

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 United States Army Corps of Engineers (USACE) performed a flood risk management study for Deadmans Run, sponsored by the LPSNRD, City and UNL. The purpose of the *USACE's Integrated Feasibility Report and Environmental Assessment* (*Feasibility Report*) was to quantify flood risks, formulate alternatives and associated costs, and select a recommended plan for implementation that would reduce the existing flood risk within the community and reduce the floodplain extents along Deadmans Run (USACE, 2018). The *Feasibility Report* recommendations include channel and bridge improvements, streambed enhancements, a concrete flume, an access road relocation, and a detention basin (See figure in SIA Section A-6). The Project results in reducing peak water surface elevations, the extents of the floodplain, and the associated damages in a highly populated area of Lincoln.

The breakdown between federal and non-federal project components, not including professional services and land rights, is as follows:

- Federal: channel improvements, access road relocation, and the concrete flume
- Non-federal: bridge improvements and detention basin

WSF assistance is being requested for the costs to be incurred by the local partners only. The two bridge replacements (38th St. bridge and 48th St. bridge) and one new bridge (33rd St. bridge) will increase the capacity of the currently undersized structures that restrict flow resulting in attenuation of floodwaters. The proposed structures will be able to pass the 100-year storm event and reduce the water surface elevations and flooding at the structures. The bridge and channel improvements increase conveyance downstream, which helps alleviate flooding upstream. The detention basin is necessary to capture and hold a portion of the floodwaters, in order to mitigate the increased flows from the improved conveyance without inducing flooding on neighboring properties.

This will allow the basin to serve as a recreational field for the majority of the time since these storms are less frequent. The main objectives for this Project are to reduce the risks of flooding, loss of life, and property damage.

At the end of the Project, the intent is to obtain a Letter of Map Revision (LOMR) from FEMA in order to remove up to 1,000 structures from the floodplain. This will result in reduced and eliminated flood insurance rates and policies, and a reduction in the overall annual flood damages. Reducing the flood risks and removing properties from the floodplain will greatly benefit the neighborhood, businesses, and the City.

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.

A description of the tasks to be completed for the Project are as follows:

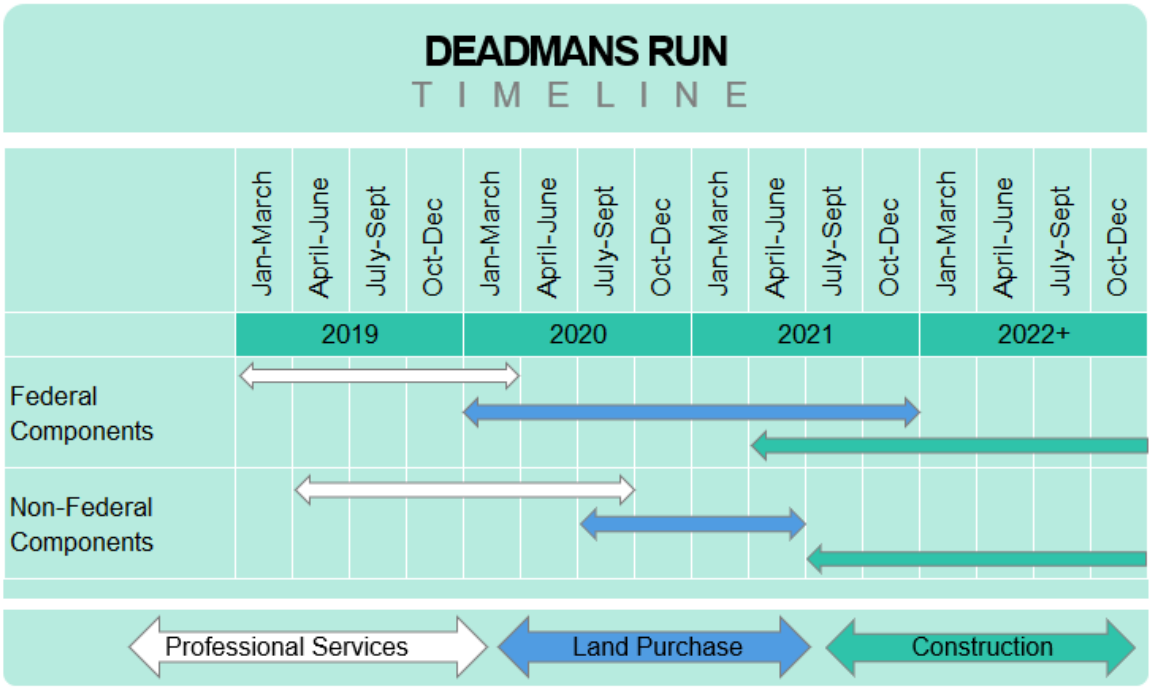
- Professional Services: include engineering, design and permitting services, as well as the supervision and administrative requirements to complete the Project
- Land Rights: the purchase of land rights or easements required to complete project implementation
- Federal Construction: construction of the federal components of the Project
- Non-federal Construction: construction of the non-federal components of the Project

Table 2 is a breakdown of the annual costs for each task and Figure 1 displays the timeline for implementation. The federal project will be constructed in two phases and non-federal project will be coordinated to avoid conflicts with the federal project.

Table 2. Annual Cost Breakdown

Project Task	Year 1 (2019)	Year 2 (2020)	Year 3 (2021)	Remaining (2022+)	Total $ Amount
Professional Services	$1,103,031	$1,103,031	$398,314	$796,627	$3,401,003
Land Rights	---	$1,866,170	$1,866,170	---	$3,732,340
Federal Construction	---	---	$3,674,467	$7,348,933	$11,023,400
Non-federal Construction	---	---	$2,869,537	$5,739,073	$8,608,610
Total	$1,103,031	$2,969,201	$8,385,464	$13,884,634	$26,765,352

Figure 1. Project Timeline



8. **IMP**

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

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☐

1.A.1 Insert a feasibility report to comply with Title 261, Chapter 2, including engineering and technical data;

A preliminary feasibility analysis for flood risk management was completed as part of the *Feasibility Report*. This report is provided in the bibliography and results of this analysis are detailed within this submittal.

1.A.2 Describe the plan of development (004.01 A);

The USACE was authorized under Section 205 of the 1948 Flood Control Act to study and construct projects to reduce the risk of flooding, loss of life, and property damage in partnership with state and local governments. In 2012, the LPSNRD submitted a request for the USACE-Omaha District to analyze potential solution to reduce flood risks within the city of Lincoln along Deadmans Run. The flood risks for Deadmans Run were identified as potential life loss, property damage, emergency response costs and transportation network disruptions. The *Feasibility Report* quantified flood risks, formulated alternatives and associated costs, and selected a recommended plan for implementation that would reduce the existing flood risk within the community and reduce the floodplain extents by improving channel capacity and hydraulics of Deadmans Run (USACE, 2018).

The purpose was to address the substantial flood risk within the largely urbanized Deadmans Run watershed in northeast Lincoln, Nebraska. USACE Section 205 projects are relatively small-scale flood risk management projects. The solutions investigated can include either structural measures (levees, channels, etc.), nonstructural measures (floodproofing, relocations, etc.), or a combination of both. An initial array of project measures was developed during a facilitated workshop, which included:

- Channel and bridge conveyance improvements, multiple locations
- Off channel stormwater detention
- Subgrade stormwater detention beneath parking garages
- Berm and roadway combination at 33rd Street
- Buyouts
- On-site local treatments (rain barrels, pervious pavement, etc.)

- Elevate and floodproof structures
- Raise Huntington Avenue to serve as a levee
- Lower Huntington Avenue to provide conveyance
- Levees or floodwalls near channel
- Flood warning system installation or improvement
- Storm sewer diversion to Salt Creek
- Increase storage at Wedgewood Lake

These measures were screened for viability and effectiveness, which reduced the alternatives taken into detailed evaluation to:

1. Channel and bridge improvements paired with channel conveyance improvements
2. Channel and bridge improvements paired with a right bank levee
3. Stand-alone nonstructural flood risk adaptive measures
4. No action

The *Feasibility Report* assessed the alternatives based on flood reductions, costs and benefits, and environmental impacts. The final recommendations included widening the channel for approximately 1.4 miles, from Cornhusker Highway to 48th Street, replacing concrete mat and gabions with riprap to mitigate streambed erosion, constructing a concrete flume under the BNSF Railroad bridge, bridge improvements, adding a detention basin to lessen peak flows in the channel, and a relocated access road. Construction of the non-federal project components (bridge improvement and detention basin) will help reduce flood damage within the watershed and are vital for the improved channel to reach its full potential (USACE, 2018).

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

On-site field investigations were performed as part of the feasibility analysis to complete the environmental assessment, using the Nebraska Stream Conditional Assessment Procedure (NESCAP), along Deadmans Run where the channel/bridge improvements and concrete flume will be installed. No wetlands were identified in the Project area during the initial environmental screening, but the necessary on-site investigations will be performed during the design phase.

A preliminary geotechnical assessment was performed during the feasibility analysis based off local geology literature and the NRCS soil survey data. No subsurface borings were collected for the feasibility analysis. In February 2019, subsurface geotechnical borings were performed for the Project, see SIA Section B-1.A.3 for boring locations. Additional borings will be required for the bridge improvements and a complete geotechnical analysis will be performed for final design.

On-site field investigation for the non-federal components (for which WSF funds are being requested) will be conducted during the design phase at Fleming Fields Park and the three bridge locations to collect visual observations and gain an understanding of the site conditions. A site survey will be performed to locate any visible utility markers, roadways, and drainage structures in the vicinity. During final design, this will be supplemented with a more detailed topographic and legal boundaries survey.

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

A location map is included in SIA Section B-1.A.4. There are numerous maps, charts, tables, etc., that help to define the Project, show design intent, and label site features. They are included throughout this application, in the SIA, and within the documents listed in the Bibliography.

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

Although the detention basin will not permanently store water in volumes greater than 15 acre-ft, state statute requires a Permit to Impound Water application be submitted to Nebraska Department of Natural Resources (NDNR) for all off-channel reservoirs. Upon completion of final design, the Permit to Impound Water application will be submitted.

Land rights required primarily consist of temporary and permanent easements for the construction, operation and maintenance of this site. One fee title acquisition of a commercial property will be required associated with the 48th bridge improvement. The City of Lincoln already owns Flemings Field, with maintenance and usage agreements with UNL, where the detention basin is to be located. A land rights map can be found in SIA Section B-1.A.5.

1.A.6 Discuss each component of the final plan (004.01 E);

The Project components are broken out below between the federal and non-federal responsibiltiies, and a detail for each component is location in Section B-1.A.6 of the SIA.

Federal Components:

Widen Channel: excavation of the channel area to create a 20-foot channel bottom with 3:1 side slopes and a 25 foot bench on one side. This will remove exiting gabion baskets where present.

Concrete Flume: a 45 ft wide concrete flume with 9-foot tall side walls spanning below the existing railroad and rail spur bridges.

Relocated Access Road: To accommodate increase flows, it was determined that the existing access road to the grain elevator and other industrial facilities along the right bank of the West Tributary needed to be relocated. The existing access road doesn't have sufficient space beneath it to accommodate an additional culvert. Additionally, the further the access road is placed upstream of the confluence with Deadmans Run, the more effective the culverts underneath the roadway will be at passing flows. The relocated access road will not only increase the capacity underneath the roadway, but it should also provide for a safer intersection between the access road and the State Fair Park Drive.

Baldwin Ave Termination: Abandon Baldwin Ave west or 33rd St and shift Deadmans Run channel southwestward through that area.

Non-federal Components:

33rd St Bridge Installation: Replacing the undersized box culvert under 33rd St with a new bridge.

38th St Bridge Replacement: Replace the old bridge with a new bridge with greater flow capacity.

48th St Bridge Replacement: Replace the old bridge with a new bridge with greater flow capacity.

Detention Basin: earthen berms to create a detention cell with up to 90 acre-ft of storage volume. Hard armored protection incorporated where the 25-year and great storm events will overtop and fill the detention cell to 'shave' the peak of the West Tributary hydrograph in order to mitigate damages from backwater effects from the proposed changes to Deadmans Run.

1.A.7 When applicable include the geologic investigation required for the project (004.01 E 1);

Data collection in the subsurface investigation, described above in section 1.A.3 will be analyzed and used to perform a complete geotechnical analysis required for the detention basin design. A series of models will be developed to assess settlement and stability, determine the specific embankment and foundation design requirements, and evaluate borrow material.

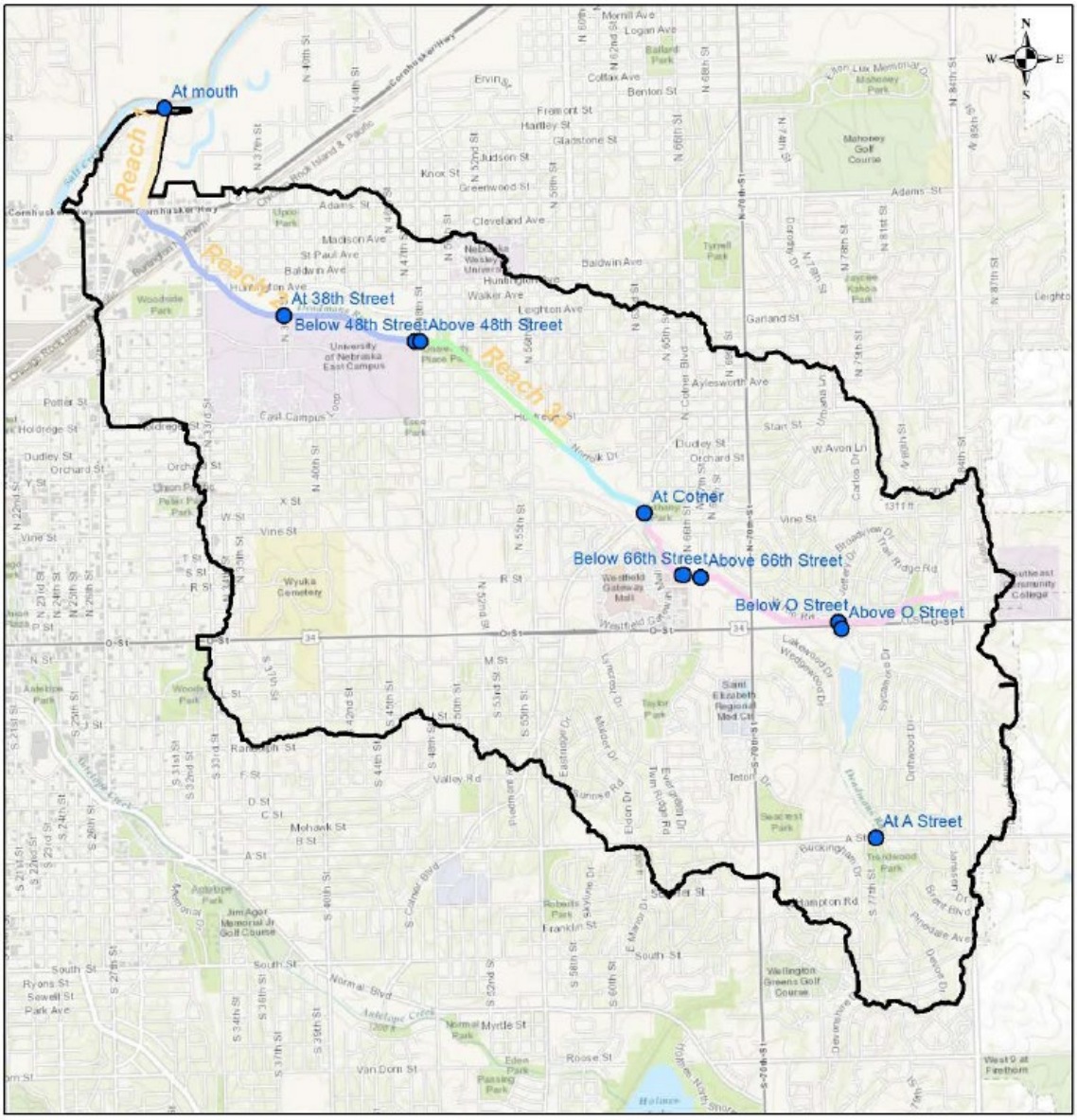
1.A.8 When applicable include the hydrologic data investigation required for the project (004.01 E 2);

A hydrologic data analysis of the contributing area to Deadmans Run was completed during the development of the *Feasibility Report* and is included in Appendix E of that document. The overall objective of the hydrologic investigation was to develop an existing conditions model to determine if there is a feasible flood risk management project along Deadmans Run. A HEC-HMS model was developed to represent current conditions using NOAA Atlas 14 recommended rain depths to route frequency storms (USACE, 2018). Results were used to update flow files for the hydraulic alternatives analysis and modeling efforts (described in 1.A.9 below). Table 3 below summarizes the modeled peak flow rates for existing conditions in the channel for all frequency storms at locations identified in Figure 2.

Table 3. Modeled Existing Conditions Peak Flow Rates

Location	Drainage Area (Mi^2)	Frequency Storms							
		2-year	5-year	10-year	25-year	50-year	100-year	200-year	500-year
At mouth	9.618	1,681	3,053	5,026	6,940	8,399	9,890	11,677	14,174
At 38th Street	6.931	1,440	2,644	4,429	5,981	7,163	8,397	9,839	11,929
Below 48th Street	6.571	1,409	2,627	4,483	6,167	7,320	8,489	9,871	11,922
Above 48th Street	5.709	1,207	2,228	3,742	5,102	6,045	7,045	8,259	10,105
At Cotner	4.259	922	1,722	2,815	3,833	4,676	5,645	6,768	8,376
Below 66th Street	3.559	842	1,627	2,833	3,796	4,615	5,336	6,388	8,042
Above 66th Street	3.373	794	1,534	2,623	3,489	4,187	4,976	6,133	7,684
Below O Street	1.901	434	858	1,483	2,094	2,594	3,148	3,695	4,477
Above O Street	1.239	317	602	1,012	1,390	1,683	2,031	2,369	2,845
At A Street*	0.424	161	338	711	1,082	1,358	1,599	1,888	2,237
*Element "A Street" drainage area is listed as 1.1 square miles in Section 205 Study (Ref. 4).									

Figure 2. Peak Flow Rate Locations



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).

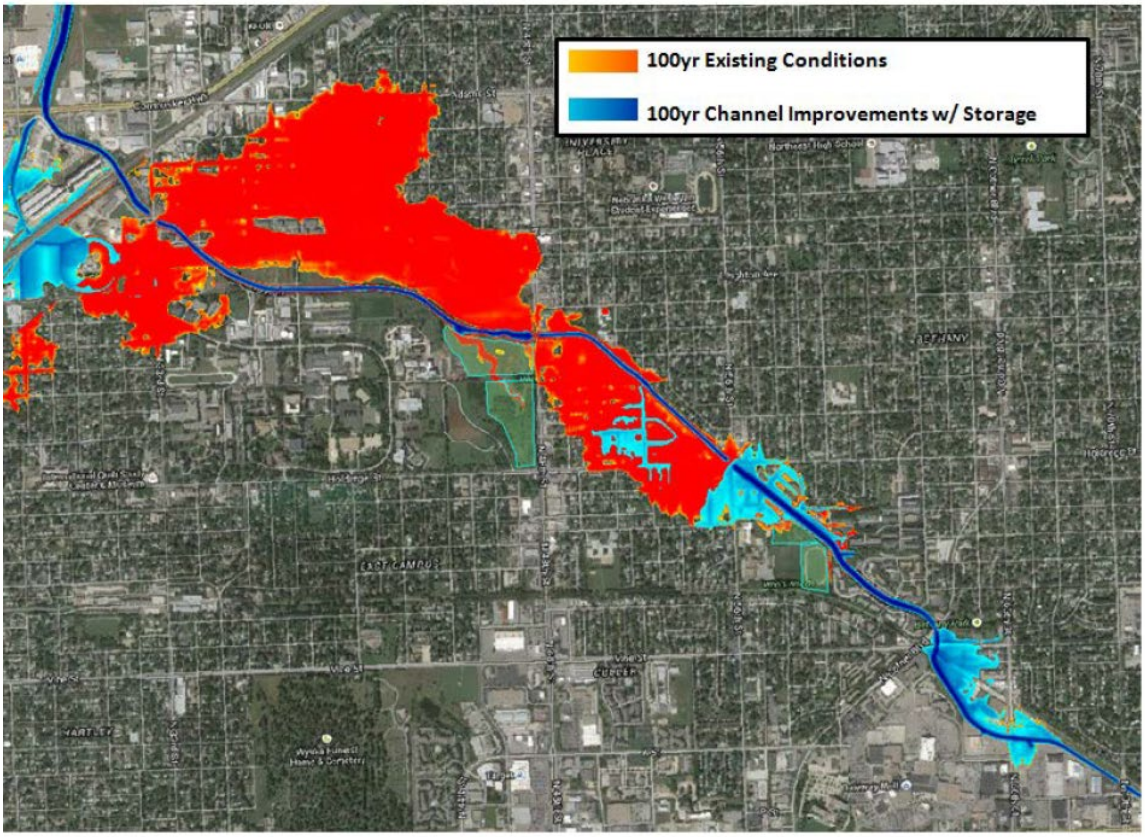
A hydraulic alternatives analysis was performed for the development of the *Feasibility Report* and is located in Appendix F of the USACE report. A hydraulic model using HEC-RAS was developed during the *Feasibility Report*. Hydrologic model results discussed above were applied to the hydraulic model to determine water surface elevation for existing conditions and proposed alternatives. An unsteady-state model was developed and calibrated to high water marks from a 2014 storm event and results are reported below in Table 4.

Table 4. Hydraulic Model and High-Water Mark Comparison

Site	Cross-section Station	Latitude	Longitude	High-Water Mark (Ref. 13) (feet, NAVD88)	Model Elevation (feet, NAVD88)	Difference (feet)
Cornhusker and 29th Street	2654	40.84282	-96.6782	1133.38	1132.46	0.92
Huntington and 35th Street	5699	40.83697	-96.6705	1142.75	1143.99	-1.24
38th Street Bridge (DS)	7200	40.83543	-96.666	1146.55	1148.26	-1.71
38th Street Bridge (US)	7288	40.83542	-96.6656	1146.61	1148.64	-2.03
48th Street Bridge HMW1	10871	40.83319	-96.6533	1156.86	1156.94	-0.08
48th Street Bridge HMW2	10871	40.83316	-96.6535	1156.57	1156.94	-0.37
N 56th Street and Holdrege high-water mark 1	14390	40.8275	-96.6435	1168.93	1169.07	-0.14
N 56th Street and Holdrege High-Water Mark 2	14390	40.82768	-96.6438	1168.84	1169.07	-0.23
N 56th Street and Holdrege High-Water Mark 3	14300	40.82781	-96.644	1168.03	1169.08	-1.05
1st Bridge below Cotner	17237	40.82255	-96.6362	1172.12	1172.32	-0.2

Several alternatives were evaluated for hydraulic effectiveness and flood reductions, and to size the components of the design. The preferred alternative from the *Feasibility Report* includes the channel widening, bridge improvements and access road relocation. These alternatives were modeled, and the results of the reduced 100-year floodplain extents are shown below in Figure 3.

Figure 3. 100-Year Floodplain Comparison



Preliminary structural design of the bridges and concrete flume were performed for the *Feasibility Report* and can be found in Appendix J of the USACE report. No preliminary foundation design has been performed. That will take place during the design phase.

1.B.1 Insert data necessary to establish technical feasibility (004.02);

1.B.2 Discuss the plan of development (004.02 A);

1.B.3 Describe field or research investigations utilized to substantiate the project conception (004.02 B);

1.B.4 Describe any necessary water and/or land rights (004.02 C);

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).

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.

Flood reduction in the Deadmans Run Watershed has been thoroughly studied in the *Feasibility Report*. The report identified four separate alternative plans to reduce flooding risks, loss of life, and property damage within the city of Lincoln. The four alternatives presented in B-1.A.2. were assessed for economic feasibility as part of the alternatives screening. For an alternative to be considered viable, it must have a benefit to cost ratio (BCR) greater than 1.0. If multiple alternatives have BCRs greater than 1.0, then the alternative with the highest net benefits is selected. Based on the results presented in Table 5 below, the levee (Alt. #2) and non-structural (Alt. #3) alternatives were not economically feasible (USACE, 2018).

Table 5. Alternatives Analysis Benefit to Cost Results

	Alt. #1	Alt. #2	Alt. #3	Alt. #4
Project Cost	$23,783,607	$22,658,985	$44,834,830	$0
Annualized Cost	$1,000,242	$967,990	$1,701,396	$0
Annualized Benefit	$1,379,780	$851,350	$1,512,680	$0
Annualized Net Benefits	$379,541	-$116,637	-$188,714	$0
BCR	1.38	0.88	0.89	N/A
Note: Costs were further refined during the optimization process				

The preferred alternative included widening the channel, adding the 33rd Street bridge, widening the 48th Street bridge, relocating an access road, and adding a detention basin. Multiple versions of this alternative were analyzed to optimize the cost benefits. It was determined that the detention basin is needed to reduce peak flows from the West Tributary to the Deadmans Run to prevent increases in water surface elevations at the Highway 6 culvert downstream of the confluence. Site locations for the detention basin were explored and the Fleming Fields Park was found to have sufficient space and provide the most beneficial flood mitigation. A detailed discussion of the alternatives studied is included in the *Feasibility Study*.

3. Document all sources and report all **costs** and **benefit data** using current data, (commodity prices, recreation benefit prices, and wildlife prices as prescribed by the Director) using both dollar values and other units of measurement when appropriate (environmental, social, cultural, data improvement, etc.). The period of analysis for economic feasibility studies is the project life, up to fifty (50) years; *or*, with prior approval of the Director up to one hundred (100) years, (Title 261, CH 2 - 005).

The costs are broken down into the following project components with the associated occurrence frequencies:

- Professional Services: One-time
- Land Rights: One-time
- Federal Construction: One-time
- Non-federal Construction: One-time
- Operation and Maintenance: Annual

Construction costs were developed based on preliminary design quantities and applying the 2017 commodity prices with annual inflation rates applied to estimate current costs. Land rights costs were estimated based on necessary land rights as discussed in Section B-1.A.5 above) and the professional services of an appraiser to provide an accurate reflection of the land required for the Project. Planning, design and permitting were based on past professional service fees and future contract estimates. Operation and maintenance costs were computed to account for routine operations and maintenance assumed to be performed by the sponsor in the future. Additional, non-routine outlays including semi-periodic replacement of significant amounts of riprap, major restoration of storage volume in the detention basin once storage has been reduced by 25 percent, and replacement of structures associated with the detention basin.

The quantified primary benefits are broken down into the following categories with the associated occurrence frequencies:

- Structure Damage Reductions: Annual
- Public Damage/Emergency Costs: Annual
- Flood Insurance Administration Costs: Annual

Benefits were developed using detailed damage reduction approaches to determine the damages under current conditions, as well as with Project conditions to estimate the net economic benefit. Damages were assessed using 2017 land and commodity prices with annual inflation rates applied to estimate current values.

The costs and benefits are presented below and were used to develop the annual cash flow for a 50-year project life.

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).

A summary of all costs related to the Project are shown below in Table 6.

Table 6. Costs Summary

Project Feature	Cost	Occurrence
Professional Services	$3,401,003	One-Time
Land Rights	$3,732,340	One-Time
Federal Construction	$11,023,400	One-Time
Non-federal Construction	$8,608,610	One-Time
Operation and Maintenance	$79,050	Annual

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).

A summary of all costs related to the project are shown below in Table 7. The methods for computing these benefits are detail in Economics - Appendix D of the *Feasibility Report*.

Table 7. Benefits Summary

Primary Benefits	Total	Occurrence
Structure Damage Reduction	$1,631,770	Annual
Public Damage/Emergency Cost Reduction	$19,001	Annual
Flood Insurance Administrative Cost Reduction	$87,433	Annual

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 costs are weighted against the primary tangible benefits as described in the Title 264 – Rules Governing the Administration of the Water Sustainability Fund (NDNR, 2018). The costs and benefits have been assessed over a 50-year lifetime as shown in the cash flow stream below in Table 8.

Table 8. Annual Cash Flow for 50-Year Lifetime

Project Year(s)	Calendar Year(s)	Cash Flow Categories	Costs	Benefits	Details
1	2019				
		Professional Services	$1,103,031	---	Planning and Preliminary Design
		Land Rights	$0	---	

		Federal Construction	$0	---	
		Non-Federal Construction	$0	---	
		OMR&R	$0	---	
		Sub-Total Costs:	**$1,103,031**	---	
		Structure Damage Reduction	---	$0	
		Public Damage/Emergency Cost Reduction	---	$0	
		Flood Insurance Administration Cost Reduction	---	$0	
		Sub-Total Benefits:	---	**$0**	
2	2020				
		Professional Services	$1,103,031		Final Design and Permitting
		Land Rights	$1,866,170		Begin land rights acquisition
		Federal Construction	$0		
		Non-Federal Construction	$0		
		OMR&R	$0		
		Sub-Total Costs:	**$2,969,201**		
		Structure Damage Reduction	---	$0	
		Public Damage/Emergency Cost Reduction	---	$0	
		Flood Insurance Administration Cost Reduction	---	$0	
		Sub-Total Benefits:	---	**$0**	
3	2021				
		Professional Services	$398,314		Construction observation
		Land Rights	$1,866,170		Complete land rights acquisition
		Federal Construction	$3,674,467		Begin construction
		Non-Federal Construction	$2,869,537		Begin construction
		OMR&R	$0		
		Sub-Total Costs:	**$8,808,487**		
		Structure Damage Reduction	---	$0	
		Public Damage/Emergency Cost Reduction	---	$0	
		Flood Insurance Administration Cost Reduction	---	$0	
		Sub-Total Benefits:	---	**$0**	
4	2022				
		Professional Services	$398,314		Construction observation
		Land Rights	$0		

		Federal Construction	$3,674,467		Continue construction
		Non-Federal Construction	$2,869,537		Continue construction
		OMR&R	$0		
		Sub-Total Costs:	**$6,942,317**		
		Structure Damage Reduction	---	$0	
		Public Damage/Emergency Cost Reduction	---	$0	
		Flood Insurance Administration Cost Reduction	---	$0	
		Sub-Total Benefits:	---	**$0**	
5-49	2023-2118				
		Professional Services	$398,314		Construction observation
		Land Rights	$0		
		Federal Construction	$3,674,467		Finish construction
		Non-Federal Construction	$2,869,537		Finish construction
		OMR&R	$3,636,300		46 yrs @ $79,050 annually
		Sub-Total Costs:	**$10,578,617**		
		Structure Damage Reduction	---	$75,061,420	46 yrs @ $1,631,770 annually
		Public Damage/Emergency Cost Reduction	---	$874,046	46 yrs @ $18,270 annually
		Flood Insurance Administration Cost Reduction	---	$4,021,918	46 yrs @ $87,433 annually
		Sub-Total Benefits:	---	**$79,957,384**	

The benefit to cost ratio computed from the total annual costs and benefits reported above for the Project is 2.63 for the 50-year project life, see SIA Section B-3.C for a breakdown. **Under direction of the NRC guidelines, an internal rate of return (IRR), also known as a "discount rate" to calculate present day values for all future benefits was not required.** The computed BCR differs from the USACE Report because the USACE used a Federal Discount Rate (FDR) to annualize the costs and benefits.

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.)

All primary benefits were quantified.

Prove Financial Feasibility

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

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

   The LPSNRD, City of Lincoln and USACE have planned for and budgeted the cost of the planning, permitting, design, construction, and land rights acquisition required for the Project. As the lead agency for non-federal project components, the LPSNRD has a proven track record of planning their budgets on an annual basis to allocate budgets for upcoming projects. Nebraska's NRDs are tax-based agencies and the LPSNRD current tax levy rate is $0.031212/$100 of valuation in one of the most heavily populated NRDs in the state. This produces consistent annual funds to implement and maintain their planned and existing projects.

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

   The LPSNRD includes operations and maintenance costs into annual budgets.

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

   A loan is not involved.

7. Describe how the plan of development minimizes impacts on the natural environment (i.e. timing vs nesting/migration, etc.).

   In accordance with Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), a letter was submitted to the U.S. Fish and Wildlife Serve (USFWS) Region 6 Ecological Services Field Office requesting information on anticipated impacts that may be associated with the Project and a list of federally listed threatened and endangered species that may be found in the study area. In response, the USFWS provided the Corps with a planning aid letter (PAL). In this letter, the USFWS identified three federally threatened species; the western prairie-fringed orchid (Platanthera praeclara), piping plover (Charadrius melodus) and northern long-eared bat (Myotis septentrionalis) and four endangered species; the salt creek tiger beetle (Cicindela nevadica lincolniana), pallid sturgeon (Scaphirhynchus albus), whooping crane (Grus americana) and interior least tern (Sterna antillarum athalassos). These species were fully considered during alternative formulation and in the impact analysis of this integrated EA (see Section 5.1.8) as well as in the Biological Assessment (BA) prepared for submission to the USFWS (see Appendix A- Section I).

   After evaluating effects of the proposed action, the USACE concluded that the proposed Project would have "no effect" on the Salt Creek tiger beetle, whooping

crane, pallid sturgeon, and western fringed prairie orchid based on the premise that suitable habitat is not present within the Project footprint and no related Project activities would impact potential or suitable habitat. Furthermore a “no effect” determination was made in regards to the recommended plan contributing to Platte River depletions. The Project has been designed so it falls within the de minimus threshold established by the USFWS and thus does not require formal consultation. A determination of “may affect, but not likely to adversely affect” was made for the northern long-eared bat, interior least tern and piping plover.

The Project area has already been highly disturbed with industrial and commercial activities. The preferred alternative would result in minor, temporary, construction-related adverse impacts to fish and wildlife resources. The impacts to fishery resources would primarily be related to site runoff and temporary increases in turbidity, which could make feeding, breeding and sheltering difficult for species not accustomed to these conditions. A Stormwater Pollution Prevention Plan (SWPPP) will be developed to minimize these effects. The SWPPP will be based on best management practices such as seeding and mulching bare slopes as soon as practicable and measures to contain spillage of any contaminants into waterways. In the long term there would essentially be no change to the water quality in these creeks from implementation of any of the build alternatives and none of the beneficial uses assigned to Deadmans Run would be degraded.

The concrete flume would not create an impediment to fish passage, though it is anticipated that during rare, higher-flow events, the water would move through this portion of Deadmans Run at a swifter rate as it facilitates flow downstream. Many factors such as species, body length, form, physiological condition, condition to currents, motivation and behavior, water temperature, water quality and dissolved oxygen can impact the swimming performance of fish. Salt Creek would rise in stage after a rapid, “flashy” event on Deadmans Run, producing a calm backwater through the flume. Impacts to swimming behavior may occur; however, these impacts to this microhabitat would be localized, minor and short term for the duration of the event. The impacts to wildlife resources would be related to noise and visual disturbance during the construction activity. Following construction, conditions, though slightly improved as a result of the integrated environmental plan, would revert back to pre-construction conditions, thus impacts to wildlife resources are not considered significant (USACE, 2018).

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

The LPSNRD is a regional government agency that focuses on protection of natural resources for future generations by maintaining a sustainable environment through the conservation of land, water and wildlife. Their goal is to “conserve, develop and manage the water and land resources of their district for the common good of all people.” LPSNRD lead projects for bank stabilization, flood control, urban stream grade control, and trails/conservation corridors. This Project directly

aligns with the projects the NRD has a successful history of implementing. Land rights will be acquired so that the Project will not take place on private property and all permits will be acquired to ensure all legal facets of the Project have been considered.

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

In NDNR's *Annual Report and Plan of Work for the Nebraska State Water Planning and Review Process* (hereafter referred to as the *Annual Report*) (NDNR, 2018), the Statewide activities describe Water Sustainability Fund goals. This Project fulfills multiple goals stated below:

- *Contribute to multiple water supply management goals including flood control, reducing threats to property damage, agriculture uses, municipal and industrial uses, recreational benefits, wildlife habitat, conservation, and preservation of water resources* (NDNR, 2018).

The benefits of this Project and how it achieves these goals are described in detail below:

Flood Control and Reducing Threats to Property Damage

The primary purpose of this Project is to reduce the existing flood risk and floodplain extents within the largely urbanized community along Deadmans Run in northeast Lincoln. The channel widening, bridge improvements, and concrete flume will increase the hydraulic capacity of Deadmans Run and reduce peak water surface elevations, resulting in over $1.7 million in annual flood damage reductions. There are over 379 National Flood Insurance Program (NFIP) policy holders and 750 structures within the Deadmans Run floodplain, indicating a large populous and substantial development that would be impacted by the flood control improvements from this Project.

Water Quality and Wildlife Habitat

The existing channel is armored and lined, narrow, incised, and has steep banks, which limits the amount of land area suitable for wetland development. The channel widening and improvements will create more suitable conditions for development of a low-flow channel and high-quality wetlands to occur within the channel. Within the 25-foot buffer adjacent to the channel, a wetland-mesic prairie seed mix would be planted to result in an additional 5 acres of wetland habitat. The low-flow channel and wetland area will help improve water quality through filtration and nutrient uptake and will provide aquatic habitat for local species in an urbanized area where habitat is currently very limited. A Value Engineering Study for Deadmans Run (USACE, 2019) further investigated methods to design the channel improvements based on fluvial geomorphic principals of stable natural streams to reduce/eliminate hard armoring and improve the environment components of the project. These recommendations will be taken into

consideration during final design. Additionally, the increased channel capacity will reduce in-stream velocities for more frequent events, which induces less change in channel bed material, decreased suspended sediment loads, gains of riparian habitat due to decreases in streambank erosion, and decreases in the variability of flow and sediment transport characteristics relative to aquatic life cycles. Water quality improvements and preservation of local water resources will be realized from reduced erosion and sediment loads. The detention basin component of the Project will also impact water quality in a positive way by further reducing sediment, nutrient, and bacteria transport downstream.

The Project would impact approximately 28.5 acres of existing vegetation in the floodplain of Deadmans Run. Most of the acres affected consist of highly disturbed urban areas, upland weeds, and turf grasses. Following construction, the disturbed areas would be seeded with a native grass mixture on reinforced turf mats. This would result in approximately 17.5 acres of native species with higher floristic quality that would contribute to the environmental setting of the riparian corridor. Riparian vegetation slows water runoff, traps sediment, and intercepts pesticides, pathogens, and heavy metals from entering waterways. It also creates an increase in riparian habitat for wildlife to feed, breed, or shelter.

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.

Table 9 displays the total amount of rights needed for this Project, along with the map presented in SIA Section B-1.A.5.

Table 9. Annual Cash Flow for 50-Year Lifetime

Land Rights	Acres
Temporary Construction Easement	8.00
Channel Improvement Easement	31.96
Permanent Easement	8.73
Fee Title Purchase	0.33

The majority of land rights are located on lands owned by UNL and a Project partner (City of Lincoln). Both temporary and permanent easements will be required, as well as one fee title property at 0.33 acres, which will also require a business relocation due to the loss of the commercial structure. Table 10 is a list of all parcels that will be involved in the Project, the exact land rights required from each parcel will be revisited during final design.

Table 10. List of Parcels

Parcel ID	Owner
1717416005000	City of Lincoln
171730001000	Board of Regents Univ of NEBR
1718250008000	Board of Regents Univ of NEBR
1718200005000	Board of Regents Univ of NEBR
1718230001000	Board of Regents Univ of NEBR
1718230006000	Lower Platte South NRD
1718230998000	N/A
1718823000700	Lower Platte South NRD
1718110014000	City of Lincoln
1718100021000	Chicago Burlington & Quincy RR
1718100035000	Skorohod Condo Base Account
1718100039000	N/A
1718100008000	Husker Real Estate LLC
1717145004000	Board of Regents Univ of NEBR
1718100007000	Skorohod, George & Carolene V
1718114014000	City of Lincoln

10.B Attach proof of ownership for each easements, rights-of-way and fee title currently held.

The LSPNRD does not own the land required for the Project and the land rights will be acquired prior to construction. There is no foreseen controversy in acquiring the property.

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

The LPSNRD has the power of eminent domain that could be applied, if necessary, but it is not expected that it will be needed.

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

Deadmans Run project components fall directly in line with the LPSNRD roles and responsibilities. The LPSNRD will obtain all necessary permits and land rights to complete the Project to obtain the authority needed to perform work on their own property.

12. Identify the probable consequences (environmental and ecological) that may result if the project is or is not completed.

The risks associated with Deadmans Run, especially with the ‘flashy’ nature of the floodwaters in an urban area, include loss of life and property damage. These are catastrophic consequences warrant action, such as the proposed Project, would help reduce these risks.

Several environmental and ecological benefits are expected as a product of this Project. As discussed in B.9 above, there are water quality and wildlife habitat improvements associated with the Project and those would not be realized if this Project is not completed. The condition of the channel would not improve, which limits the amount of wildlife habitat in a location within an urban area that could potentially have a thriving aquatic ecosystem.

Section C.

NRC SCORING

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

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

Notes:

- The responses to one criterion ***will not*** be considered in the scoring of other criteria. Repeat references as needed to support documentation in each criterion as appropriate. The 15 categories are specified by statute and will be used to create scoring matrixes which will ultimately determine which projects receive funding.

- There is a total of 69 possible points, plus two bonus points. The potential number of points awarded for each criteria are noted above. Once points are assigned, they will be added to determine a final score. The scores will determine ranking.

- The Commission recommends providing the requested information and the requests are not intended to limit the information an applicant may provide. An applicant should include additional information that is believed will assist the Commission in understanding a proposal so that it can be awarded the points to which it is entitled.

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

1. Remediates or mitigates threats to drinking water;

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

   Floodwaters can cause changes in water quality that affect human health and the environment or affect commercial and recreations use of water resources. Floodwaters in the urbanized area along Deadmans Run come in contact with

numerous known contaminates such as gasoline, oil, pesticides and bacteria which are flushed into rivers and streams. *E. coli* standards are often exceeded in surface water used for drinking and/or recreation following flood events. Deadmans Run is located upstream of the Lincoln municipal well field along the Platte River, which services a population of over 300,000 residents. Threats to drinking water will be minimized with this Project by reducing the frequency in which the channel flow capacity is exceeded, and overland floodwaters collect contaminates from the urbanized floodplain, and transport them downstream towards the City's well fields or even in the streams that feed the aquifer from which the well fields draw water.

Reducing the threat of floodwaters in this urban area will also reduce the chance of water main breaks that occur during flooding and thereby reducing potential contamination to distribution systems.

The contamination of drinking water is a long-term issue. The Nebraska Department of Environment and Energy (NDEE, formerly the NDEQ) NDEE has drinking water management plans, point source permit requirement and non-point source pollution management plans in attempts to reduce pollutants in our local waterbodies and groundwater. With such wide-spread sources of the contaminants, it will take a collaboration of numerous different best management practices to help reduce pollutant loading, of which this Project can contribute. If contaminant loads are not reduced, costs to treat drinking water will increase.

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 LPSNRD Integrated Management Plan (IMP) was developed in 2014 in partnership with the NDNR in order to collaboratively manage the surface water and ground water supplies in the District with a goal of developmental sustainability. The objectives and anticipated actions of the IMP are separated into three areas, which are defined below:

- Water Inventory – Ensure the District has sufficient data to enable the achievement of a water supply that is in balance with current and future water demands in the District.
- Water Supply Management – Ensure a sustainable water supply is available in the amounts and location of the demand through management actions that meet the District's long-term needs.

- Water Use Management – Encourage all water users to minimize water use while optimizing benefits.

In developing and implementing this plan the District has the following goals and commitment to:

1. Better define and manage the hydrologically connected waters in the District.

2. Listen to and respect the opinions of all stakeholders in the District.

3. Collaborate and work cooperatively with the citizens and communities in the District, and with other NRDs in the Platte River Basin.

4. Base planning decisions on the best scientific data, information, and methodologies readily available.

5. Promote the future economic growth and vitality of the District.

6. Preserve and enhance instream flows and other water-based natural ecosystems that provide benefits supporting the health and safety of our citizens and the quality of their lives.

7. Fairly and equitably allocate the water supplies in the District and protect the water supplies that are the basis of existing investments.

8. Cooperate and collaborate on the identification and implementation of management solutions to reduce conflicts between and among ground water users and surface water appropriators.

9. Promote the use of best available practices, technologies, service connection meters, water conservation measures, reuse of water, and the harvesting of rainwater that will help the District achieve the goals and objectives of the IMP.

10. Ensure the District is in compliance with all federal, state and local laws.

The Project meets several of these goals, including:

Goal #2 – this project is addressing the wishes of the residents and business owners in the Deadmans Run Watershed in addressing the threat of flooding along the channel and at the confluence with Salt Creek.

Goal #3 – two other local sponsors have worked collaboratively with citizens, landowners and business owners to develop a suitable solution to the problem.

Goal #4 – The local sponsors have taken part in a detailed, exhaustive effort to develop the most suitable and beneficial project to meet the purpose and needs of the project.

Goal #5 – by improving the drainageway, the project reduces undesired flooding damages and the expensive cost of flood insurance premiums and improves opportunities for growth and vitality in this area.

Goal #6 – This project is designed to both enhance and improve the instream flows in this area by providing a more ecologically friendly channel that can promote ecological growth and reduce pollutant effects on the stream.

Goal #10 – As stated herewithin, this project addressed laws related to the improvement of water quality and does so in line with locally enforced floodplain regulation rules.

Collectively, this project addresses a sizable share of the goals set forth in the adopted IMP and shows the commitment to that Plan developed in conjunction with NDNR.

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 Deadman's Run project will add to recharge within the Salt Creek basin which eventually flows to the Platte River and fuels the well fields that support the Lincoln and Omaha metropolitan areas. This is done thorough keeping water out of the urbanized floodplains and within the channels, increasing the time that water resides within the channel, and therefore the rate/force at which stream flow is delivered to the aquifers through the stream periphery. Because this project is not specifically a recharge project that measured volume and because the recharge would be realized over tens of miles, it is difficult to quantify, and of course is subject to current conditions. The greater the current deficit in the aquifers, the greater the rate of recharge. In generalities, if the out-of-bank stream flow was reduced 5%, as indicated by current modeling, and the annual watershed yield is approximately 9.2 watershed inches, the amount of additional recharge may equate to nearly 250 acre-feet per year.

As stated above, and as with any recharge project, the aquifer depletion will be reduced at a rate that is a function of the current aquifer depletion, as timed with stream flows.

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 Project will provide benefits towards flood control, wildlife habitat and preservation of water resources through water quality benefits. The primary purpose of this Project is to reduce the existing flood risk and floodplain extents within the largely urbanized community along Deadmans Run in northeast Lincoln. The channel widening and bridge improvements will increase the hydraulic capacity of Deadmans Run and reduce peak water surface elevations, resulting in over $1.7 million in annual flood damage reductions. There are over 379 National Flood Insurance Program (NFIP) policy holders and 750 structures within the Deadmans Run floodplain, indicating a large populous and substantial development that would benefit by the flood control improvements from this Project.

   Water quality and wildlife habitat are highly valuable beneficial uses of Nebraska's water resources. The current conditions of Deadmans Run are poor, and improvements to the channel will benefit these beneficial uses. The existing channel is armored and lined, narrow, incised, and has steep banks, which limits the amount of land area suitable for wetland development. The channel widening improvements will create more suitable conditions for development of a low-flow channel and high-quality wetlands to occur within the channel. Within the 25-foot buffer adjacent to the channel, a wetland-mesic prairie seed mix would be planted to result in an additional 5 acres of wetland habitat. The wetland area will help improve water quality through filtration and nutrient uptake and will provide aquatic habitat for local species in an urbanized area where habitat is currently very limited. The *Value Engineering Study for Deadmans Run* (USACE, 2019) recommendations of a more natural stream to reduce/eliminate hard armoring and improve the environment components of the project will also be considered during final design.

   Additionally, the increased channel capacity will reduce in-stream velocities for more frequent events, which reduces change in channel bed material, decreases suspended sediment loads, increases riparian habitat due to decreases in streambank erosion, and decreases the variability of flow and sediment transport

characteristics relative to aquatic life cycles. Floodwaters in the urbanized area along Deadmans Run come in contact with numerous known contaminates such as gasoline, oil, pesticides and bacteria, which are flushed into rivers and streams. This Project will reduce the frequency in which channel flow capacity is exceeded and overland floodwaters collect contaminates from the urbanized floodplain, which are then transported to local waterways. Water quality improvements and preservation of local water resources will be realized from reduced erosion and pollutant loads. The detention basin component of the Project will also impact water quality in a positive way by further reducing sediment, nutrient, and bacteria transport downstream.

The Project would impact approximately 28.5 acres of existing vegetation in the floodplain of Deadmans Run. Most of the acres affected consist of highly disturbed urban areas, upland weeds, and turf grasses. Following construction, the disturbed areas would be seeded with a native grass mixture on reinforced turf mats. This would result in approximately 17.5 acres of native species with higher floristic quality that would contribute to the environmental setting of the riparian corridor. Riparian vegetation slows water runoff, traps sediment, and intercepts pesticides, pathogens, and heavy metals from entering waterways. It also creates an increase in riparian habitat for wildlife to feed, breed, or shelter.

The long-range forecast for these benefits are near indefinite with the proper operation and maintenance. There is no lifetime associated with the channel widening that increases the flow capacity and is the primary feature in reducing the peak water surface elevations. With the proper maintenance of bridges and any channel stabilization requirements, flood damage reduction benefits, as well as the wildlife habitat and water quality benefits, should be expected every year. Without the Project, the flood damages would continue to occur, and the annual flood damages would continue to be realized.

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.

Water quality and wildlife habitat are highly valuable beneficial uses of Nebraska's water resources. The current conditions of Deadmans Run are poor, and improvements to the channel will increase these beneficial uses. The existing channel is armored and lined, narrow, incised, and has steep banks, which limits the amount of land area suitable for wetland development. The channel widening improvements will create more suitable conditions for development of a low-flow channel and high-quality wetlands to occur within the channel. Within the 25-foot buffer adjacent to the channel, a wetland-mesic prairie seed mix would be planted

to result in an additional 5 acres of wetland habitat. The wetland area will help improve water quality through filtration and nutrient uptake and will provide aquatic habitat for local species in an urbanized area where habitat is currently very limited.

Additionally, the increased channel capacity will reduce in-stream velocities for more frequent events, which reduces change in channel bed material, decreases suspended sediment loads, increases riparian habitat due to decreases in streambank erosion, and decreases the variability of flow and sediment transport characteristics relative to aquatic life cycles. Floodwaters in the urbanized area along Deadmans Run come in contact with numerous known contaminates such as gasoline, oil, pesticides and bacteria, which are flushed into rivers and streams. This Project will reduce the frequency in which channel flow capacity is exceeded and overland floodwaters collect contaminates from the urbanized floodplain, which are then transported to local waterways. Water quality improvements and preservation of local water resources will be realized from reduced erosion and pollutant loads. The detention basin component of the Project will also impact water quality in a positive way by further reducing sediment, nutrient, and bacteria transport downstream.

The Project would impact approximately 28.5 acres of existing vegetation in the floodplain of Deadmans Run. Most of the acres affected consist of highly disturbed urban areas, upland weeds, and turf grasses. Following construction, the disturbed areas would be seeded with a native grass mixture on reinforced turf mats. This would result in approximately 17.5 acres of native species with higher floristic quality that would contribute to the environmental setting of the riparian corridor. Riparian vegetation slows water runoff, traps sediment, and intercepts pesticides, pathogens, and heavy metals from entering waterways. It also creates an increase in riparian habitat for wildlife to feed, breed, or shelter. Beneficial uses will only be compromised temporarily during construction, most likely slight impacts to water quality due to land disturbance and sediment erosion. There will be no long-term impact on the state's beneficial uses.

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.

Flood reduction in the Deadmans Run Watershed has been thoroughly studied in the *Feasibility Report*. The report identified four separate alternative plans to reduce flooding risks, loss of life, and property damage within the city of Lincoln. For an alternative to be considered viable, it must have a benefit to cost ratio (BCR) greater than 1.0. If multiple alternatives have BCRs greater than 1.0, then the alternative with the highest net benefits is selected. Based on the results

presented in Table 11 below, the levee (Alt. #2) and non-structural (Alt. #3) alternatives were not economically feasible (USACE, 2018).

Table 11. Alternatives Analysis Benefit to Cost Results

	Alt. #1	Alt. #2	Alt. #3	Alt. #4
Project Cost	$23,783,607	$22,658,985	$44,834,830	$0
Annualized Cost	$1,000,242	$967,990	$1,701,396	$0
Annualized Benefit	$1,379,780	$851,350	$1,512,680	$0
Annualized Net Benefits	$379,541	-$116,637	-$188,714	$0
BCR	1.38	0.88	0.89	N/A
Note: Costs were further refined during the optimization process				

Alternative #1 was the preliminary design concept for the Project, which has since been optimized and reanalyzed for cost effectiveness. A summary of all costs related to the Project and the frequency of occurrence are shown below in Table 12. Applying these costs and the benefits reported below in Table 13 to a 50-year annual cash flow results in a benefit to cost ratio of 2.71, see SIA Section B-3.C for the benefit to cost analysis. This high ratio demonstrates that there are numerous benefits of the Project substantial enough to justify the capital and annual maintenance costs.

Table 12. Costs Summary

Project Feature	Cost	Occurrence
Professional Services	$3,401,003	One-Time
Land Rights	$3,732,340	One-Time
Federal Construction	$11,023,400	One-Time
Non-federal Construction	$8,608,610	One-Time
Operation and Maintenance	$79,050	Annual

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.

By reducing the amount of stream flow lost to overland flooding, the increased volume in Deadmans Run will add to Salt Creek flows which in turn adds to lower Platte River flows, which is heavily protected by the Nebraska Game and Parks

Commission to meet in-stream flows and water rights. This includes both water quantity and water quality.

Section 303(d) of the Environmental Protection Agency's Clean Water Act is required to maintain the integrity of the Nation's waters, and requires states to establish a list of impaired waters that do not meet water quality standards. Once on the 303(d) list of impaired waters, it is required that a Total Maximum Daily Load (TMDL) report is developed to set goals and pollutant load reductions required for the water body to meet water quality standards.

The NDEQ 2018 Water Quality Integrated Report (*Integrated Report*) lists Deadmans Run on the 303(d) list of impaired waters for *E. coli* (NDEQ, 2018). A Total Maximum Daily Load Report (hereafter referred to as the *TMDL Report*) was developed for the Lower Platte River Basin, which includes the stream segment LP2-20400 for Deadmans Run (NDEQ, 2007). The water quality benefits improvements from this Project will help contribute to reductions in the *E. coli* load. The increase in wetland and riparian area discussed in C-5 above will act as best management practices and have a positive impact on water quality by increasing the amount of filtration and nutrient update of stormwater runoff. The water quality benefits of this Project also result from reducing flood risk. Flood waters can cause changes in water quality that affect human health and the environment or affect commercial and recreations use of water resources. Floodwaters come in contact with numerous known contaminates such as gasoline, oil, pesticides, and bacteria which are flushed into rivers and streams. *E. coli* standards are often exceeded in surface water used for drinking and/or recreation following flood events. Nutrients are also carried to the river during floods and these excessive concentrations can cause algal blooms and increase the cost of drinking water treatment. This Project will reduce the frequency in which the channel flow capacity is exceeded, and overland floodwaters collect contaminates from the urbanized floodplain. This will assist in reducing the *E. coli* load to Deadmans Run, for which it is impaired, and will help meet the goals of the TMDL.

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 Untied 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.

This Project reduces the potential for flood damage along Deadmans Run. This primarily includes private property, but also impacts utilities, bridges and roadway infrastructures vital to the public for communication and transportation. Additionally, a BNSF railroad bridge and rail spur bridge are also protected by the Project. Deadmans Run watershed is primarily urban and is comprised of highly impervious area, creating very 'flashy' flood events that are a great risk to public safety and the potential loss of life. The annual costs savings in flood damage reductions are summarized in Table 13 below.

Table 13. Benefits Summary

Primary Benefits	Total	Occurrence
Structure Damage Reduction	$1,631,770	Annual
Public Damage/Emergency Cost Reduction	$19,001	Annual
Flood Insurance Administrative Cost Reduction	$87,433	Annual

Recent studies have shown the socioeconomic impact of flooding on communities is extensive. Projects such as these reduce the threats to the general security, health and safety of the public by reducing the threat of the impacts of flooding. This benefit can be seen in a reduced need for emergency operations and rescue services during flooding and with a reduction in health hazards such as odor, insects, and other negative impacts of flooding. Lost production time for businesses (income losses) has also been quantified and plays a significant role in tabulating total losses.

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 primary water quality concern is the elevated *E. coli* concentration in Deadmans Run above state standards that has placed the stream on the 303(d) list of impaired waterbodies. The beneficial uses listed in the Integrated Report fo Deadmans Run is recreation. Flow from Deadmans Run drains to Salt Creek that enters the Platte River right at the location of the Lincoln wellfield. Water quality improvements from this Project would help the residents of Lincoln, with a population of over 250,000. Additional concerns in an urbanized area include high nutrient concentrations from fertilizers on lawns, and oils and greases from parking lots. The increase in wetland and riparian area discussed in C-5 above will have a positive impact on water quality by increasing the amount of filtration and nutrient update of stormwater runoff. Additionally, the increased channel capacity will

reduce in-stream velocities for more frequent events, which reduces change in channel bed material, decreases suspended sediment loads, increases riparian habitat due to decreases in streambank erosion, and decreases the variability of flow and sediment transport characteristics relative to aquatic life cycles.

The water quality benefits of this Project also result from reducing flood risk. Flood waters can cause changes in water quality that affect human health and the environment or affect commercial and recreations use of water resources. Floodwaters come in contact with numerous known contaminates such as gasoline, oil, pesticides, and bacteria which are flushed into rivers and streams. *E. coli* standards are often exceeded in surface water used for drinking and/or recreation following flood events. Nutrients are also carried to the river during floods and these excessive concentrations can cause algal blooms and increase the cost of drinking water treatment. This Project will reduce the frequency in which the channel flow capacity is exceeded, and overland floodwaters collect contaminates from the urbanized floodplain. This will assist in reducing the *E. coli* load to Deadmans Run, for which it is impaired, and will help meet the goals of the TMDL. Even with the development of the TMDL, there have been no efforts to implement project or best management practices to reduce pollutant loading.

Short of treating the water once it is already contaminated, which is extremely costly, the simplest way is to reduce the contact of stream flow with overland flow areas in urbanized areas. An extensive alternatives analysis was performed by the USACE to assess all potential alternatives that could achieve this through upstream detention, additional channel capacity and a combination of these, and have arrived at the current project as the preferred alternative, which achieves the flood damage reduction and water quality improvement goals.

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 local jurisdictions for this Project include the LPSNRD and City of Lincoln. Each agency has planned for and budgeted the cost of the planning, permitting, design, construction, and land rights acquisition required for the Project. As the lead agency for non-federal project components, the LPSNRD has a proven track record of planning their budgets on an annual basis to allocate budgets for upcoming projects. Nebraska's NRDs are tax-based agencies and the LPSNRD current tax levy rate is $0.031212/$100 of valuation in one of the most heavily populated NRDs in the state. The anticipated revenue for fiscal year 2019 alone is over $9 million, which produces consistent annual funds to implement and maintain their planned and existing projects. Additionally, the City of Lincoln just

voted to pass a $9.9 million stormwater bond that will help fund several projects around the city, including Deadmans Run. The USACE is another large partner through the Section 205 – Small Flood Reduction Projects program. See SIA Section A-5 for a detailed funding breakdown.

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.

"Water Sustainability" is defined in Nebraska Title 261 as current water use that promotes healthy watersheds, improves water quality, and protects the ability of future generations to meet their needs. Recognizably, sustainability has varied meanings across the State. In Eastern Nebraska, watershed health is related to reducing the threat of flood damage first and foremost. Nearly every watershed plan in the eastern region addresses flood control first. The primary sustainable practices for this Project are flood control, water quality improvements, reducing soil erosion and pollutant loading, and habitat improvement, which all contribute to healthy watersheds. This project will not only benefit downstream landowners, but will also result in the establishment and protection of natural areas for future generations.

The local jurisdiction that manages and enforces these practices are LPSNRD and the City of Lincoln. The City of Lincoln has a Watershed Management Division. Their mission is to provide leadership and guidance in watershed management by utilizing new technology and ecologically-based engineering and planning practices. The primary purpose is to improve water quality, manage stormwater and reduce flood hazards, and to ensure that the City meets Federal requirements relative to stormwater quality. The City does this through programs that include education, water quality testing, and enforcement of adopted standards, as well as through the implementation of capital projects within the City of Lincoln and our future growth areas. They provide technical guidance on water quality best management practices, drainage criteria, erosion and sediment control, flood standards, and water quality standards.

The City of Lincoln and the LPSNRD sponsored the Deadmans Run Watershed Master Plan (City of Lincoln, 2007) (*Master Plan*). The primary goal of the study was to develop planning tools and comprehensive improvement projects that

reduce the potential for street and building flooding, address existing erosion problems, and improve water quality. The results of the hydrologic, hydraulic, geomorphic and water quality evaluations performed for the master planning process formed the foundation for identifying problem areas in the watershed. Potential improvement projects addressing each problem area were evaluated based on design considerations, economic feasibility, and overall efficiency. The evaluation process resulted in 13 total improvement projects. This Project is a direct result of the recommendations from the *Master Plan* to help support sustainable water use.

The local public within the City of Lincoln will benefit most from this Project. Stakeholders of this Project not only include the partners (LPSNRD, City of Lincoln, and USACE) but also agencies such as UNL, NDEE, NGPC, USFWS, NDNR and the USACE permitting division. In addition to the tangible flood control benefits to property and infrastructure to Nebraskans within the watershed, there are multiple intangible ways in which the Project enhances water and environmental sustainability. These intangible benefits cannot be expressed in monetary terms, but collectively helps to promote healthy watersheds and protects the ability of future generations to meet their needs. Many intangible benefits are directly related to our quality of life as a society. Although difficult or impossible to measure, they are fundamental to human well-being, making them invaluable in many regards. Creating opportunities to interact with the natural world in sustainable ways near population bases elevates the quality of life of the region. This Project will result in the establishment and protection of much-needed natural areas for future generations and will create opportunities for natural world discovery, wildlife viewing, enjoyment of scenic beauty, environmental education and environmental appreciation. In addition, these intangible benefits include our responsibility to create and preserve valuable habitat to ensure the enjoyment of wildlife and the natural world for generations to come. This Project will provide benefits to current residents and visitors throughout Nebraska, as well as future residents and visitors of our state.

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.

Flood protection in general is a critical issue across the State of Nebraska. With the dense population and infrastructure that is protected by the Project, flood control alone addresses a vital statewide problem. Recent flooding on the major river systems through the state, specifically the Platte River, could have been less severe in places if local runoff was more adequately managed. This project

addresses this issue through reduced flood damage as described herewithin and benefits thousands in the Deadmans Run watershed. The total population anticipated to receive these benefits is likely more than 1,400, spanning a current overland floodplain to be reduced of nearly 250acres.

By reducing the amount of stream flow lost to overland flooding, the increased volume in Deadmans Run will add to Salt Creek flows which in turn adds to lower Platte River flows, which is heavily protected by the Nebraska Game and Parks Commission to meet in-stream flows and water rights. This includes both water quantity and water quality.

Lastly, Nebraska has a vast network of impaired streams including Deadmans Run, Salt Creek and the lower Platte River which are all impaired for *E. Coli* bacteria. This project, as documented herewithin, will reduce that impairment in Deadmans Run, which translates to the downstream stream corridors of Salt Creek and the lower Platte River, helping to meet water quality improvement goals set forth in the local IMPs and state-wide efforts.

These water quantity and water quality improvements benefit the million plus of Nebraskans that live, work, play and drink from this stream network.

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.

This LPSNRD applied to and was accepted to the USACE Section 205 - Small Flood Reduction Projects program for this Project. The USACE has committed to be a project partner and the amount of federal funding over **$9 million**. A table breaking down the source of funding for the anticipated Project costs is shown in Section A-5 of the SIA. The evidence of commitment of each entity is also provided as an attachment to the SIA.

The federal and local commitments to this project have already been budgeted and confirmed, but as with any project, surprises could happen. If the federal commitment went away, the local partners would need to re-assess their budgets and the timing of the project, but each has already begun implementing their responsibilities to the project. If they had to take on the federal component as well, it would more than likely affect project schedule, the requested contribution from the Water Sustainability Fund, and possibly other sources.

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.

It was determined, that overall floodplain connectivity would slightly improve at Deadmans Run as a result of widening the channel, lowering the bank, and shaping it with 3:1 slopes. This will allow a slight ability for Deadmans Run to access the native mesic plantings and on occasion the native stabilizing grasses. Land use and the adjacent riparian buffer variables generally remain unchanged as a result of implementing the channel improvement project. Most notably, riparian vegetation, both above and below the flood-prone zone is anticipated to improve as a result of the channel improvement project with the implementation of the mitigative measures. Overall, riparian footprint would increase in quality and diversity as a result of planting native stabilizing grasses. An additional 5 acres of a wetland-mesic seed mix would be planted adjacent to the channel to enhance the habitat within the localized area and an additional acre of trees would be re-planted. These benefits improve water quality and wildlife habitat which contribute to the function and health of the overall watershed.

The increased channel capacity will reduce in-stream velocities for more frequent events, which reduces change in channel bed material, decreases suspended sediment loads, increases riparian habitat due to decreases in streambank erosion, and decreases the variability of flow and sediment transport characteristics relative to aquatic life cycles. This indicates the flood control measures implemented for this Project would have an overall benefit to the watershed heath and function. These benefits are most prevalent to the Deadmans Run watershed, and also travel downstream and provide benefits to the Salt Creek and Platte River watersheds health and function.

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

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

The *Annual Report* (NDNR 2018), lists the following objectives as related to the Water Sustainability Fund:

Water Sustainability Fund

The Legislature created the Water Sustainability Fund in LB 906 (2014) and defined governance and appropriation in LB 1098 and LB 1098A. From July 2014 through June 2018, a net $46,170,000 has been transferred to the fund. Funds committed to projects through June 2018, are $41,702,715. Per LB 944, the appropriation for FY 2019 was reduced by $429,557 to $10,309,520. The transfer for FY 2019 is $6,000,000 per LB 945. According to *Neb. Rev. Stat.* § 2-1506, the goals of the Water Sustainability Fund are to:

- Provide financial assistance to programs, projects, or activities that increase aquifer recharge, reduce aquifer depletion, and increase streamflow;
- Remediate or mitigate threats to drinking water;
- Promote the goals and objectives of approved integrated management plans or groundwater management plans;
- Contribute to multiple water supply management goals including flood control, reducing threats to property damage, agricultural uses, municipal and industrial uses, recreational benefits, wildlife habitat, conservation, and preservation of water resources;
- Assist municipalities with the cost of constructing, upgrading, developing, and replacing sewer infrastructure facilities as part of a combined sewer overflow project;
- Provide increased water productivity and enhance water quality;
- Use the most cost-effective solutions available; and
- Comply with interstate compacts, decrees, other state contracts and agreements and federal law.

The benefits of this Project and how it achieves goals these are described in detail below:

Flood Control and Reducing Threats to Property Damage

The primary purpose of this Project is to reduce the existing flood risk and floodplain extents within the largely urbanized community along Deadmans Run in northeast Lincoln. The channel widening, bridge improvements, and concrete flume will increase the hydraulic capacity of Deadmans Run and reduce peak water surface elevations, resulting in over $1.7 million in annual flood damage reductions. There are over 379 National Flood Insurance Program (NFIP) policy holders and 750 structures within the Deadmans Run floodplain, indicating a large populous and substantial development that would be impacted by the flood control improvements from this Project.

Water Quality and Wildlife Habitat

The existing channel is armored and lined, narrow, incised, and has steep banks, which limits the amount of land area suitable for wetland development. The channel widening and improvements will create more suitable conditions for development of a low-flow channel and high-quality wetlands to occur within the channel. Within the 25-foot buffer adjacent to the channel, a wetland-mesic prairie seed mix would be planted to result in an additional 5 acres of wetland habitat. The low-flow channel and wetland area will help improve water quality through filtration and nutrient uptake and will provide aquatic habitat for local species in an

urbanized area where habitat is currently very limited. The *Value Engineering Study for Deadmans Run* (USACE, 2019) recommendations of a more natural stream to reduce/eliminate hard armoring and improve the environment components of the project will also be considered during final design. Additionally, the increased channel capacity will reduce in-stream velocities for more frequent events, which reduces change in channel bed material, decreases suspended sediment loads, increases riparian habitat due to decreases in streambank erosion, and decreases the variability of flow and sediment transport characteristics relative to aquatic life cycles. Water quality improvements and preservation of local water resources will be realized from reduced erosion and sediment loads. The detention basin component of the Project will also impact water quality in a positive way by further reducing sediment, nutrient, and bacteria transport downstream.

The Project would impact approximately 28.5 acres of existing vegetation in the floodplain of Deadmans Run. Most of the acres affected consist of highly disturbed urban areas, upland weeds, and turf grasses. Following construction, the disturbed areas would be seeded with a native grass mixture on reinforced turf mats. This would result in approximately 17.5 acres of native species with higher floristic quality that would contribute to the environmental setting of the riparian corridor. Riparian vegetation slows water runoff, traps sediment, and intercepts pesticides, pathogens, and heavy metals from entering waterways. It also creates an increase in riparian habitat for wildlife to feed, breed, or shelter.

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.

Authority provided by Section 205 of the Flood Control Act of 1948 under the Continuing Authorities Program (205 Program) allows the USACE to partner with non-federal sponsors to plan and construct small flood damage reduction project that have not previously been specifically authorized by Congress and are not part of a larger project. By accepting the Deadmans Run Flood Reduction Project in to the 205 Program, the USACE is required to fulfill their purpose and obligation to study, design, and construct the flood damage reduction measures.

Section 303(d) of the Environmental Protection Agency's Clean Water Act is required to maintain the integrity of the Nation's waters, and requires states to establish a list of impaired waters that do not meet water quality standards. Once on the 303(d) list of impaired waters, it is required that a Total Maximum Daily Load (TMDL) report is developed to set goals and pollutant load reductions required for

the water body to meet water quality standards. The LPSNRD has a responsibility to meet the TMDL for Deadmans Run bacteria in the streams. This Project increases the amount of wetlands and riparian buffers that serve as best management practices and help improve water quality. The water quality benefits of this Project also result from reducing flood risk by decreasing the frequency in which floodwaters come in contact with numerous contaminates and transport them into the receiving waterbodies.

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, a letter was submitted to the USFWS Region 6 Ecological Services Field Office requesting information on anticipated impacts that may be associated with proposed alternatives and a list of federally listed, threatened and endangered species that may be found in the study area. In response, the USFWS provided the Corps with a planning aid letter (PAL). In this letter, the USFWS identified three federally threatened species; the western prairie-fringed orchid (*Platanthera praeclara*), piping plover (*Charadrius melodus*) and northern long-eared bat (*Myotis septentrionalis*) and four endangered species; the Salt Creek tiger beetle (*Cicindela nevadica lincolniana*), pallid sturgeon (*Scaphirhynchus albus*), whooping crane (*Grus americana*) and interior least tern (*Sterna antillarum athalassos*).

It was noted in the PAL received in January 2016 that since 1978 the USFWS has concluded in all of its Section 7 consultations on water projects in the Platte River basin, that the Platte River ecosystem is in a state of jeopardy and any federal action resulting in in-stream flow depletion to the Platte River ecosystem will further or continue to deteriorate the already stressed habitat conditions. Due to the cumulative effect of many water depletion projects in the Platte River basin, the USFWS considers any depletion (direct or indirect) significant. As such, the USFWS has adopted a jeopardy standard for all Section 7 consultations on federal actions which result in water depletions to the Platte River system. The USFWS had concluded that water-related activities in the Platte River basin resulting in less than 0.1 acre-foot/year of depletions in flow to the nearest surface water tributary to the Platte River system do not affect the Platte River target species (pallid sturgeon, interior least tern, and piping plover) and thus do not require consultation with the USFWS for potential effects on those species. Any activity that increases flows to the Platte River during relevant time periods will help comply with the goals of the USFWS.

SUPPLEMENTAL INFORMATION ATTACHMENT

LOWER PLATTE SOUTH
natural resources district

FYRA
ENGINEERING

SECTION A

A-5

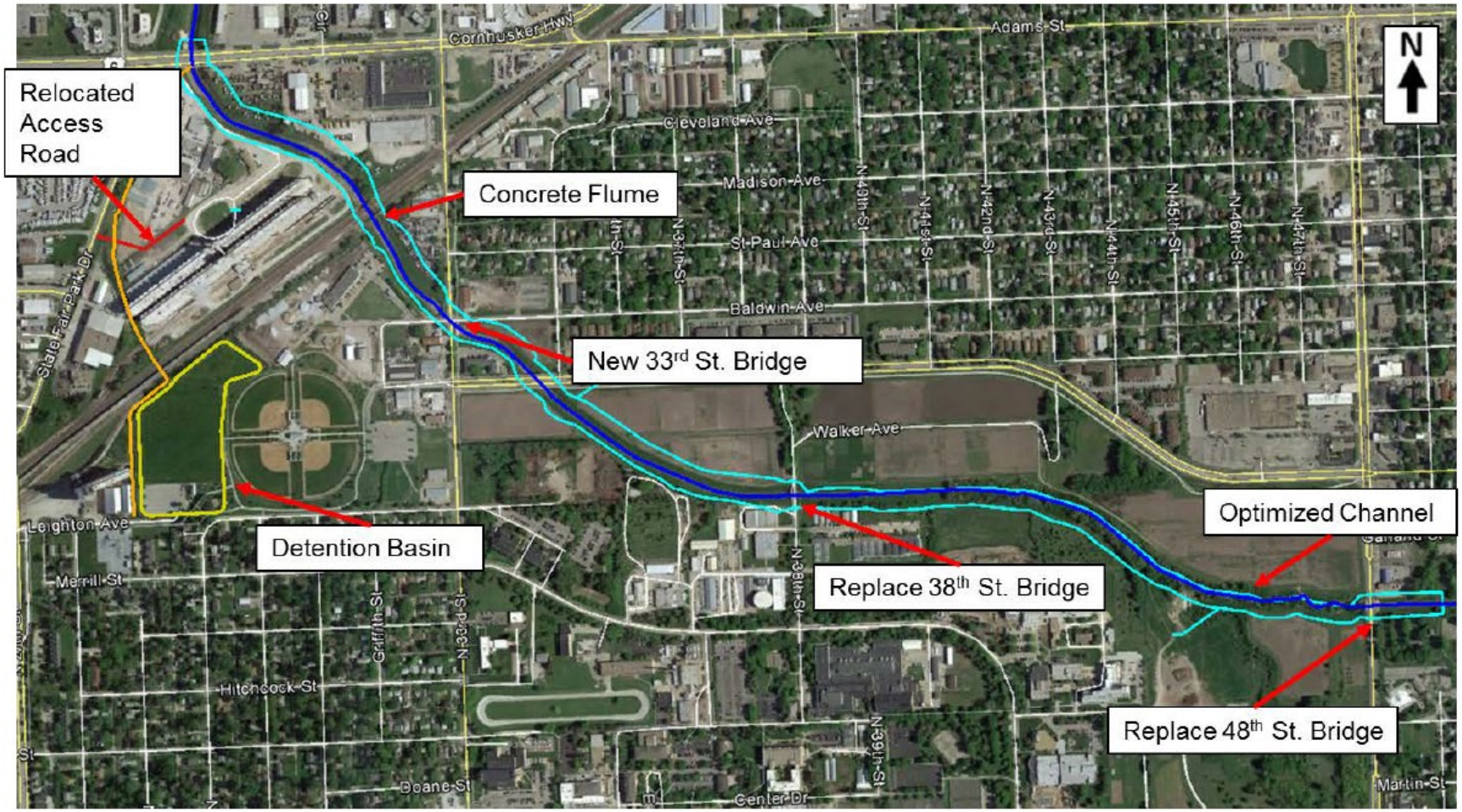
Table A-5(1) – Project Cost and Funding Breakdown

Project Feature	Total	Costs Incurred to Date	Federal Funding	Non-Federal (Grant Eligible) Funding	Non-Federal Funding Breakdown		
					WSF	LPSNRD*	City of Lincoln*
Professional Services	$3,401,003	$1,050,441	$1,784,000	$566,562	$566,562	$525,220	$525,220
Land Rights	$3,732,340	$0	$0	$3,732,340	$1,436,868	$1,147,736	$1,147,736
Federal Construction	$11,023,400	$0	$7,469,000	$3,554,400	$2,132,640	$710,880	$710,880
Non-Federal Construction	$8,608,610	$0	$0	$8,608,610	$1,721,722	$3,443,444	$3,443,444
Total	**$26,765,352**	**$1,050,441**	**$9,253,000**	**$16,461,912**	**$5,857,792**	**$5,827,280**	**$5,827,280**

**Includes costs incurred to date*

A-6

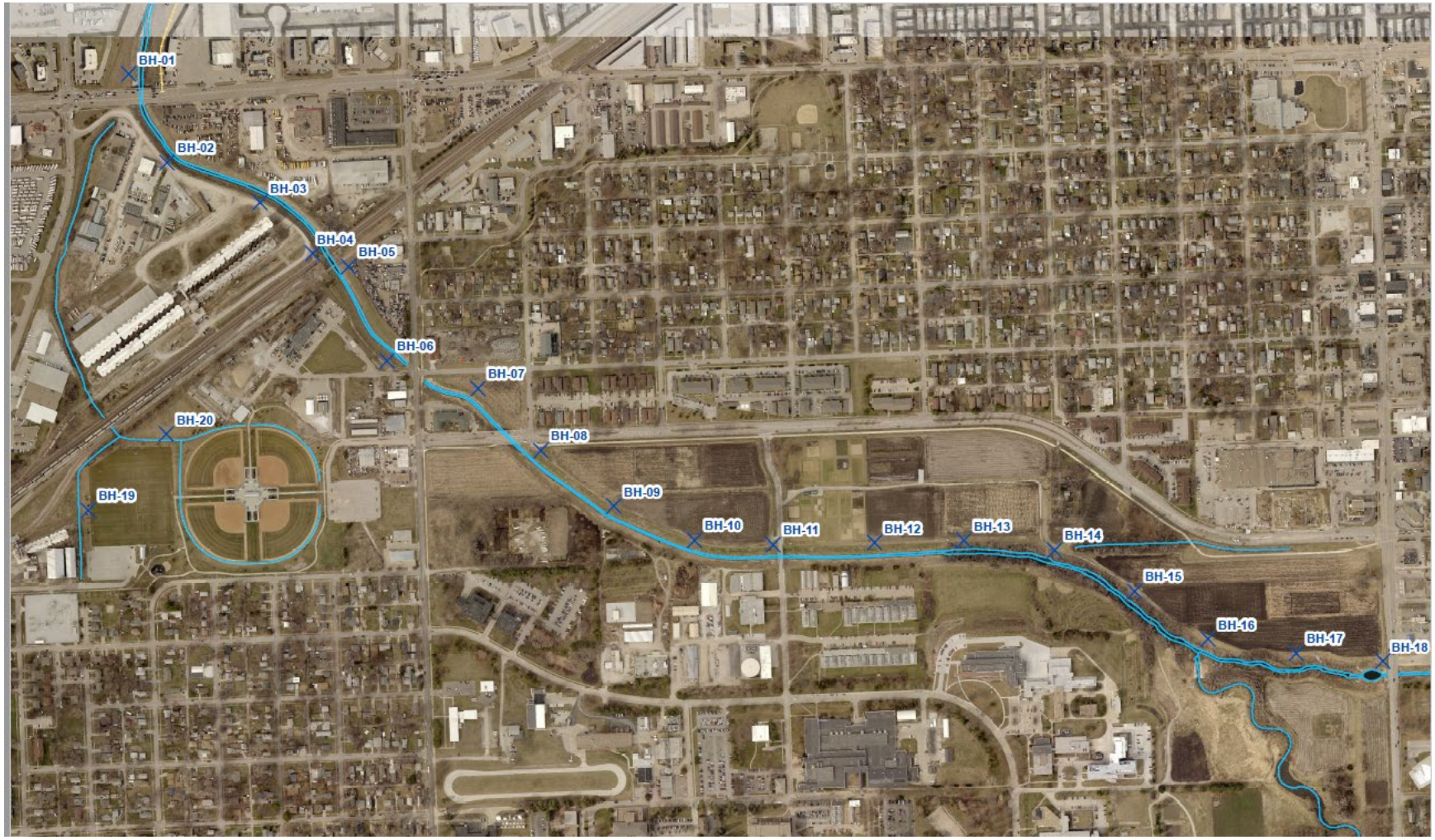
Figure A-6(1) Deadmans Run Flood Reduction Project Components



SECTION B

B-1.A.3

Figure B-1.A.3(1) Soil Boring Locations



B-1.A.4

Figure B-1.A.4(1) Watershed Location Map

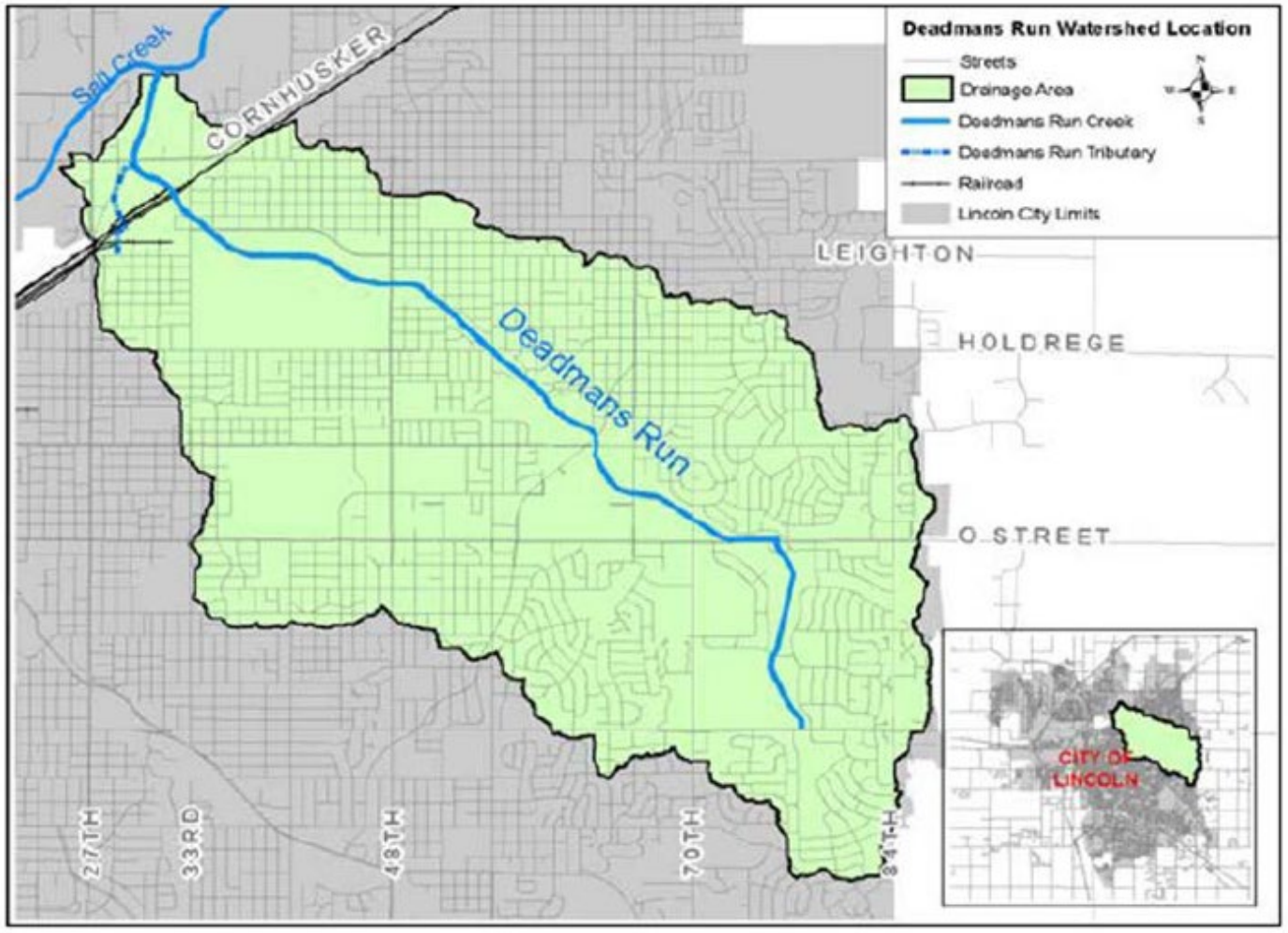
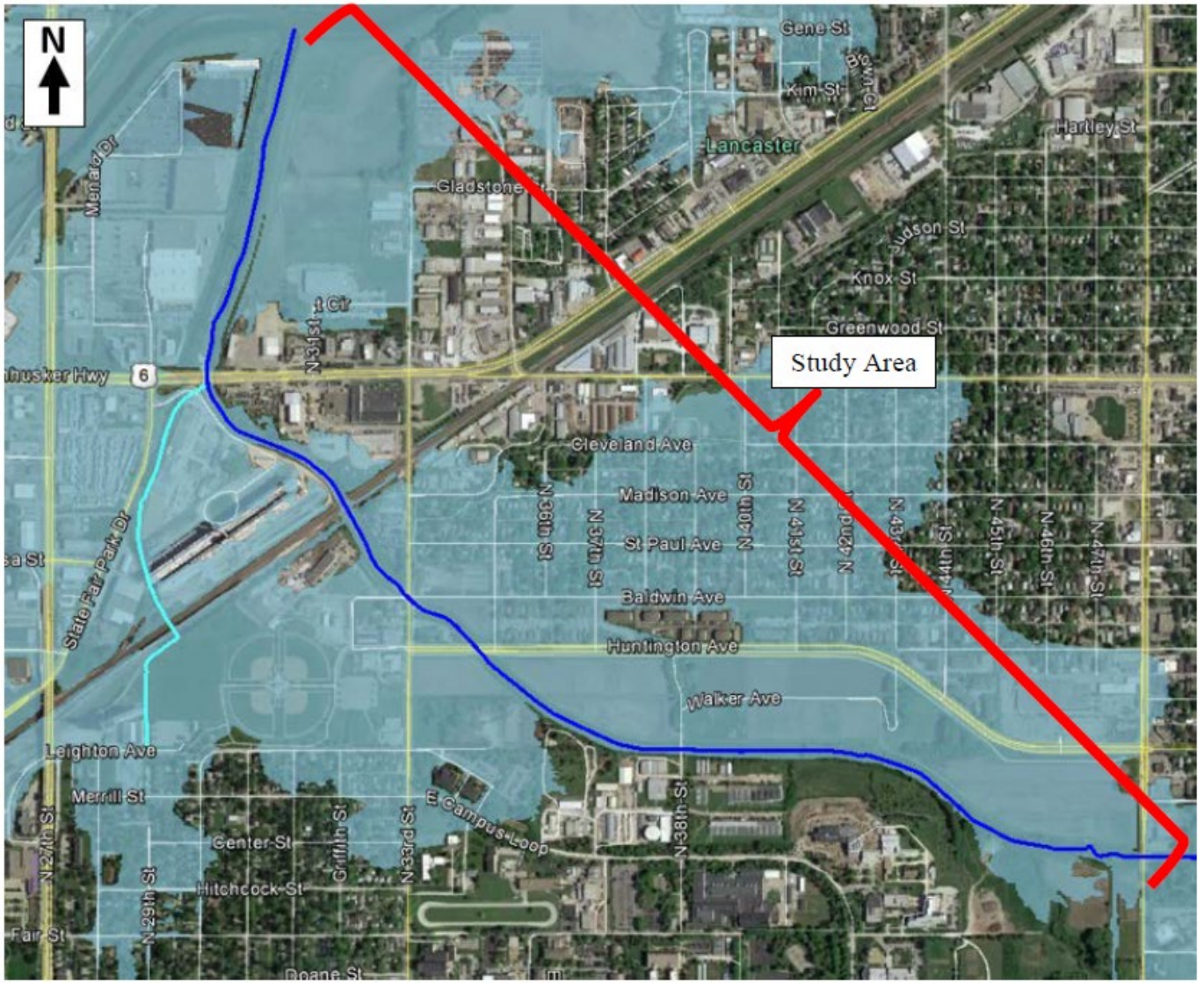
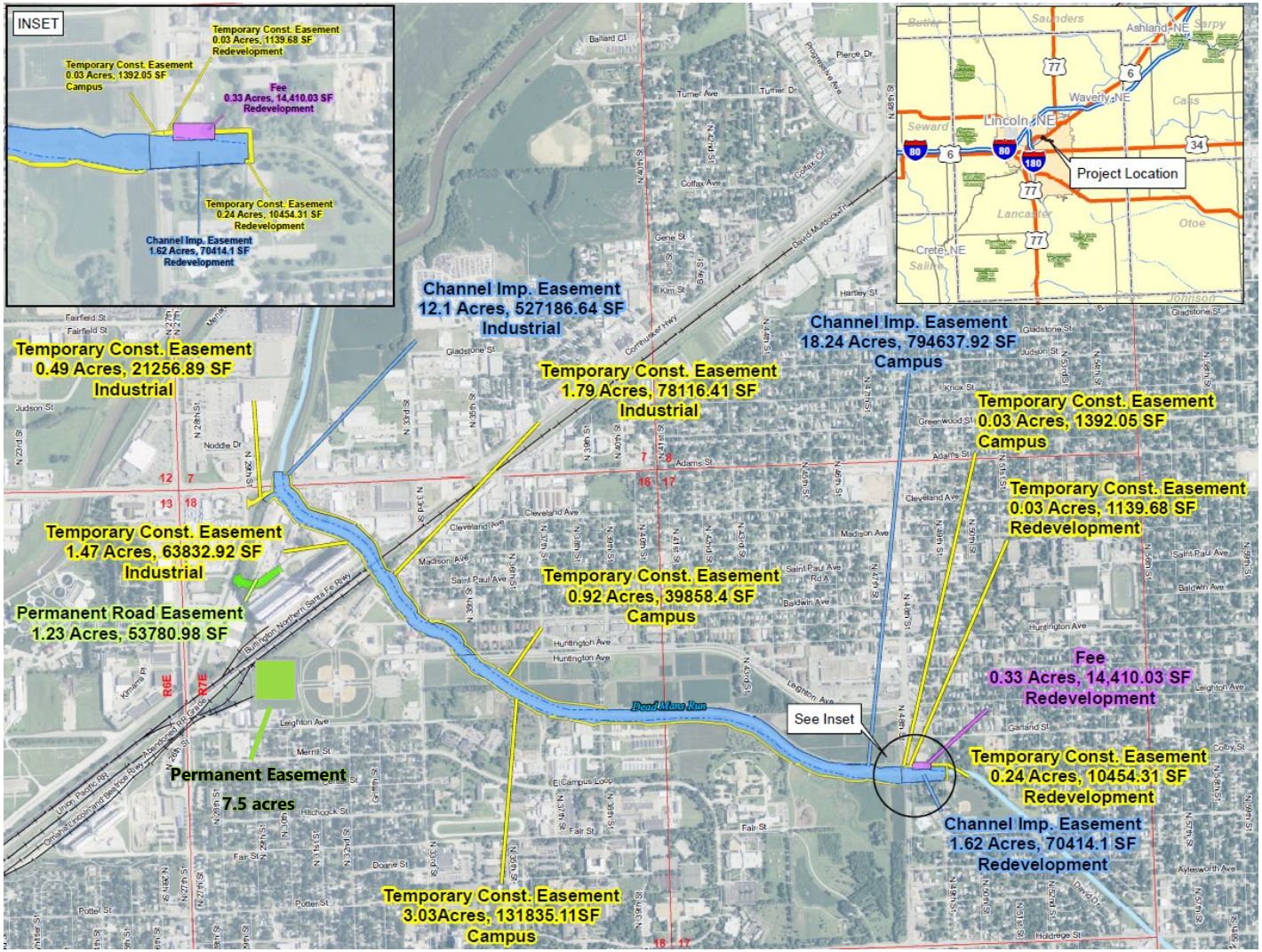


Figure B-1.A.4(2) Site Location Map



B-1.A.5

Figure B-1.A.5(1) Land Rights Map



B-1.A.6

FEDERAL PROJECT COMPONENTS

Figure B-1.A.6(1) Widen Channel

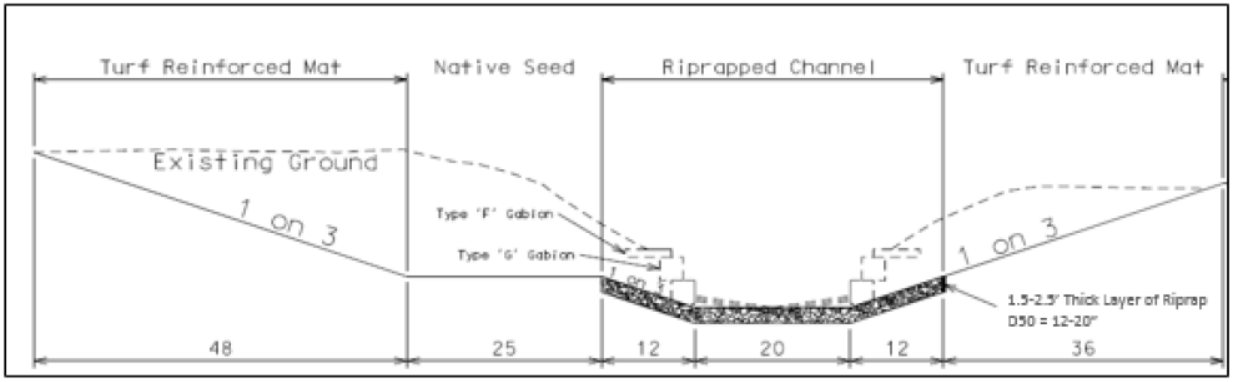
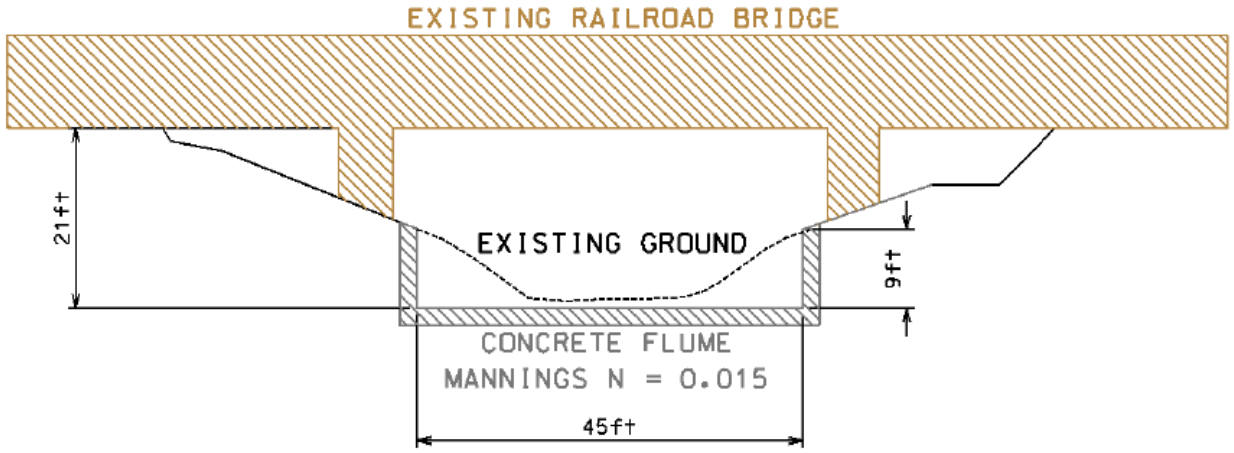


Figure B-1.A.6(2) Concrete Flume




DEADMANS RUN
CONCRETE FLUME
BNSF RR
RAIL SPUR
CONCRETE TRAIL
DEADMANS

Figure B-1.A.6(3) Relocated Access Road

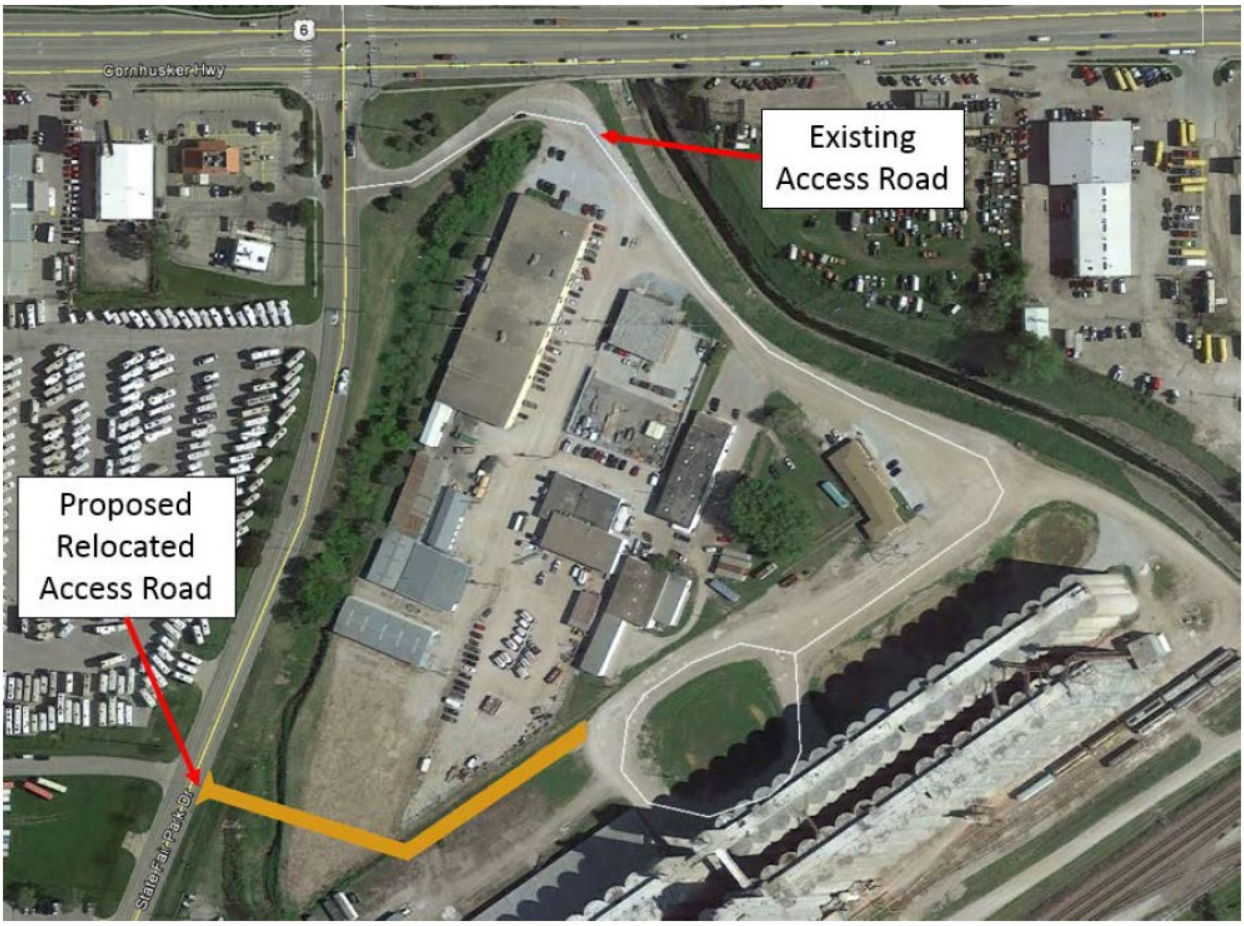
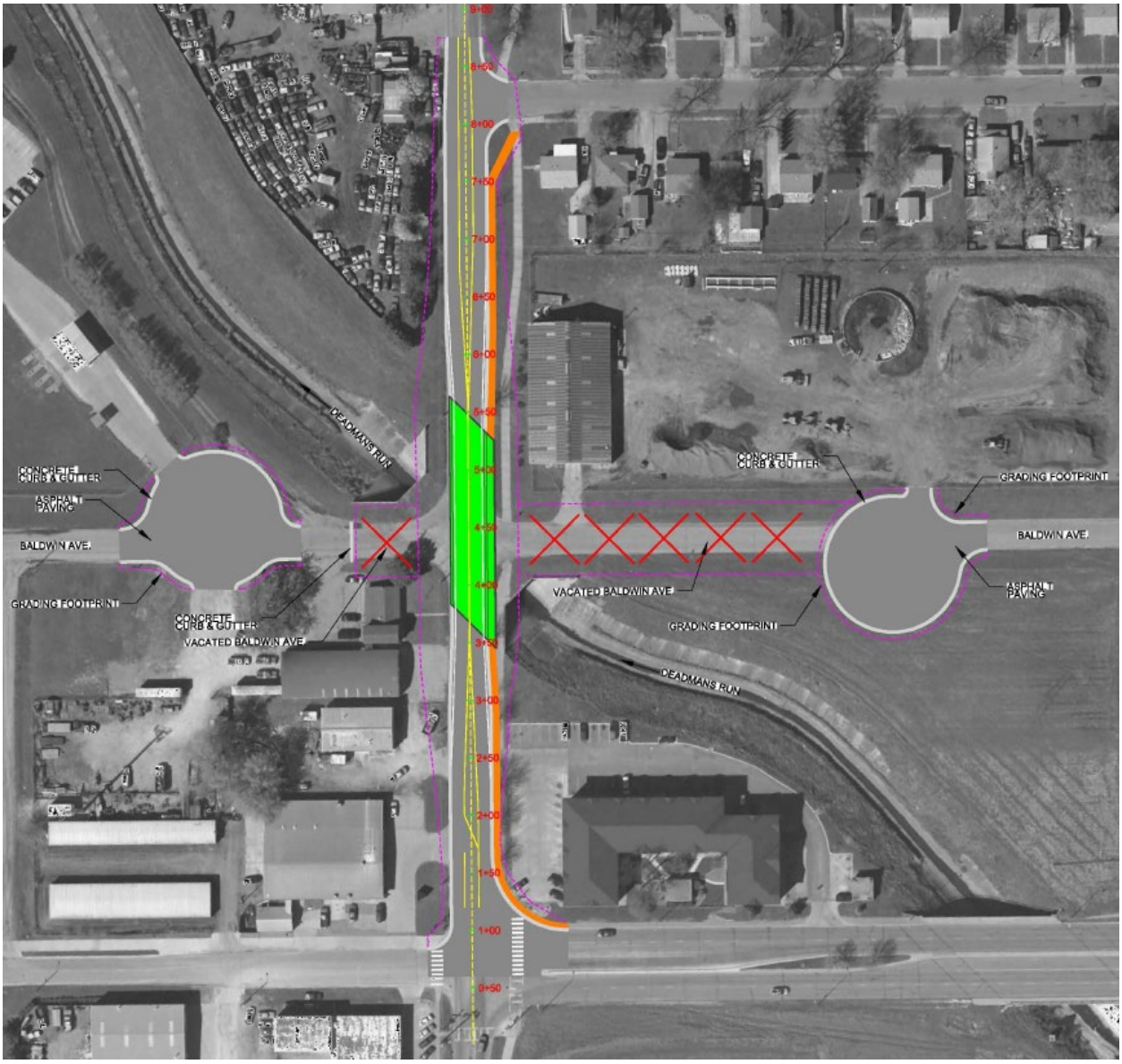
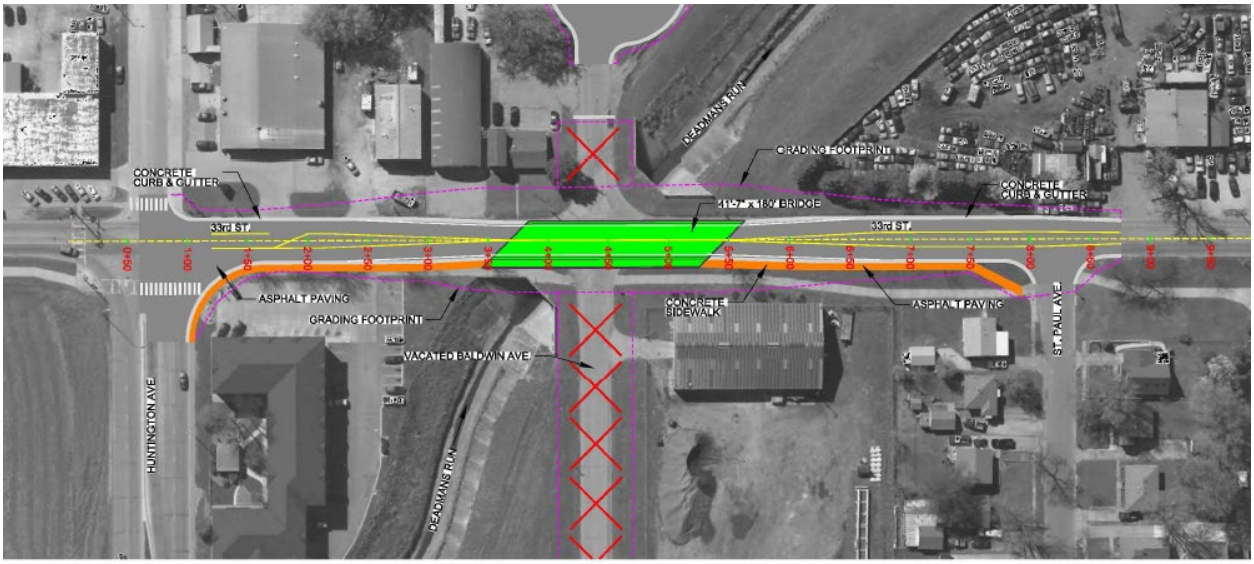


Figure B-1.A.6(4) Baldwin Ave Termination



NON-FEDERAL PROJECT COMPONENTS

Figure B-1.A.6(5) 33rd St Bridge Installation



33rd STREET - ALTERNATIVE 1

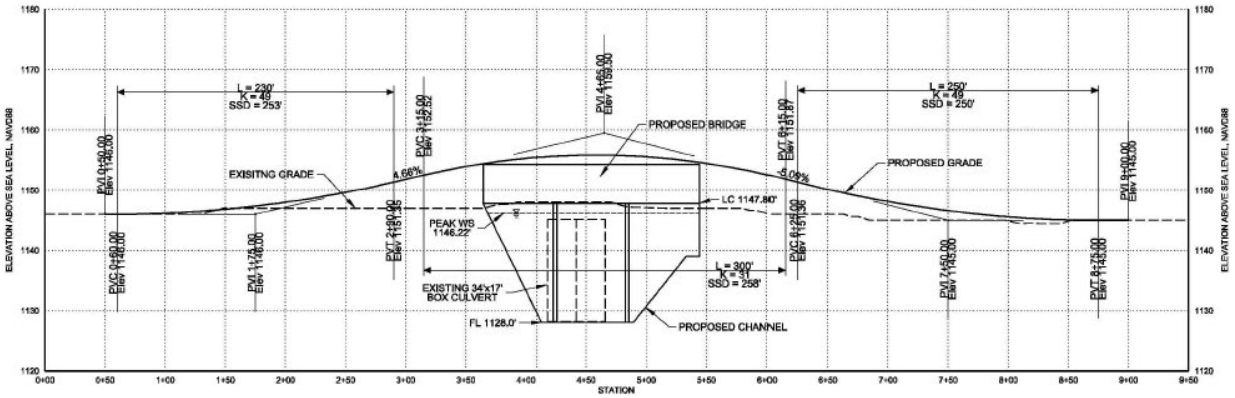
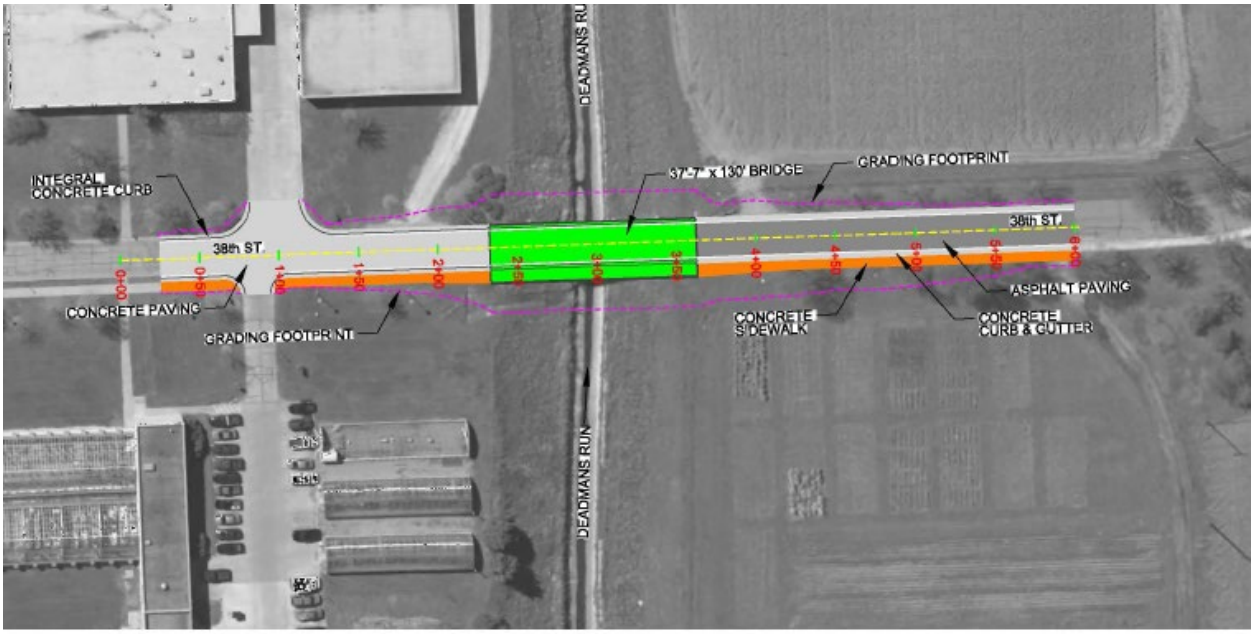


Figure B-1.A.6(6) 38th St Bridge Replacement



38th STREET - ALTERNATIVE 1

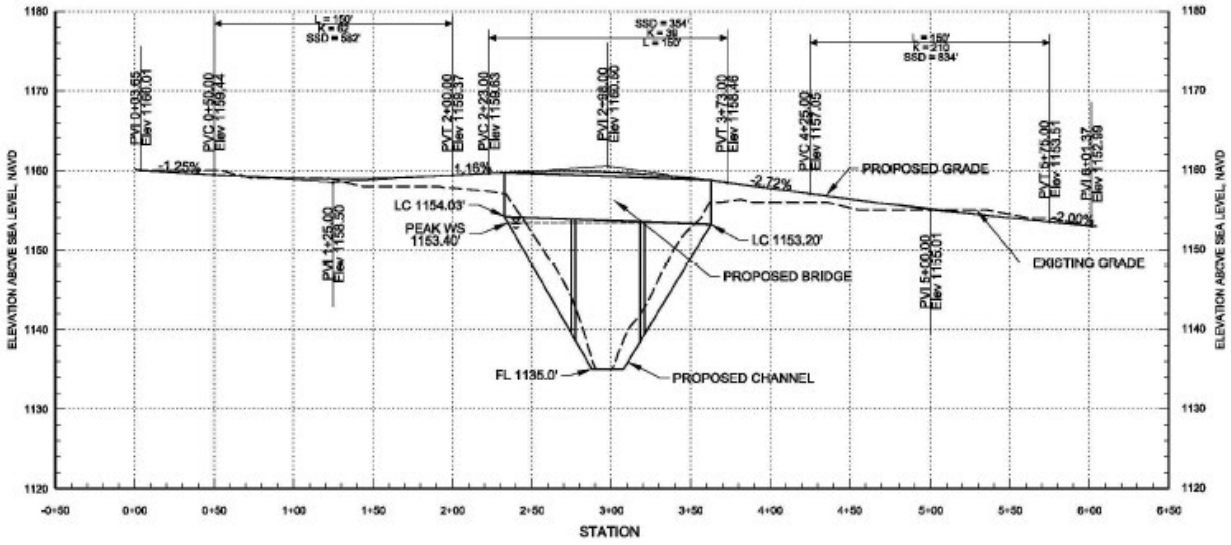
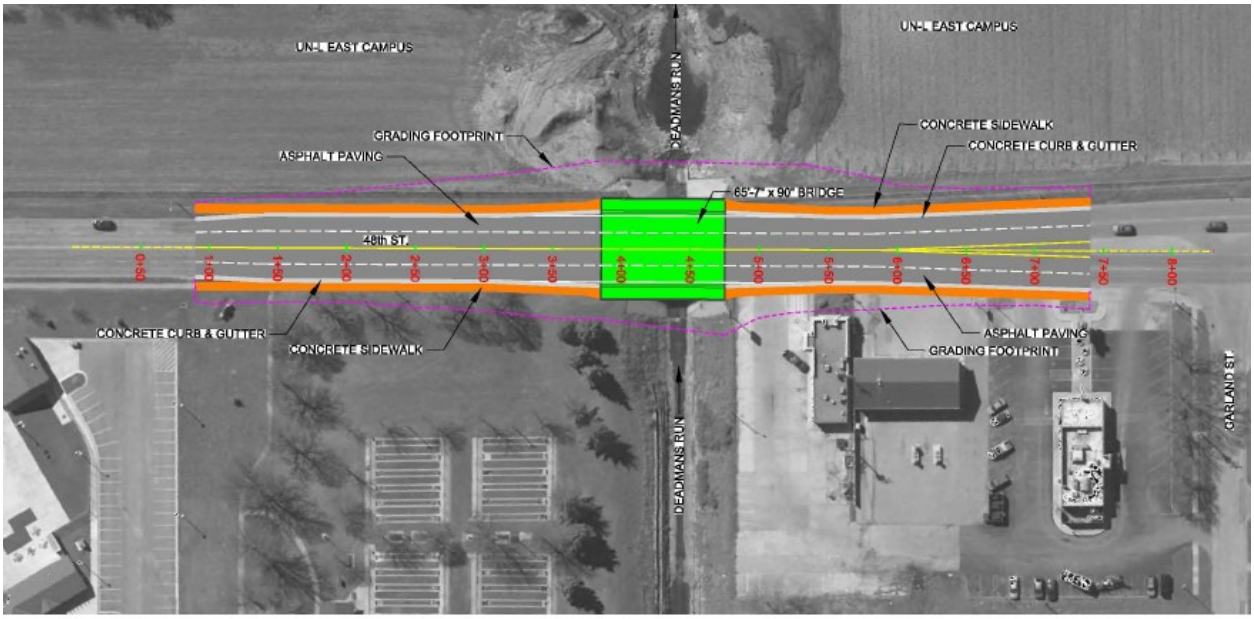


Figure B-1.A.6(7) 48th St Bridge Replacement



48th STREET - ALTERNATIVES 1 & 2

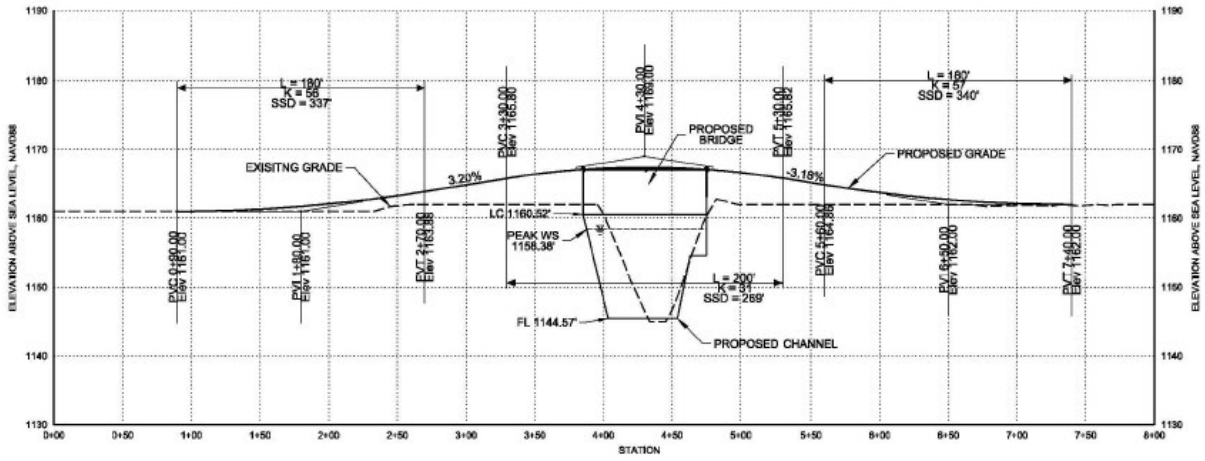


Figure B-1.A.6(8) Detention Basin

B-3.C.

Table B-3.C(1) – Benefit to Cost Ratio

Benefit:Cost Analysis

Benefit Category	Calculated Benefit	# of Occurances Over 50-Yr Lifetime	Lifetime Benefits	Cost Category	Calculated Costs	# of Occurances Over 50-Yr Lifetime	Total Costs
Structure Damage Reduction	$1,631,770	46	$75,061,420	Professional Services	$3,401,003	1	$3,401,003
				Land Rights	$3,732,340	1	$3,732,340
Public Damage/ Emergency Cost Reduction	$19,001	46	$874,046	Federal Construction	$11,023,400	1	$11,023,400
				Non-Federal Construction	$8,608,610	1	$8,608,610
Flood Insurance Administration Cost	$87,433	46	$4,021,918	OMR&R	$79,050	46	$3,636,300
Total Benefits:			**$79,957,384**	**Total Costs:**			**$30,401,652**

Benefit:Cost Ratio = 2.63

ATTACHMENTS

Project Partnership Agreement Between LPSNRD and USACE

Interlocal Cooperation Agreement Deadmans Run Flood Reduction Project Between City of Lincoln and LPSNRD

PROJECT PARTNERSHIP AGREEMENT
BETWEEN
THE DEPARTMENT OF THE ARMY
AND
LOWER PLATTE SOUTH NATURAL RESOURCE DISTRICT
FOR
DESIGN AND CONSTRUCTION
OF THE
DEADMANS RUN, LINCOLN, NEBRASKA SECTION 205 PROJECT

THIS AGREEMENT is entered into this 3rd day of December, 2018 by and between the Department of the Army (hereinafter the "Government"), represented by the U.S. Army Engineer, Omaha District and the Lower Platte South Natural Resource District (hereinafter the "Non-Federal Sponsor"), represented by its General Manager.

WITNESSETH, THAT:

WHEREAS, Section 205 of the Flood Control Act of 1948, as amended (33 U.S.C. 701s) (hereinafter "Section 205"), authorizes the Secretary to undertake construction of small structural flood risk management projects not specifically authorized by Congress;

WHEREAS, pursuant to the authority provided in Section 205, design and construction of the Deadmans Run, Lincoln, Nebraska Section 205 Project (hereinafter the "Project", as defined in Article I.A. of this Agreement) was approved by the Division Engineer for Northwestern Division on August 9th, 2018.

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213), specifies the cost-sharing requirements applicable to the Project;

WHEREAS, total Federal costs associated with planning, design, and construction of a project pursuant to Section 205 may not exceed $10,000,000;

WHEREAS, 33 U.S.C. 701h authorizes the Government to undertake, at the Non-Federal Sponsor's full expense, additional work while the Government is carrying out the Project; and

WHEREAS, the Government and the Non-Federal Sponsor have the full authority and capability to perform in accordance with the terms of this Agreement and acknowledge that Section 221 of the Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b), provides that this Agreement shall be enforceable in the appropriate district court of the United States.

NOW, THEREFORE, the parties agree as follows:

ARTICLE I - DEFINITIONS

A. The term "Project" means increasing the channel capacity to convey the flows associated with the 1% Annual Chance Exceedance (ACE) event, constructing a concrete flume under the existing railroad structures, reconfiguring the access road and underlying culvert to a series of commercial properties along the bank of the channel, and environmental mitigation throughout the project footprint to ensure there is no negative impact on the existing local ecosystem, as generally described in the Deadmans Run, Lincoln, Nebraska Section 205 Flood Risk Management Integrated Feasibility Report and Environmental Assessment dated August, 2018 and approved by the Commander, Northwestern Division on August 9th, 2018 (hereinafter the "Decision Document").

B. The term "construction costs" means all costs incurred by the Government and Non-Federal Sponsor in accordance with the terms of this Agreement that are directly related to design and construction of the Project and cost shared. The term includes, but is not necessarily limited to: the Government's costs of engineering, design, and construction; the Government's supervision and administration costs; the Non-Federal Sponsor's creditable costs for providing real property interests, placement area improvements, and relocations and for providing in-kind contributions, if any; and the costs of historic preservation activities except for data recovery for historic properties. The term does not include any costs for operation, maintenance, repair, rehabilitation, or replacement; dispute resolution; participation in the Project Coordination Team; audits; betterments; or additional work; or the Non-Federal Sponsor's cost of negotiating this Agreement.

C. The term "real property interests" means lands, easements, and rights-of-way, including those required for relocations and borrow and dredged material placement areas. Acquisition of real property interests may require the performance of relocations.

D. The term "relocation" means the provision of a functionally equivalent facility to the owner of a utility, cemetery, highway, railroad (excluding existing railroad bridges and approaches thereto), or public facility when such action is required in accordance with applicable legal principles of just compensation. Providing a functionally equivalent facility may include the alteration, lowering, raising, or replacement and attendant demolition of the affected facility or part thereof.

E. The term "placement area improvements" means the improvements required on real property interests to enable the ancillary placement of material that has been dredged or excavated during construction, operation, and maintenance of the Project, including, but not limited to, retaining dikes, wasteweirs, bulkheads, embankments, monitoring features, stilling basins, and de-watering pumps and pipes.

F. The term "functional portion thereof" means a portion of the Project that has been completed and that can function independently, as determined in writing by the U.S.

Army Engineer, Omaha District (hereinafter the "District Engineer"), although the remainder of the Project is not yet complete.

G. The term "in-kind contributions" means those materials or services provided by the Non-Federal Sponsor that are identified as being integral to the Project by the Division Engineer for Northwestern Division. To be integral to the Project, the material or service must be part of the work that the Government would otherwise have undertaken for design and construction of the Project. The in-kind contributions also include any investigations performed by the Non-Federal Sponsor to identify the existence and extent of any hazardous substances that may exist in, on, or under real property interests required for the Project.

H. The term "betterment" means a difference in design or construction of an element of the Project that results from the application of standards that the Government determines exceed those that the Government would otherwise apply to design or construction of that element.

I. The term "fiscal year" means one year beginning on October 1st and ending on September 30th of the following year.

J. The term "Federal Participation Limit" means the $10,000,000 statutory limitation on the Government's financial participation in the planning, design, and construction of the Project.

K. The term "additional work" means items of work related to, but not included in, the Project that the Government will undertake on the Non-Federal Sponsor's behalf while the Government is carrying out the Project, with the Non-Federal Sponsor responsible for all costs and any liabilities associated with such work.

ARTICLE II - OBLIGATIONS OF THE PARTIES

A. In accordance with Federal laws, regulations, and policies, the Government shall undertake design and construction of the Project using funds appropriated by the Congress and funds provided by the Non-Federal Sponsor.

B. The Non-Federal Sponsor shall contribute a minimum of 35 percent of construction costs, up to a maximum of 50 percent of construction costs, as follows:

1. The Non-Federal Sponsor shall pay 5 percent of construction costs.

2. In accordance with Article III, the Non-Federal Sponsor shall provide the real property interests, placement area improvements, and relocations required for construction, operation, and maintenance of the Project. If the Government determines that the Non-Federal Sponsor's estimated credits for real property interests, placement area improvements, and relocations will exceed 45 percent of construction costs, the

Government, in its sole discretion, may acquire any of the remaining real property interests, construct any of the remaining placement area improvements, or perform any of the remaining relocations with the cost of such work included as a part of the Government's cost of construction. Nothing in this provision affects the Non-Federal Sponsor's responsibility under Article IV for the costs of any cleanup and response related thereto.

3. In providing in-kind contributions, if any, the Non-Federal Sponsor shall obtain all applicable licenses and permits necessary for such work. As functional portions of the work are completed, the Non-Federal Sponsor shall begin operation and maintenance of such work. Upon completion of the work, the Non-Federal Sponsor shall so notify the Government and provide the Government with a copy of as-built drawings for the work.

4. After determining the amount to meet the 5 percent required by paragraph B.1., above, for the current fiscal year and after considering the estimated amount of credit that will be afforded to the Non-Federal Sponsor pursuant to paragraphs B.2. and B.3., above, the Government shall determine the estimated additional amount of funds required from the Non-Federal Sponsor to meet its minimum 35 percent cost share for the current fiscal year. No later than 30 calendar days after receipt of notification from the Government, the Non-Federal Sponsor shall provide the full amount of such required funds to the Government in accordance with Article VI.

5. No later than August 1st prior to each subsequent fiscal year, the Government shall provide the Non-Federal Sponsor with a written estimate of the full amount of funds required from the Non-Federal Sponsor during that fiscal year to meet its cost share. Not later than September 1st prior to that fiscal year, the Non-Federal Sponsor shall provide the full amount of such required funds to the Government.

C. To the extent practicable and in accordance with Federal law, regulations, and policies, the Government shall afford the Non-Federal Sponsor the opportunity to review and comment on solicitations for contracts, including relevant plans and specifications, prior to the Government's issuance of such solicitations; proposed contract modifications, including change orders; and contract claims prior to resolution thereof. Ultimately, the contents of solicitations, award of contracts, execution of contract modifications, and resolution of contract claims shall be exclusively within the control of the Government.

D. The Government, as it determines necessary, shall undertake actions associated with historic preservation, including, but not limited to, the identification and treatment of historic properties as those properties are defined in the National Historic Preservation Act (NHPA) of 1966, as amended. All costs incurred by the Government for such work (including the mitigation of adverse effects other than data recovery) shall be included in construction costs and shared in accordance with the provisions of this Agreement. If historic properties are discovered during construction and the effect(s) of construction are determined to be adverse, strategies shall be developed to avoid, minimize or mitigate these adverse effects. In accordance with 54 U.S.C. 312507, up to 1

percent of the total amount authorized to be appropriated for the Project may be applied toward data recovery of historic properties and such costs shall be borne entirely by the Government. In the event that costs associated with data recovery of historic properties exceed 1 percent of the total amount authorized to be appropriated for the Project, the Government and Non-Federal Sponsor shall consult with each other and reach an agreement on how to fund such data recovery costs. Upon agreement in accordance with 54 U.S.C. 312508, the Government may seek a waiver from the 1 percent limitation under 54 U.S.C. 312507.

E. When the District Engineer determines that construction of the Project, or a functional portion thereof, is complete, the District Engineer shall so notify the Non-Federal Sponsor in writing and the Non-Federal Sponsor, at no cost to the Government, shall operate, maintain, repair, rehabilitate, and replace the Project, or such functional portion thereof. The Government shall furnish the Non-Federal Sponsor with an Operation, Maintenance, Repair, Rehabilitation, and Replacement Manual (hereinafter the "OMRR&R Manual") and copies of all as-built drawings for the completed work.

1. The Non-Federal Sponsor shall conduct its operation, maintenance, repair, rehabilitation, and replacement responsibilities in a manner compatible with the authorized purpose of the Project and in accordance with applicable Federal laws and specific directions prescribed by the Government in the OMRR&R Manual and any subsequent updates or amendments thereto.

2. The Government may enter, at reasonable times and in a reasonable manner, upon real property interests that the Non-Federal Sponsor now or hereafter owns or controls to inspect the Project, and, if necessary, to undertake any work necessary to the functioning of the Project for its authorized purpose. If the Government determines that the Non-Federal Sponsor is failing to perform its obligations under this Agreement and the Non-Federal Sponsor does not correct such failures within a reasonable time after notification by the Government, the Government, at its sole discretion, may undertake any operation, maintenance, repair, rehabilitation, or replacement of the Project. No operation, maintenance, repair, rehabilitation, or replacement by the Government shall relieve the Non-Federal Sponsor of its obligations under this Agreement or preclude the Government from pursuing any other remedy at law or equity to ensure faithful performance of this Agreement.

F. Not less than once each year, the Non-Federal Sponsor shall inform affected interests of the extent of risk reduction afforded by the Project.

G. The Non-Federal Sponsor shall participate in and comply with applicable Federal floodplain management and flood insurance programs.

H. In accordance with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), the Non-Federal Sponsor shall prepare a floodplain management plan for the Project within one year after the effective date of this Agreement and shall implement such plan not later than one year after completion of

construction of the Project. The plan shall be designed to reduce the impacts of future flood events in the project area, including but not limited to, addressing those measures to be undertaken by non-Federal interests to preserve the level of flood risk reduction provided by such work. The Non-Federal Sponsor shall provide an information copy of the plan to the Government.

I. The Non-Federal Sponsor shall publicize floodplain information in the area concerned and shall provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with the Project.

J. The Non-Federal Sponsor shall prevent obstructions or encroachments on the Project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) that might reduce the level of flood risk reduction the Project affords, hinder operation and maintenance of the Project, or interfere with the Project's proper function.

K. The Non-Federal Sponsor shall not use Federal Program funds to meet any of its obligations under this Agreement unless the Federal agency providing the funds verifies in writing that the funds are authorized to be used for the Project. Federal program funds are those funds provided by a Federal agency, plus any non-Federal contribution required as a matching share therefor.

L. In carrying out its obligations under this Agreement, the Non-Federal Sponsor shall comply with all the requirements of applicable Federal laws and implementing regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964 (P.L. 88-352), as amended (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto; the Age Discrimination Act of 1975 (42 U.S.C. 6102); and the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Army Regulation 600-7 issued pursuant thereto.

M. In addition to the ongoing, regular discussions of the parties in the delivery of the Project, the Government and the Non-Federal Sponsor may establish a Project Coordination Team to discuss significant issues or actions. The Government's costs for participation on the Project Coordination Team shall not be included in construction costs that are cost shared but shall be included in calculating the Federal Participation Limit. The Non-Federal Sponsor's costs for participation on the Project Coordination Team shall not be included in construction costs that are cost shared and shall be paid solely by the Non-Federal Sponsor without reimbursement or credit by the Government.

N. Notwithstanding any other provision of this Agreement, the Non-Federal Sponsor shall be responsible for all costs in excess of the Federal Participation Limit.

O. The Non-Federal Sponsor may request in writing that the Government perform betterments or additional work on behalf of the Non-Federal Sponsor. Each request shall be subject to review and written approval by the Division Engineer for the

Northwestern Division. If the Government agrees to such request, the Non-Federal Sponsor, in accordance with Article VI.F., must provide funds sufficient to cover the costs of such work in advance of the Government performing the work.

ARTICLE III - REAL PROPERTY INTERESTS, PLACEMENT AREA IMPROVEMENTS, RELOCATIONS, AND COMPLIANCE WITH PUBLIC LAW 91-646, AS AMENDED

A. The Government, after consultation with the Non-Federal Sponsor, shall determine the real property interests needed for construction, operation, and maintenance of the Project. The Government shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of the real property interests that the Government determines the Non-Federal Sponsor must provide for construction, operation, and maintenance of the Project, and shall provide the Non-Federal Sponsor with a written notice to proceed with acquisition. The Non-Federal Sponsor shall acquire the real property interests and shall provide the Government with authorization for entry thereto in accordance with the Government's schedule for construction of the Project. The Non-Federal Sponsor shall ensure that real property interests provided for the Project are retained in public ownership for uses compatible with the authorized purposes of the Project.

B. The Government, after consultation with the Non-Federal Sponsor, shall determine the placement area improvements necessary for construction, operation, and maintenance of the Project, and shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such improvements and shall provide the Non-Federal Sponsor with a written notice to proceed with such improvements. The Non-Federal Sponsor shall construct the improvements in accordance with the Government's construction schedule for the Project.

C. The Government, after consultation with the Non-Federal Sponsor, shall determine the relocations necessary for construction, operation, and maintenance of the Project, and shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such relocations and shall provide the Non-Federal Sponsor with a written notice to proceed with such relocations. The Non-Federal Sponsor shall perform or ensure the performance of these relocations in accordance with the Government's construction schedule for the Project.

D. To the maximum extent practicable, not later than 30 calendar days after the Government provides to the Non-Federal Sponsor written descriptions and maps of the real property interests, placement area improvements, and relocations required for construction, operation, and maintenance of the Project, the Non-Federal Sponsor may request in writing that the Government acquire all or specified portions of such real

property interests, construct placement area improvements, or perform the necessary relocations. If the Government agrees to such a request, the Non-Federal Sponsor, in accordance with Article VI.F., must provide funds sufficient to cover the costs of the acquisitions, placement area improvements, or relocations in advance of the Government performing the work. The Government shall acquire the real property interests, construct the placement area improvements, and perform the relocations, applying Federal laws, policies, and procedures. The Government shall acquire real property interests in the name of the Non-Federal Sponsor except, if acquired by eminent domain, the Government shall convey all of its right, title and interest to the Non-Federal Sponsor by quitclaim deed or deeds. The Non-Federal Sponsor shall accept delivery of such deed or deeds. The Government's providing real property interests, placement area improvements, or performing relocations on behalf of the Non-Federal Sponsor does not alter the Non-Federal Sponsor's responsibility under Article IV for the costs of any cleanup and response related thereto.

E. As required by Sections 210 and 305 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended (42 U.S.C. 4630 and 4655), and Section 24.4 of the Uniform Regulations contained in 49 C.F.R. Part 24, the Non-Federal Sponsor assures that (1) fair and reasonable relocation payments and assistance shall be provided to or for displaced persons, as are required to be provided by a Federal agency under Sections 4622, 4623 and 4624 of Title 42 of the U.S. Code; (2) relocation assistance programs offering the services described in Section 4625 of Title 42 of the U.S. Code shall be provided to such displaced persons; (3) within a reasonable period of time prior to displacement, comparable replacement dwellings will be available to displaced persons in accordance with Section 4625(c)(3) of Title 42 of the U.S. Code; (4) in acquiring real property, the Non-Federal Sponsor will be guided, to the greatest extent practicable under State law, by the land acquisition policies in Section 4651 and the provision of Section 4652 of Title 42 of the U.S. Code; and (5) property owners will be paid or reimbursed for necessary expenses as specified in Sections 4653 and 4654 of Title 42 of the U.S. Code.

ARTICLE IV - HAZARDOUS SUBSTANCES

A. The Non-Federal Sponsor shall be responsible for undertaking any investigations to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA") (42 U.S.C. 9601-9675), that may exist in, on, or under real property interests required for construction, operation, and maintenance of the Project. However, for real property interests that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer provides the Non-Federal Sponsor with prior specific written direction, in which case the Non-Federal Sponsor shall perform such investigations in accordance with such written direction.

B. In the event it is discovered that hazardous substances regulated under CERCLA exist in, on, or under any of the required real property interests, the Non-Federal Sponsor and the Government, in addition to providing any other notice required by applicable law, shall provide prompt written notice to each other, and the Non-Federal Sponsor shall not proceed with the acquisition of such real property interests until the parties agree that the Non-Federal Sponsor should proceed.

C. If hazardous substances regulated under CERCLA are found to exist in, on, or under any required real property interests, the parties shall consider any liability that might arise under CERCLA and determine whether to initiate construction, or if already initiated, whether to continue construction, suspend construction, or terminate construction.

1. Should the parties initiate or continue construction, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response, including the costs of any studies and investigations necessary to determine an appropriate response to the contamination. Such costs shall be paid solely by the Non-Federal Sponsor without reimbursement or credit by the Government.

2. In the event the parties cannot reach agreement on how to proceed or the Non-Federal Sponsor fails to provide any funds necessary to pay for cleanup and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under this Article upon direction by the Government, the Government may suspend or terminate construction, but may undertake any actions it determines necessary to avoid a release of such hazardous substances.

D. The Non-Federal Sponsor and the Government shall consult with each other in an effort to ensure that responsible parties bear any necessary cleanup and response costs as defined in CERCLA. Any decision made pursuant to this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. As between the Government and the Non-Federal Sponsor, the Non-Federal Sponsor shall be considered the operator of the Project for purposes of CERCLA liability. To the maximum extent practicable, the Non-Federal Sponsor shall operate, maintain, repair, rehabilitate, and replace the Project in a manner that will not cause liability to arise under CERCLA.

ARTICLE V - CREDIT FOR REAL PROPERTY INTERESTS, PLACEMENT AREA IMPROVEMENTS, RELOCATIONS, AND IN-KIND CONTRIBUTIONS

A. The Government shall include in construction costs, and credit towards the Non-Federal Sponsor's share of such costs, the value of Non-Federal Sponsor provided real property interests, placement area improvements, and relocations, and the costs of in-

kind contributions determined by the Government to be required for construction, operation, and maintenance of the Project.

B. To the maximum extent practicable, no later than 6 months after it provides the Government with authorization for entry onto a real property interest or pays compensation to the owner, whichever occurs later, the Non-Federal Sponsor shall provide the Government with documents sufficient to determine the amount of credit to be provided for the real property interest in accordance with paragraphs C.1. of this Article. To the maximum extent practicable, no less frequently than on a biannual basis, the Non-Federal Sponsor shall provide the Government with documentation sufficient for the Government to determine the amount of credit to be provided for other creditable items in accordance with paragraph C. of this Article.

C. The Government and the Non-Federal Sponsor agree that the amount of costs eligible for credit that are allocated by the Government to construction costs shall be determined and credited in accordance with the following procedures, requirements, and conditions. Such costs shall be subject to audit in accordance with Article X.B. to determine reasonableness, allocability, and allowability of costs.

1. Real Property Interests.

a. General Procedure. The Non-Federal Sponsor shall obtain, for each real property interest, an appraisal of the fair market value of such interest that is prepared by a qualified appraiser who is acceptable to the parties. Subject to valid jurisdictional exceptions, the appraisal shall conform to the Uniform Standards of Professional Appraisal Practice. The appraisal must be prepared in accordance with the applicable rules of just compensation, as specified by the Government.

(1) Date of Valuation. For real property interests owned by the Non-Federal Sponsor on the effective date of this Agreement, the date the Non-Federal Sponsor provides the Government with authorization for entry thereto shall be used to determine the fair market value, except for such real property interests for in-kind contributions covered by an In-Kind Memorandum of Understanding, the date of initiation of construction shall be used to determine the fair market value. The fair market value of real property interests acquired by the Non-Federal Sponsor after the effective date of this Agreement shall be the fair market value of such real property interests at the time the interests are acquired.

(2) Except for real property interests acquired through eminent domain proceedings instituted after the effective date of this Agreement, the Non-Federal Sponsor shall submit an appraisal for each real property interest to the Government for review and approval no later than, to the maximum extent practicable, 60 calendar days after the Non-Federal Sponsor provides the Government with an authorization for entry for such interest or concludes the acquisition of the interest through negotiation or eminent domain proceedings, whichever occurs later. If, after coordination and consultation with the Government, the Non-Federal Sponsor is unable

to provide an appraisal that is acceptable to the Government, the Government shall obtain an appraisal to determine the fair market value of the real property interest for crediting purposes.

(3) The Government shall credit the Non-Federal Sponsor the appraised amount approved by the Government. Where the amount paid or proposed to be paid by the Non-Federal Sponsor exceeds the approved appraised amount, the Government, at the request of the Non-Federal Sponsor, shall consider all factors relevant to determining fair market value and, in its sole discretion, after consultation with the Non-Federal Sponsor, may approve in writing an amount greater than the appraised amount for crediting purposes.

b. Eminent Domain Procedure. For real property interests acquired by eminent domain proceedings instituted after the effective date of this Agreement, the Non-Federal Sponsor shall notify the Government in writing of its intent to institute such proceedings and submit the appraisals of the specific real property interests to be acquired for review and approval by the Government. If the Government provides written approval of the appraisals, the Non-Federal Sponsor shall use the amount set forth in such appraisals as the estimate of just compensation for the purpose of instituting the eminent domain proceeding. If the Government provides written disapproval of the appraisals, the Government and the Non-Federal Sponsor shall consult to promptly resolve the issues that are identified in the Government's written disapproval. In the event the issues cannot be resolved, the Non-Federal Sponsor may use the amount set forth in its appraisal as the estimate of just compensation for purpose of instituting the eminent domain proceeding. The fair market value for crediting purposes shall be either the amount of the court award for the real property interests taken or the amount of any stipulated settlement or portion thereof that the Government approves in writing.

c. Waiver of Appraisal. Except as required by paragraph C.1.b. of this Article, the Government may waive the requirement for an appraisal pursuant to this paragraph if, in accordance with 49 C.F.R. Section 24.102(c)(2):

(1) the owner is donating the property to the Non-Federal Sponsor and releases the Non-Federal Sponsor in writing from its obligation to appraise the property, and the Non-Federal Sponsor submits to the Government a copy of the owner's written release; or

(2) the Non-Federal Sponsor determines that an appraisal is unnecessary because the valuation problem is uncomplicated and the anticipated value of the property proposed for acquisition is estimated at $10,000 or less, based on a review of available data. When the Non-Federal Sponsor determines that an appraisal is unnecessary, the Non-Federal Sponsor shall prepare the written waiver valuation required by 49 C.F.R. Section 24.102(c)(2) and submit a copy thereof to the Government for approval.

d. Incidental Costs. The Government shall include in construction costs and credit towards the Non-Federal Sponsor's share of such costs, the incidental costs the Non-Federal Sponsor incurred in acquiring any real property interests required pursuant to Article III for construction, operation, and maintenance of the Project within a five-year period preceding the effective date of this Agreement, or at any time after the effective date of this Agreement, that are documented to the satisfaction of the Government. Such incidental costs shall include closing and title costs, appraisal costs, survey costs, attorney's fees, plat maps, mapping costs, actual amounts expended for payment of any relocation assistance benefits provided in accordance with Article III.E., and other payments by the Non-Federal Sponsor for items that are generally recognized as compensable, and required to be paid, by applicable state law due to the acquisition of a real property interest pursuant to Article III.

2. Placement Area Improvements. The Government shall include in construction costs and credit towards the Non-Federal Sponsor's share of such costs, the value of placement area improvements required for construction, operation, and maintenance of the Project. The value shall be equivalent to the costs, documented to the satisfaction of the Government, that the Non-Federal Sponsor incurred to provide any placement area improvements required for construction, operation, and maintenance of the Project. Such costs shall include, but not necessarily be limited to, actual costs of constructing the improvements; planning, engineering, and design costs; supervision and administration costs; and documented incidental costs associated with providing the improvements, but shall not include any costs associated with betterments, as determined by the Government.

3. Relocations. The Government shall include in construction costs and credit towards the Non-Federal Sponsor's share of such costs, the value of any relocations performed by the Non-Federal Sponsor that are directly related to construction, operation, and maintenance of the Project.

a. For a relocation other than a highway, the value shall be only that portion of relocation costs that the Government determines is necessary to provide a functionally equivalent facility, reduced by depreciation, as applicable, and by the salvage value of any removed items.

b. For a relocation of a highway, which is any highway, roadway, or street, including any bridge thereof, that is owned by a public entity, the value shall be only that portion of relocation costs that would be necessary to accomplish the relocation in accordance with the design standard that the State of Nebraska would apply under similar conditions of geography and traffic load, reduced by the salvage value of any removed items.

c. Relocation costs include actual costs of performing the relocation; planning, engineering, and design costs; supervision and administration costs; and documented incidental costs associated with performance of the relocation, as determined by the Government. Relocation costs do not include any costs associated

with betterments, as determined by the Government, nor any additional cost of using new material when suitable used material is available.

4. In-Kind Contributions. The Government shall include in construction costs and credit towards the Non-Federal Sponsor's share of such costs, the value of in-kind contributions that are integral to design, construction, operation, and maintenance of the Project.

a. The value shall be equivalent to the costs, documented to the satisfaction of the Government, that the Non-Federal Sponsor incurred to provide the in-kind contributions. Such costs shall include, but not necessarily be limited to, actual costs of constructing the in-kind contributions; engineering and design costs; supervision and administration costs; and documented incidental costs associated with providing the in-kind contributions, but shall not include any costs associated with betterments, as determined by the Government. Appropriate documentation includes invoices and certification of specific payments to contractors, suppliers, and the Non-Federal Sponsor's employees.

b. No credit shall be afforded for interest charges, or any adjustment to reflect changes in price levels between the time the in-kind contributions are completed and credit is afforded; for the value of in-kind contributions obtained at no cost to the Non-Federal Sponsor; for any in-kind contributions performed prior to the effective date of this Agreement unless covered by an In-Kind Memorandum of Understanding between the Government and Non-Federal Sponsor; or for costs that exceed the Government's estimate of the cost for such in-kind contributions if they had been provided by the Government.

5. Compliance with Federal Labor Laws. Any credit afforded under the terms of this Agreement is subject to satisfactory compliance with applicable Federal labor laws covering non-Federal construction, including, but not limited to, 40 U.S.C. 3141-3148 and 40 U.S.C. 3701-3708 (labor standards originally enacted as the Davis-Bacon Act, the Contract Work Hours and Safety Standards Act, and the Copeland Anti-Kickback Act), and credit may be withheld, in whole or in part, as a result of the Non-Federal Sponsor's failure to comply with its obligations under these laws.

D. Notwithstanding any other provision of this Agreement, the Non-Federal Sponsor shall not be entitled to credit for real property interests that were previously provided as an item of local cooperation for another Federal project or for costs associated with betterments or additional work.

ARTICLE VI – PAYMENT OF FUNDS

A. As of the effective date of this Agreement, construction costs are projected to be $14,288,000, with the Government's share of such costs projected to be $9,287,200 and the Non-Federal Sponsor's share of such costs projected to be $5,000,800, which includes the 5 percent contribution of funds projected to be $714,400, costs for creditable

real property interests, relocations, and placement area improvements projected to be $1,743,000, costs for creditable in-kind contributions projected to be $200,000, and the additional amount of funds required to meet the minimum 35 percent cost share projected to be $2,343,400. Costs for additional work are projected to be $150,000, and costs for betterments are projected to be $500,000. These amounts are estimates only that are subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Non-Federal Sponsor.

B. The Government shall provide the Non-Federal Sponsor with quarterly reports setting forth the estimated construction costs and the Government's and Non-Federal Sponsor's estimated shares of such costs; costs incurred by the Government, using both Federal and Non-Federal Sponsor funds, to date; the amount of funds provided by the Non-Federal Sponsor to date; the estimated amount of any creditable real property interests, placement area improvements, and relocations; the estimated amount of any creditable in-kind contributions; and the estimated amount of funds required from the Non-Federal Sponsor during the upcoming fiscal year.

C. The Non-Federal Sponsor shall provide the funds required to meet its share of construction costs by delivering a check payable to "FAO, USAED, OMAHA DISTRICT (G6)" to the District Engineer, or verifying to the satisfaction of the Government that the Non-Federal Sponsor has deposited such required funds in an escrow or other account acceptable to the Government, with interest accruing to the Non-Federal Sponsor, or by providing an Electronic Funds Transfer of such required funds in accordance with procedures established by the Government.

D. The Government shall draw from the funds provided by the Non-Federal Sponsor to cover the non-Federal share of construction costs as those costs are incurred. If the Government determines at any time that additional funds are needed from the Non-Federal Sponsor to cover the Non-Federal Sponsor's required share of such construction costs, the Government shall provide the Non-Federal Sponsor with written notice of the amount of additional funds required. Within 60 calendar days from receipt of such notice, the Non-Federal Sponsor shall provide the Government with the full amount of such additional required funds.

E. Upon conclusion of construction and resolution of all relevant claims and appeals and eminent domain proceedings, the Government shall conduct a final accounting and furnish the Non-Federal Sponsor with the written results of such final accounting. Should the final accounting determine that additional funds are required from the Non-Federal Sponsor, the Non-Federal Sponsor, within 60 calendar days of receipt of written notice from the Government, shall provide the Government with the full amount of such additional required funds. Such final accounting does not limit the Non-Federal Sponsor's responsibility to pay its share of construction costs, including contract claims or any other liability that may become known after the final accounting. If the final accounting determines that funds provided by the Non-Federal Sponsor exceed the amount of funds required to meet its share of construction costs, the Government shall refund such excess amount, subject to the availability of funds for the

refund. In addition, if the final accounting determines that the Non-Federal Sponsor's credit for real property interests, placement area improvements, and relocations combined with credit for in-kind contributions exceed its share of construction costs for the Project, the Government, subject to the availability of funds, shall enter into a separate agreement to reimburse the difference to the Non-Federal Sponsor.

F. If there are real property interests, placement area improvements, relocations, additional work, or betterments provided on behalf of the Non-Federal Sponsor, the Government shall provide written notice to the Non-Federal Sponsor of the amount of funds required to cover such costs. No later than 30 calendar days of receipt of such written notice, the Non-Federal Sponsor shall make the full amount of such required funds available to the Government by delivering a check payable to "FAO, USAED, OMAHA DISTRICT (G6)" to the District Engineer, or by providing an Electronic Funds Transfer of such funds in accordance with procedures established by the Government. If at any time the Government determines that additional funds are required to cover such costs, the Non-Federal Sponsor shall provide those funds within 30 calendar days from receipt of written notice from the Government.

ARTICLE VII - TERMINATION OR SUSPENSION

A. If at any time the Non-Federal Sponsor fails to fulfill its obligations under this Agreement, the Government may suspend or terminate construction of the Project unless the Assistant Secretary of the Army (Civil Works) determines that continuation of such work is in the interest of the United States or is necessary in order to satisfy agreements with other non-Federal interests.

B. If the Government determines at any time that the Federal funds made available for construction of the Project are not sufficient to complete such work, the Government shall so notify the Non-Federal Sponsor in writing, and upon exhaustion of such funds, the Government shall suspend construction until there are sufficient funds appropriated by the Congress and funds provided by the Non-Federal Sponsor to allow construction to resume.

C. If hazardous substances regulated under CERCLA are found to exist in, on, or under any required real property interests, the parties shall follow the procedures set forth in Article IV.

D. In the event of termination, the parties shall conclude their activities relating to design and construction of the Project. To provide for this eventuality, the Government may reserve a percentage of available funds as a contingency to pay the costs of termination, including any costs of resolution of real property acquisition, resolution of contract claims, and resolution of contract modifications.

E. Any suspension or termination shall not relieve the parties of liability for any obligation incurred. Any delinquent payment owed by the Non-Federal Sponsor pursuant

to this Agreement shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13 week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3 month period if the period of delinquency exceeds 3 months.

ARTICLE VIII - HOLD AND SAVE

The Non-Federal Sponsor shall hold and save the Government free from all damages arising from design, construction, operation, maintenance, repair, rehabilitation, and replacement of the Project, except for damages due to the fault or negligence of the Government or its contractors.

ARTICLE IX - DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to the parties. Each party shall pay an equal share of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

ARTICLE X - MAINTENANCE OF RECORDS AND AUDITS

A. The parties shall develop procedures for the maintenance by the Non-Federal Sponsor of books, records, documents, or other evidence pertaining to costs and expenses for a minimum of three years after the final accounting. The Non-Federal Sponsor shall assure that such materials are reasonably available for examination, audit, or reproduction by the Government.

B. The Government may conduct, or arrange for the conduct of, audits of the Project. Government audits shall be conducted in accordance with applicable Government cost principles and regulations. The Government's costs of audits shall not be included in construction costs, but shall be included in calculating the Federal Participation Limit.

C. To the extent permitted under applicable Federal laws and regulations, the Government shall allow the Non-Federal Sponsor to inspect books, records, documents, or other evidence pertaining to costs and expenses maintained by the Government, or at the request of the Non-Federal Sponsor, provide to the Non-Federal Sponsor or independent auditors any such information necessary to enable an audit of the Non-Federal Sponsor's activities under this Agreement. The costs of non-Federal audits shall

be paid solely by the Non-Federal Sponsor without reimbursement or credit by the Government.

ARTICLE XI - RELATIONSHIP OF PARTIES

In the exercise of their respective rights and obligations under this Agreement, the Government and the Non-Federal Sponsor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other. Neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights a party may have to seek relief or redress against that contractor.

ARTICLE XII - NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally or mailed by registered or certified mail, with return receipt, as follows:

If to the Non-Federal Sponsor:
General Manager
Lower Platte South Natural Resource District
3125 Portia Street
Lincoln, NE 68501

If to the Government:
District Engineer
Omaha District
1616 Capitol Avenue Suite 9000
Omaha, NE 68102-4901

B. A party may change the recipient or address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

ARTICLE XIII - CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XIV - THIRD PARTY RIGHTS, BENEFITS, OR LIABILITIES

Nothing in this Agreement is intended, nor may be construed, to create any rights, confer any benefits, or relieve any liability, of any kind whatsoever in any third person not a party to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the District Engineer.

DEPARTMENT OF THE ARMY

BY: _____

John L. Hudson, P.E.
Colonel, Corps of Engineers
District Engineer

DATE: 3 Dec 2018

Lower Platte South Natural Resource District

BY: _____

Paul Zillig
General Manager, Lower Platte South Natural Resource District

DATE: Nov. 14, 2018

Attachment "A"

INTERLOCAL COOPERATION AGREEMENT

DEADMANS RUN FLOOD REDUCTION PROJECT

This Interlocal Cooperation Agreement ("Agreement") is made and entered into on this 9th day of November 2018 by and between **the City of Lincoln, Nebraska,** a municipal corporation ("City"), 555 North 10th Street, Lincoln, NE 68508, and **the Lower Platte South Natural Resources District,** a political subdivision of the State of Nebraska ("NRD"), 3215 Portia St, Lincoln, NE 68521, hereinafter individually sometimes referred to as a "Party" and collectively as the "Parties.")

WITNESSETH:

RECITALS

A. The Parties are authorized by the statutes of the State of Nebraska, including the Interlocal Cooperation Act, Neb. Rev. Stat. §13-801 et. seq., as amended, to enter into cooperative agreements for the mutual benefit of the Parties and to provide services in a manner that will accord best with geographic, economic, population, and other factors influencing the needs and development of local communities;

B. The Parties have a common interest in the management of storm water, the protection of property, and the safety of the public, that may result from flooding in the City of Lincoln;

C. The Parties agree that the risk of flooding in the Deadman's Run Watershed is a real threat and actions by the Parties are needed to reduce the risk of flooding;

D. Deadman's Run Watershed is within the boundaries of the City and the NRD.

E. The Parties desire to work together to implement projects to reduce flooding in the Deadman's Run Watershed;

F. The Parties equally shared the cost of preparing the Deadman's Run Basin Master Plan ("Plan") during the years 2006 and 2007, utilizing an 18 member Advisory Committee that updated floodplain maps and developed solutions to the flooding problems along Deadman's Run;

G. The Parties approved the Plan in the years 2007 and 2008 which identified approximately $50,000,000 of improvements to reduce flood damages;

H. The Parties worked with the U.S. Army Corps of Engineers ("Corps") during the period of 2008 to 2014 to obtain approval of the potential projects identified in the Plan;

I. The Parties in 2014 agreed to equally share the cost of the Corps 3-year Section 205 Feasibility Study on flooding in the Deadman's Run Watershed (the "Study"), with the NRD serving as the lead "non-federal sponsor";

J. Between 2014 and 2018 at least 3 public meetings were held, informing the public of the status of the Study and to receive public comments/input;

K. In 2018, the Parties and the Corps identified a $25,500,000 flood reduction project that would greatly reduce the flood threat to a majority of the Deadman's Run Watershed, called the Deadman's Run Flood Reduction Project (the "Project');

L. The Project includes a $15,000,000 Section 205 Corps Project and $10,500,000 Local Project;

M. The Parties desire to work together under the auspices of the Interlocal Cooperation Agreement Act and desire to equally share the cost of the Local Project and the local part of the Section 205 Corps Project, in accordance with the terms, conditions, and guidance of this Agreement.

NOW, THEREFORE, in consideration of the above Recitals and the mutual promises and covenants contained herein the Parties agree as follows:

1. Purpose.

The purpose of this Agreement is to protect the public interest by reducing future flood damages within the City of Lincoln thereby saving lives and damages to public and private property and businesses located within the floodplain. Other projects within the Plan may be the subject of future amendments to this Agreement. No separate legal or administrative entity is created under this Agreement. .

2. Duration.

This Agreement shall expire on December 31, 2025 unless mutually extended by the Parties. Prior to the expiration of this Agreement, the Parties intend to agree on an Operation & Maintenance Agreement for the Deadman's Run Flood Reduction Project, which will provide for all operations and maintenance responsibilities for the Project.

3. Project Components.

The Deadman's Run Flood Reduction Project ("Project") includes a Section 205 Corps Project in the amount of $15,000,000 and a Local Project in the amount of $10,500,000. The major project components for each project to be undertaken by this Agreement include:

a. Section 205 Corps Project
   i. Conveyance Channel
   ii. Concrete Flume at railroad bridges
   iii. Baldwin Street Termination
   iv. Access Road Relocation at State Fair Park Drive
b. Parties Local Project
   i. 33rd Street Bridge (City bridge)
   ii. 38th Street Bridge (UNL bridge)
   iii. 48th Street Bridge (City bridge)
   iv. Fleming Fields Detention Basin

Each Project Component will include design, permitting, land acquisitions, construction observation, construction, and operation & maintenance.

4. Project Management.

Coordination of both the Section 205 Corps Project and the Local Projects will require extensive planning, coordination, and communication. The agreed upon manager for local projects will lead the local efforts necessary to successfully complete the Project, including but not limited to design, constructability schedule, land acquisitions, construction documents, bidding, and construction. A project management team to assist the Project Manager will be agreed upon by the Parties and consist of staff from the Parties.

5. Financial Management.

The City shall serve as the Administrator for this Agreement and the Project and will administer all financial accounting and records for the Parties. Local Project costs will include all work related to the completion of the 33rd Street Bridge, the 38th Street Bridge, the 48th Street Bridge, the Fleming Fields Detention Basin, work-in-kind services for the Section 205 Corps Project, the cost of project management, the cost of financial management, and other related costs. .

The Parties shall review on a quarterly basis the financial status of the Project and local funds expended by the Parties. If requested by either Party, the other Party shall forward funds to the Administrator in order to maintain an equal split of the costs of the Local Project including the local costs of the Section 205 Corps Project.

6. Funding Assistance.

The Section 205 Corps Project will be managed and constructed by the Corps with a total cost of $15,000,000. Each Party shall provide one half (1/2) of the local cost share amounting to $2,500,000 each. The local cost share of each Party may include cash or work-in-kind services approved by the Corps.

The $10,500,000 Local Project will not receive Corps funding assistance. The NRD will apply for Nebraska Water Sustainability Funding (WSF) assistance and the NRD and City will consider applying for other funding assistance. Any and all additional funding assistance received will be credited to the total locally funded portion of the Project and 50% of any additional funding assistance received will be credited by the Administrator to each Party.

7. City Responsibilities.

The City shall:

(a) Serve as the financial administrator for the Project ("Administrator");

(b) Provide the Project Manager (Kris Humphrey);

(c) Contribute one half (1/2) of the cost share of the Local Project;

(d) Contribute one half (1/2) of the local share of the Section 205 Corps Project;

(e) Obtain the design, permits, bidding, and construction of the 33rd & 48th Street Bridges;

(f) Maintain the 33rd & 48th Street Bridges;

(g) Provide the acquisition efforts, subject to (c) and (d) above for all private right-of-way; and

(h) Assist the NRD in the acquisition or use of public right-of-way, subject to (c) and (d) above.

8. NRD Responsibilities.

The NRD shall:

(a) Contribute one half (1/2) of the cost share of the Local Project;

(b) Contribute one half (1/2) of the local share of the Section 205 Corps Project;

(c) Serve as the local project sponsor for the Section 205 Corps Project;

(d) Contract for survey and geotechnical sampling for the Section 205 Corps Project;

(e) Contract with UNL to model the concrete flume for the Section 205 Corps Project, if needed.

(f) Enter into an agreement with UNL for the 38th Street Bridge component of the Local Project and land acquisitions for the Project;

(g) Apply for Water Sustainability funding from the Natural Resources Commission;

(h) Obtain the design, permits, bidding, and construction of the Fleming Field Detention Basin; and

(i) Operate and maintain the Fleming Field Detention Basin.

9. Terms

(a) **Hold Harmless**. Each Party agrees to save and hold harmless, to the fullest extent allowed by law, the other Party and its principals, officers, and employees from and against all claims, demands, suits, actions, payments, liabilities, judgments and expenses (including court- ordered attorneys' fees), arising out of or resulting from the negligent or wrongful acts or omissions of their principals, officers, or employees in the performance of this Agreement. Liability includes any claims, damages, losses, and expenses arising out of or resulting from performance of this Agreement that results in any claim for damage whatsoever including any bodily injury, civil rights liability, sickness, disease, or damage to or destruction of tangible property, including the loss of use resulting therefrom, Further, each Party shall maintain a policy or policies of insurance (or a self-insurance program), sufficient in coverage and amount to pay any judgments or related expenses from or in conjunction with any such claims. Nothing in this Agreement shall require either Party to indemnify or hold harmless the other Party from liability for the negligent or wrongful acts or omissions of said other Party or its

principals, officers, or employees.

(b) **Contractors and Subcontractors.** Each Party agrees to require any contractors or subcontractors, providing services under this Agreement, to indemnify and hold the Parties harmless to the same extent and as provided in subsection (a) above. .

(c) **Severability.** If any portion of this Agreement is held invalid, the remainder hereof shall not be affected thereby if such remainder would then continue to conform to the terms and requirements of applicable law.

(d) **Equal Employment Opportunity.** In connection with the carrying out of the activities provided herein, neither Party shall discriminate against a bidder or employee because of race, color, religion, sex, disability, national origin, age, marital status or receipt of public assistance.

Each Party further agrees that it shall require its contractors or subcontractors, providing services under this Agreement, to agree to the following clause by including it in its contractor and subcontractor agreements:

(e) **Independent Contractor.** It is the express intent of the Parties that this Agreement shall not create an employer-employee relationship, and the Contractor, or any employees or other persons acting on behalf of the Contractor in the performance of this Agreement, shall be deemed to be independent contractor(s) during the entire term of this Agreement or any renewals thereof. It is agreed between the Parties that the designated staff shall at all times continue to be employees, of the Contractor for the duration of the Agreement. The Contractor shall be responsible for all salary and benefits payable under this Agreement and the Contractor's employees shall not be entitled to any salary from either Party or to any benefits made to either Party's employees, including, but not limited to, overtime, vacation, retirement benefits, workers' compensation, sick

leave or injury leave. The Contractor shall also be responsible for maintaining workers' compensation insurance, unemployment insurance and any applicable malpractice insurance coverage for its employees, and for payment of all federal, state, local and any other payroll taxes with respect to the employee's compensation.

(i) The District shall require any contractors or subcontractors, providing services under this Agreement, to agree to the insurance clause to be used for all contracts, as provided in Exhibit "A" attached hereto and incorporated by this reference.

(ii) The Contractor shall not commence work under this Agreement until it has obtained all insurance required pursuant to Exhibit "A" and has provided each Party with a Certificate of Insurance showing the specific limits of insurance required by Exhibit "A" and showing the Parties as additional insured. Such certificate shall specifically state that Insurance policies are to be endorsed to require the insurer to provide the each Party thirty (30) days-notice of cancellation, non-renewal of any material reduction of insurance coverage.

(iii) It is expressly understood by each Party that budgetary or fund limitations may limit their ability to comply with all or part of this Agreement. If either Party experiences budgetary or fund limitations which interferes with their ability to comply with all or part of this Agreement, such Party will immediately notify the other Party and the Parties shall in good faith mutually decide how they will proceed to fulfill their obligations under this Agreement.

(iv) This Agreement constitutes the entire agreement between the Parties with

respect to the subject matter herein and merges all prior discussions between them. It shall not be modified except by written agreement dated subsequent to the date of this Agreement and signed by both Parties.

(v) The Parties shall financially contribute one half (1/2) each to the payment of expenses associated with land acquisitions.

(vi) Either Party has the right to terminate this Agreement if the other party fails to perform as required by this Agreement. Termination for failure to perform shall be effective only after the non-breaching party provides written notice to the breaching party of the failure to perform ninety (90) days in advance of termination and allows the breaching party an opportunity to cure during that time period. If one or more of the parties lacks sufficient funding for this Project, each party has the right to terminate this Agreement. Either party may also terminate this Agreement for any reason for its own convenience. Termination for convenience or lack of funding shall be effective only after terminating party provides written notice six (6) months in advance of the effective date and after the parties meet to discuss options for termination of the Agreement. Termination shall require a formal vote by the board or council of the party initiating the termination in order to be effective. Each party shall be responsible for its share of accumulated cost of the Project up to the time of termination.

11. Acquisition of Land and/or Easements.

The Parties agree that the City will acquire all necessary land acquisitions with the exception of the land acquisitions from UNL, which will be obtained by agreement between the Parties in addition to other services required for the Project. Upon completion of the Project all land or easements acquired will be transferred to the appropriate sponsor.

12. Amendments.

This Agreement may be amended by mutual consent of the Parties. Any amendments to this Agreement must be in writing.

13. Governing Law and Interpretation.

This Agreement shall be subject to the laws of the State of Nebraska and ordinances of the City. Any uncertainty or ambiguity existing herein shall not be interpreted against either Party because such Party prepared any portion of this Agreement, but shall be interpreted according to the application of rules and interpretation of contracts generally. The invalidity of any portion of this Agreement shall not invalidate the remaining provisions. This Agreement shall be binding upon and inure to the benefit of the Parties hereto, and their respective successors and assigns. The Parties agree to comply with fair employment and fair labor standards under Nebraska and federal law and with federal immigration verification system standards under Nebraska law.

14. Capacity.

The undersigned do hereby agree and represent that he or she is legally capable to sign this Agreement and to lawfully bind his or her represented party to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date opposite their respective signatures.

CITY OF LINCOLN, NEBRASKA,
A Municipal corporation,

DATED: Nov 9, 2018 BY: _____

Chris Beutler, Mayor
City of Lincoln

DATED: October 17, 2018 BY: _____

Paul Zillig, General Manager
Lower Platte South Natural Resources District

EXHIBIT "A"

Each subcontractor shall purchase and maintain during the life of this Agreement the following types of insurance: (1) General Liability [$1,000,000.00] Per Occurrence – General Aggregate [$2,000,000.00], Products – Comp/OPS Aggregate [$2,000,000.00], Personal and Advertising Injury [$1,000,000.00], Fire Damage (any one fire) [$50,000.00], Medical Expense (any one person) [$5,000.00]; (2) Automobile Liability – Bodily Injury and Property Damage Liability Including owned, non-owned, and hired autos, Combined single limit [$1,000,000.00]; and (3) Worker's Compensation and Employer's Liability, Statutory Limits.

Each subcontractor shall furnish a certificate of insurance with liability limits shown above with The City of Lincoln, Nebraska and the Lower Platte South Natural Resources District to be named as an additional insureds and a Waiver of Subrogation in favor of the City of Lincoln, Nebraska and the Lower Platte South Natural Resources District.

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LOWER PLATTE SOUTH
natural resources district

FYRA
ENGINEERING

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Section A-6, B-1.A.2, B-1.A.8, B-1.A.9, B-3.C, B-7, C-6,

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