

Projects Committee Meeting
Thursday, September 30, 2021 7:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS

None

2. SWCP

A. SWCP Application Approvals

B.	21- S- 10	C.	SEC. 28- 15-6 (WAHOO)	D.	TAYLOR MURREN	E.	\$ 12,500 .01	F.	wASCB TO
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G. SWCP Payments

None

H. SWCP Cancellations

None

I. Wahoo Creek Cost Share Approvals

None

3. WATERSHEDS

A. Shell Creek

1. Shell Creek Environmental Enhancement Plan Implementation

We will be using the remaining FY 2022 , EPA 319 grant funding (\$390,480) and NET funding (\$13,989) for the Shell Creek Channel Improvement/benching project, updating the Shell Creek Water Quality Plan, technical landowner project assistance (Bill Bos) and landowner conservation projects.

Attached is JEO's September 23, 3021, \$4,500 invoice for contract work completed for updating the Shell Creek Watershed Water Quality Plan. After this payment, \$1,817.50 will remain under contract.

a. Shell Creek Grant Funding Update

No new information. We will be using the remaining FY 2022 , EPA 319 grant funding (\$390,480) and NET funding (\$13,989) for various projects in the Shell Creek Watershed as mentioned above.

b. Shell Creek South Branch Project Payment

As mentioned above, one of the major Shell Creek projects in FY 2022 is the Shell Creek South Channel Improvement/Benching Project. Attached is Pruss Construction's \$60,710 invoice to Colfax County for work completed to date. LPNNRD has an Interlocal Agreement (attached) with Colfax County to reimburse them for all project construction and they are covering all engineering expenses. LPNNRD will be reimbursed for 100% of this

expense. The UP Railroad has completed their bridge replacement project near county road 15 and the remainder of the South channel/benching work will be completed after fall harvest. SWIG group members, Colfax County representatives and landowners met at Bailey's shop on October 1st to coordinate plans for completing the remaining work.

c. Shell Creek Environmental Enhancement Plan Practice Application

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B. Wahoo Creek Watershed

1. Wahoo Creek Dam Site Planning Update & FYRA Invoices

FYRA continued to work on the Wahoo Creek Watershed Plan that was submitted to NRCS in Little Rock Ak. Attached is their September 14, 2021, invoice totaling \$5,380. After this payment, \$18,975.25 will remain under contract.

2. Wahoo Creek Watershed Water Quality Plan Phase II

Attached is JEO's September 23rd Invoice totaling \$4,500 for contract work to update the Wahoo Creek Watershed Water Quality Implementation Plan. After this payment, \$11,060.50 will remain under contract. This expense will be reimbursed by NDEE from EPA 319 grant funds.

3. Olsson Design Update and Invoice

No activities to report. As mentioned in the past, Olsson is on hold until the Wahoo Creek Watershed Plan is approved by NRCS, which will hopefully be this fall.

4. Wahoo Creek Stakeholder Meeting

On September 21 a meeting was held at the LPNNRD office involving the various shareholders involved in the Wahoo Creek Water Quality initiative. Attending the meeting were representatives from the LPNNRD, NRCS, NDEE, UNL, and local landowners/producers.

Renee Hancock (NRCS State Water Quality Specialist) gave an update on her watershed analysis. She noted numerous, smaller, livestock operations with more being located in the northern areas of the watershed. She also noted the prominence of open discharge septic systems.

Elbert Traylor (NDEE) provided funding guidance, as well as, focusing the group on specific goals; i.e. E. coli and atrazine loads

The local landowner group, led by Director Sabatka will be tasked going forward with setting up a list of goals and meetings.

4. JOINT WATER MANAGEMENT ADVISORY BOARD

A. Rawhide Creek Work Plan-Environmental Assessment Kickoff Meeting

On September 22, Elliott, Mountford along with directors Saeger & Olson participated in the Rawhide Creek Work Plan-Environmental Assessment Kickoff Meeting with JEO. JEO representatives discussed their steps for completing the

assessment over the coming months (meeting agenda attached). While Dodge County is the contracting entity for completing this work, LPNNRD will be very involved assisting JEO and Dodge County in this effort.

B. Platte River Cameras/Gauges Project Update

Dodge County, LPNNRD and PMRNRD have approved the Interlocal Agreement, with only the City of Fremont's approval remaining, on moving forward with establishing up to five cameras and two additional water gauges on the Platte River. Our plan to have LPNNRD sign the agreement with USGS sometime next week after all local signatures are obtained. We are hoping to have a partner meeting the week of October 11th to begin finalizing locations and other details for getting equipment established.

C. Elkhorn Township East Fremont Project Evaluation

As reported in the past, JEO has been hired to address improvement to the drainage system east of Fremont. Elliott and Mountford accompanied JEO on September 30 to inspect many of the ditches and our completed Merlyn England Flood Control Project.

5. EROSION AND SEDIMENT RULES AND REGULATIONS

No new complaints.

6. OTHER

A. Woodcliff (SID No. 8) Additional Project Assistance - 7:30 a.m.

As discussed at the September 2 Projects Committee Meeting,, SID No. 8 presented their latest project assistance request for a new bank stabilization project at Woodcliff Lakes (attachments). Their request is for up to 50% of the total project cost of \$216,185, or \$108,092.50. Kelly Thompson, Lon Olson, Bill Saeger, Jerry Johnson, Sean Elliott and Tom Mountford toured the Woodcliff project area on September 22nd led by Project Engineer, Jake Miyosky, JEO. Jake joined the Projects Committee to discuss SID No. 8's assistance request.

B. FY 2022 Long Range Plan Final Input

We are requesting any final comments on our FY22 Long Range Plan which will be presented for approval at the October 11th Board Meeting. Attached is the latest draft for your review.

7. ADJOURNMENT

The Projects Committee adjourned at 8:43 a.m.



Invoice

September 23, 2021

Project No: R210166.00

Invoice No: 127561

Invoice Amount: 4,500.00

Lower Platte North NRD
511 Commercial Park Road
PO Box 126
Wahoo, NE 68066

Project Manager Adam Rupe

Project R210166.00 Lower Platte North NRD: Shell Creek Watershed Plan Update

Professional Services through September 17, 2021

Progress Report attached.

	Contract Amount	Percent Complete	Billed-to-Date	Previous Billing	Current Billing
Lump Sum Phase(s)					
Task 1: Evaluate Water Quality Data	\$4,540.00	100 %	\$4,540.00	\$4,540.00	0.00
Task 2: Quantify Pollutant Loads	\$13,240.00	85 %	\$11,240.00	\$9,240.00	\$2,000.00
Task 3: Quantify Pollutant Reductions	\$11,420.00	28 %	\$3,210.00	\$710.00	\$2,500.00
Task 4: Project Management	\$2,430.00	75 %	\$1,822.50	\$1,822.50	0.00
Additional Services	0.00		0.00	0.00	0.00
Total	\$31,630.00		\$20,812.50	\$16,312.50	\$4,500.00
Total Amount Due Upon Receipt :					\$4,500.00

Email Invoice to: tmountford@lpnrd.org and jbreunig@lpnrd.org



Monthly Progress Report Shell Creek Watershed WQMP Update Lower Platte North NRD

JEO Project #: 210166.00
Through: September 20, 2021



1. **Work completed during current period**
 - Ongoing coordination with LPNNRD and NDEE.
 - Internal project management.
 - Completed compiling data on BMP implementation records.

2. **Planned accomplishments for next period**
 - Continue refining water quality model and existing loads.
 - Updated pollutant modeling report with BMP pollutant load reductions

3. **Project schedule**
 - Schedule has been updated to reflect additional time to gather BMP data.

4. **Information needed from project partners**
 - None at this time

5. **Next Meeting Date and Time**
 - None at this time

6. **Other Notes**
 - Project team will continue to monitor COVID-19 health directives and recommendations, as they may relate to any meetings

Please contact Adam Rupe at 402.322.0377 or at arupe@jeo.com for any questions or concerns regarding this progress report

PRUSS EXCAVATION

Dodge, NE 68633

(402) 693-2517

Pay App

DATE	9/20/2021
PAY APP #	1
INVOICE #	4875
TERMS	Net 15

BILL TO

MAINELLI WAGNER & ASSOCIATES, INC.
ATTN: RYAN HAMILTON
6920 VAN DORN STREET, STE A
LINCOLN, NE 68506

JOB/PROJECT: SHELL CREEK PHASE 3

ITEM #	DESCRIPTION	QTY	U/M	UNIT \$	EXT TOTAL
	MOBILIZATION	1.00	LS	5,000.00	5,000.00
	TREE REMOVAL & HARVEST	0.45	LS	93,800.00	42,210.00
	PULL FLOOD PILES DOWN	1.00	LS	6,000.00	6,000.00
	BURN & BURY TREES (STUMPS TO PILE)	0.50	LS	15,000.00	7,500.00
				Total	\$60,710.00
				Payments/Credits	\$0.00
				Balance Due	\$60,710.00

INTERLOCAL COOPERATION AGREEMENT

THIS INTERLOCAL COOPERATION AGREEMENT is made and entered into this 9 day of September, 2019, by and between the Lower Platte North Natural Resources District, a political subdivision in the State of Nebraska, hereinafter referred to as "Lower Platte North NRD," in consultation with the Shell Creek Watershed Improvement Group, and Colfax County, Nebraska, hereinafter referred to as "County", and through their respective governing bodies, authorizing the Chairman of the Lower Platte North NRD and the Chairperson of the Colfax County Board of Commissioners to execute the same.

WHEREAS, Nebraska Revised Statute Section 13-801 et. seq., R.R.S. 1943 (Reissue 2012), the "Nebraska Interlocal Cooperation Act" authorizes the parties hereto to unite their efforts and resources to make the most efficient use of their taxing authority and other powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities in a manner and pursuant to forms of governmental organization that will accord best with geographic, economic, population and other factors influencing the needs and development of the parties hereto and to accomplish the intent of this agreement; and

WHEREAS, the Nebraska Legislature pursuant to Nebraska Revised Statute Section 39-2114 has encouraged counties and other tax-funded organizations to make use of said Interlocal Cooperation Act; and

WHEREAS, it is in the best interests of the Lower Platte North NRD, upon consultation with the Shell Creek Watershed Improvement Group, and Colfax County to improve the natural flow of the Shell Creek channel and decrease the risk to life and property posed by flooding of the Shell Creek; and

WHEREAS, the Lower Platte North NRD and Colfax County desire to begin a project to bench and improve the north bank of the Shell Creek located east of County Road 15 continuing to the Union Pacific Railroad right-of-way thence continuing south of the Union Pacific Railroad right of way and proceeding south and southeast towards the confluence of the Platte River; and

WHEREAS, the Lower Platte North NRD and County agree that the County will be responsible for the expense of engineering, designing, observation, and oversight of the benching protect to the current bank of the Shell Creek. The County will be responsible for cleaning and shaping the County right of ways. Finally, the County will obtain any and all easements and project staking necessary to execute this project; and

WHEREAS, parties agree that the estimated cost of the benching outside of and inside of the county right of way will be up to \$600,000 per an estimate provided by the firm of Mainelli, Wagner & Associates of Lincoln, Nebraska and a portion of the funds from the Lower Platte North NRD will be coming from state grant applications and those third-party dollars will be part of the District's financial commitment; and

WHEREAS, the Lower Platte North NRD and County agree that, if provided, an opportunity to coordinate projects involving public funds and private funds, with the goal of decreasing the risk to life and property near the Shell Creek, is a good use of taxpayer dollars.

WHEREAS, in the judgment of the County Board and Lower Platte North NRD, in consultation with the Shell Creek Watershed Improvement Group, it is appropriate and proper to provide for the safety and welfare of the public who reside and own property in and around the Shell Creek by benching thereto which should result in a decreased risk to life and property;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, it is agreed between the parties as follows:

1. This agreement shall pertain to the benching and improvement of the north bank of the Shell Creek located east of County Road 15 continuing to the Union Pacific Railroad right-of-way continuing south of the Union Pacific Railroad right of way and proceeding south and southeast towards the confluence of the Platte River.
2. The benching of land located adjacent to the Shell Creek is important to decrease the flooding risk to life and property along the Shell Creek.
3. Said benching should be completed in an expeditious manner with the whole project to be completed within 18 months of the date that this Interlocal Agreement is executed.
4. The County will contract with Mainelli, Wagner & Associates to complete said engineering, design, observation, and oversight of the project. The bidding and contractor shall be determined at a later date.
5. Both parties shall have input and shall have access to all information, studies, resources or reference materials provided by Mainelli, Wagner & Associates.
6. Both parties shall have the right to ask questions of or communicate with Mainelli, Wagner & Associates as deemed necessary by this Interlocal Agreement.
7. Neither the County or the Lower Platte North NRD shall assign its duties and responsibilities under this Agreement without the express written permission of the other party to this Agreement.
8. In connection with the carrying out of the activities provided herein, neither the County nor the Lower Platte North NRD shall discriminate against a bidder because of race, color, religion, sex, disability, national origin, age, marital status or receipt of public assistance.
9. 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.
10. 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 all parties hereto.

11. This Agreement shall be contingent upon the Union Pacific Railroad replacing and expanding the Union Pacific Railroad bridge located north and adjacent to Colfax County number C001914205.
11. This Agreement shall not create a separate legal entity to conduct the joint and cooperative undertaking of this Agreement and therefore the Board Chairman of the Lower Platte North NRD, and the Chairperson of the Board of Commissioners of the County of Colfax, Nebraska, shall be jointly responsible for administering and undertaking this Agreement.
12. The County and the Lower Platte North NRD agree that neither entity will be taking responsibility for the project after final completion as all land and maintenance responsibility will revert back to private landowners.
13. This Agreement shall be construed according to the laws of the State of Nebraska.

EXECUTED BY THE COUNTY this 27th day of August, 2019.

COUNTY OF COLFAX,

BY: Carl Grotelueschen
Carl Grotelueschen, Chairman
Colfax County Board of Commissioners

APPROVED AS TO FORM:

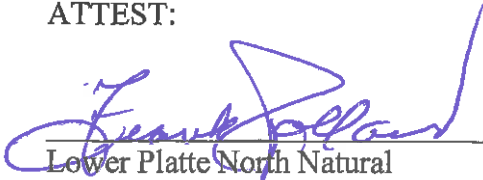
Denise J. Kracl
Denise J. Kracl, Colfax County Attorney

GR EXECUTED BY THE LOWER PLATTE NORTH RESOURCES DISTRICT this
day of September, 2019.

Lower Platte North Natural Resources District

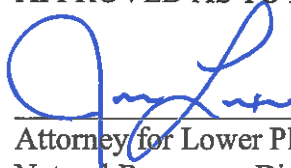
BY: Gene Ruzicka
Gene Ruzicka, Chairman Lower Platte North
Natural Resources District

ATTEST:



Lower Platte North Natural
Resources District Director

APPROVED AS TO FORM:



Attorney for Lower Platte North
Natural Resources District



FYRA Engineering, LLC
12702 Westport Parkway, Suite 300
Omaha, NE 68138
402-502-7131

Lower Platte North NRD
Tom Mountford
511 Commercial Park Road
Wahoo, NE 68066

Invoice number: 022-067
Date: 09/14/2021
Project: 022-17-02 WAHOO CREEK WATERSHED
PLAN/EA

For Services Through September 10, 2021

ADDITIONAL SERVICES-ECONOMIC-PROJECT MANAGEMENT			
	Hours	Rate	Billed
Admin Executive Ann Stratton	0.25	\$80.00	\$20.00
SITE 83 REMOVAL			
	Hours	Rate	Billed
Senior Environmental Engineer Janel Kaufman	33.50	\$160.00	\$5,360.00
Invoice total			\$5,380.00

Make all checks payable to:
FYRA Engineering, LLC
12702 Westport Parkway, Suite 300
Omaha, NE 68138



INVOICE SUMMARY

Description	Contracted Fee	Previously Billed	This Invoice	Total To Date	% Complete
Coord Meetings w/LPNNRD	\$5,724.00	\$16,175.49	\$0.00	\$16,175.49	282.59
Coord Meetings w/NRCS	\$8,904.00	\$11,366.25	\$0.00	\$11,366.25	127.65
Project Meetings	\$49,372.00	\$23,605.04	\$0.00	\$23,605.04	47.81
Monthly Invoicing/Schedule	\$7,875.00	\$13,550.50	\$0.00	\$13,550.50	172.07
Project Scoping	\$7,170.00	\$7,068.75	\$0.00	\$7,068.75	98.59
Plan Review	\$6,740.00	\$24,541.09	\$0.00	\$24,541.09	364.11
Develop, Write & Summarize Plan	\$60,100.00	\$83,011.48	\$0.00	\$83,011.48	138.12
Maintain Admin Record	\$3,560.00	\$914.25	\$0.00	\$914.25	25.68
Develop and Describe Purpose & Need	\$2,320.00	\$1,820.00	\$0.00	\$1,820.00	78.45
19239.2Formulate, Describe & Compare Alternatives	\$27,270.00	\$19,239.25	\$0.00	\$19,239.25	70.55
Collect & Analyze Social/Demographic Data	\$1,435.00	\$1,562.50	\$0.00	\$1,562.50	108.89
Historic & Cultural Resources	\$675.00	\$9,869.00	\$0.00	\$9,869.00	1,462.07
Prime & Unique Farmland	\$675.00	\$2,404.75	\$0.00	\$2,404.75	356.26
Identify Wetlands & Other Water Bodies	\$117,145.00	\$102,862.36	\$0.00	\$102,862.36	87.81
Collect Soils Data	\$810.00	\$0.00	\$0.00	\$0.00	0.00
Identify and Anlyze Soil Erosion	\$810.00	\$1,952.75	\$0.00	\$1,952.75	241.08
Collect & Analyze Floodplain Data	\$3,900.00	\$6,521.00	\$0.00	\$6,521.00	167.21
Collect & Analyze Data on Critical Areas	\$6,300.00	\$3,071.00	\$0.00	\$3,071.00	48.75
Identify Land Use and Crop Inventory	\$810.00	\$1,125.00	\$0.00	\$1,125.00	138.89
T&E Species & Migratory Birds	\$11,500.00	\$12,192.50	\$0.00	\$12,192.50	106.02
Consumptive Use Data	\$1,840.00	\$1,366.50	\$0.00	\$1,366.50	74.27
Effects on Public Health & Safety	\$4,440.00	\$1,936.00	\$0.00	\$1,936.00	43.60
Effects to Homes/Bus/Ag	\$4,440.00	\$4,124.75	\$0.00	\$4,124.75	92.90
Cummulative Impacts	\$11,080.00	\$2,821.25	\$0.00	\$2,821.25	25.46
Federal, State & Local Permits	\$1,790.00	\$1,775.00	\$0.00	\$1,775.00	99.16
38Relationship/Conflicts w/Other Plans	\$4,460.00	\$3,822.50	\$0.00	\$3,822.50	85.71
Interagency & Public Involvement	\$2,940.00	\$5,197.02	\$0.00	\$5,197.02	176.77
Risk & Uncertainty	\$4,880.00	\$4,292.00	\$0.00	\$4,292.00	87.95
Preferred Alternatives Discussion	\$11,840.00	\$14,006.00	\$0.00	\$14,006.00	118.29
Mitigation Features	\$6,760.00	\$4,486.00	\$0.00	\$4,486.00	66.36
Hydrologic Investigation	\$26,460.00	\$33,403.25	\$0.00	\$33,403.25	126.24
Economic Data & Discussion	\$14,640.00	\$51,211.00	\$0.00	\$51,211.00	349.80
Installation & Financing	\$2,600.00	\$775.00	\$0.00	\$775.00	29.81
Operations, Maintenance & Replacment	\$3,240.00	\$740.00	\$0.00	\$740.00	22.84
Project Maps	\$24,850.00	\$28,438.25	\$0.00	\$28,438.25	114.44
Utility Investigations	\$5,200.00	\$1,940.00	\$0.00	\$1,940.00	37.31
Recreation Site 77 Planning	\$7,350.00	\$0.00	\$0.00	\$0.00	0.00
Interagency Scoping Mtg	\$10,720.00	\$6,396.50	\$0.00	\$6,396.50	59.67



INVOICE SUMMARY

Description	Contracted Fee	Previously Billed	This Invoice	Total To Date	% Complete
Agency Coord	\$7,680.00	\$6,181.00	\$0.00	\$6,181.00	80.48
Breach Analysis	\$26,343.00	\$36,054.50	\$0.00	\$36,054.50	136.87
Hydraulics/Structure Sizing	\$19,244.00	\$30,321.25	\$0.00	\$30,321.25	157.56
Develop Land Rights & Structure Costs	\$29,784.00	\$29,048.25	\$0.00	\$29,048.25	97.53
Land Rights Assessment	\$4,534.00	\$1,496.25	\$0.00	\$1,496.25	33.00
Site Survey	\$14,779.00	\$5,080.00	\$0.00	\$5,080.00	34.37
Additional Services Watershed Plan EA	\$48,000.00	\$6,289.27	\$0.00	\$6,289.27	13.10
Additional Services-Economic-Project Management	\$8,329.00	\$5,550.00	\$20.00	\$5,570.00	66.87
Additional Services-Economics-Flood Damage Reduction Economics	\$64,690.00	\$66,770.50	\$0.00	\$66,770.50	103.22
Additional Services-Economics-Revised Plan Economics	\$22,450.00	\$10,187.75	\$0.00	\$10,187.75	45.38
Site 83 Removal	\$22,305.00	\$9,845.00	\$5,360.00	\$15,205.00	68.17
Total	\$740,763.00	\$716,407.75	\$5,380.00	\$721,787.75	97.44

Aging Summary

Invoice Number	Invoice Date	Outstanding	Current	Over 30	Over 60	Over 90	Over 120
022-063	07/26/2021	5,160.00		5,160.00			
022-065	08/23/2021	6,791.25	6,791.25				
022-067	09/14/2021	5,380.00	5,380.00				
	Total	17,331.25	12,171.25	5,160.00	0.00	0.00	0.00



Invoice

September 23, 2021

Project No: R170124.00

Invoice No: 127553

Invoice Amount: 4,500.00

Lower Platte North NRD
511 Commercial Park Road
PO Box 126
Wahoo, NE 68066

Project Manager Adam Rupe

Project R170124.00 Lower Platte North NRD Wahoo Creek WQMP Update

Professional Services through September 17, 2021

Progress Report attached.

	Contract Amount	Percent Complete	Billed-to-Date	Previous Billing	Current Billing
	0.00		0.00	0.00	0.00
Lump Sum Phase(s)					
Task 1: Evaluate Water Quality Data	\$4,540.00	100 %	\$4,540.00	\$4,540.00	0.00
Task 2: Quantify Pollutant Loads	\$13,240.00	85 %	\$11,240.00	\$9,240.00	\$2,000.00
Task 3: Quantify Pollutant Reductions	\$11,420.00	28 %	\$3,210.00	\$710.00	\$2,500.00
Task 4: Project Management	\$2,430.00	65 %	\$1,579.50	\$1,579.50	0.00
Total	\$31,630.00		\$20,569.50	\$16,069.50	\$4,500.00
Total Amount Due Upon Receipt :					\$4,500.00

Email Invoice to: tmountford@lpnnrd.org and jbreunig@lpnnrd.org



Monthly Progress Report Wahoo Creek Watershed WQMP Update Lower Platte North NRD

JEO Project #: 170124.00
Through: September 20, 2021



1. **Work completed during current period**
 - Ongoing coordination with LPNNRD and NDEE.
 - Internal project management.
 - Completed compiling data on BMP implementation records.

2. **Planned accomplishments for next period**
 - Continue refine water quality model and existing loads.
 - Updated pollutant modeling report with BMP pollutant load reductions.

3. **Project schedule**
 - Schedule updated to reflect additional time to gather BMP data.

4. **Information needed from project partners**
 - None at this time

5. **Next Meeting Date and Time**
 - None at this time

6. **Other Notes**
 - Project team will continue to monitor COVID-19 health directives and recommendations, as they may relate to any meetings

Please contact Adam Rupe at 402.322.0377 or at arupe@jeo.com for any questions or concerns regarding this progress report

Wahoo Creek NWQI Partner Meeting – 1

Lower Platte North NRD
511 Commercial Park Rd.
Wahoo, NE 68066

Tuesday, September 21, 2021

Start time: 9:30 a.m.

WELCOME: Purpose of this meeting: Regroup, review, and examine Resource Concerns identified within the Wahoo Creek watershed (4 HUCs). How do we as Partners, come together to educate, and encourage landowners about utilizing program funds for conservation practice implementation.

INTRODUCTION OF PARTNERS: *Elbert Traylor, NDEE; Katie Pekarek, UNL Extension, Renee Hancock, NRCS State Office; Sean Elliot-LPN NRD, Sydney Abbot, LPN NRD; Ryan Sabatka, LPN NRD; Dan Kellner, Saunders County Livestock Association; Jon Brabec, Frontier COOP; Ryan Meister, Frontier COOP; Tom Mountford, LPN NRD; Mark Walkenhorst, NRCS; Jami Thoene, NRCS; Don Treptow, NRCS; Peyton Harsin, NRCS*

TOPICS

1. Review of NWQI, where are at in this process, timeline- 319 history, Current work/ progress, and New Agreement (reason for this meeting). – Tom Mountford, Sean Elliot (NRCS?)
2. 2020IR report for the 4 HUCS; current impairments – Elbert Traylor (North Fork, Miller, Dunlap, Cottonwood(?))
3. Field Inventory Results: Existing Resource concerns/ recently identified matters – Renee Hancock.
4. Saunders County Livestock Association viewpoint, will members be willing to Volunteer/ Advocate for Water Quality/ NWQI Program – Ryan Sabatka and Dan Kellner
5. UNL's Role; education, outreach, and/ or other? – Katie Pekarek
6. Representatives from Frontier COOP, open discussion with regards to perception of what is ideal and what is reality when it comes to use of Atrazine (atrazine products) – Jon Brabec and Ryan Meister
7. EQIP Program options available for NWQI participants, and potential higher Incentive rates for approved practices to address Water Quality – Jami Thoene and Mark Walkenhorst.
8. List of Potential Stakeholders, Planning/ Scheduling Meetings, Sending Invites, etc. – ALL
9. Other Items For discussion....

Adjourn – 12:00 pm

Thank you for taking time out of your busy schedules to meet. Your input is extremely valuable to the success of this project.



Rawhide Creek WFPO Plan-EA Progress Meeting Agenda

DATE AND TIME | September 22nd, 2021; 2:00 p.m. – 3:30 p.m.

PROJECT | Rawhide Creek WFPO Plan-EA

JEO PROJECT NO. | 200881.00

LOCATION | Dodge County Courthouse Emergency Operations Center and via Zoom

1. Introductions

2. Project Team

- a. Dodge County – Thomas Smith
- b. JEO – John Petersen (PM), Adam Rupe (Planning), John Callen (H & H), Ross Lawrence (Engineering), Lalit Jha (Principal)
- c. NRCS – Rich Vaughn
- d. Sub-consultants

3. Project Scope Overview

**See attached Project Map*

Overview of WFPO Milestones & Meetings

Milestone	Meeting Name	Focus
Kick-off Meeting	Kickoff Meeting	Project Overview & Planning Process
Public & Agency Scoping Meetings	Scoping Meetings #1	Scoping
Post-Discussion of Scoping	Post-Scoping	Hydrology & Hydraulics Purpose & Need Refinement Alternatives Identification
Review Data Collection Needs		
Alternatives Discussion		
Plan-EA Development Phase 30%	30%	Hydrology & Hydraulics Alternatives Identification.
Review Conceptual Design Alternatives	Alternatives Review	Wetland/Aquatic Impacts 404(b)(1) analysis
<i>Cost/logistics/technology</i>		
<i>Avoid/minimize/mitigate</i>		
Plan-EA Development Phase 60%	60%	Alternatives Evaluation Economic Analysis
Review Clean Water Act (CWA)	Clean Water Act Review	Wetland/Aquatic Impacts 404(b)(1) analysis
<i>Requirements [including 404(b)(1)]</i>		
Plan-Development Phase 90%	90%	Alternative Selection Mitigation and other issues Next Steps in Process
Public & Agency Scoping Meetings	Scoping Meetings #2	Presenting preferred alternative
Prepare Draft Plan-EA for NRCS submittal to NWMC	n/a	n/a
Addressing NWMC review comments	Comment Review Meeting	Developing responses to comments from NWMC
Public & interagency review	n/a	n/a
Finalization of Plan-EA		
Prepare Final Plan-EA for NRCS submittal for Authorization		



Rawhide Creek WFPO Plan-EA Progress Meeting Agenda

4. H&H Modeling / Economic Analysis

- a. JEO working on data gathering/ site visit to develop hydrology & hydraulics (H&H) modeling
- b. First H&H steps include model development to identifying flooding extents for multiple storm frequencies.
- c. Initial economic analysis will use H&H model to identify effective and economically feasible alternatives.

5. USACE Coordination

- a. Request for “Cooperating Agency”

6. Public Involvement

- a. Public Involvement Plan
 - i. Virtual meeting options
 - ii. Plan to be developed in next 1-2 months
- b. Begin set-up for ArcGIS StoryMap
- c. Flooding impact data and photo collection to support the H & H analysis
- d. Agency Scoping Meetings (2)
- e. Public Open House Meetings (2) – same day as agency meeting
- f. Community meetings (4)
- g. One-on-one property owners’ meetings
- h. Others to invite.
- i. Meeting dates? (NRCS needs 6-week notice)
- j. Meeting Notification Responsibilities
 - i. Dodge County to send press releases, emails, etc.
 - ii. JEO send all letters except a few required to be from NRCS
- k. Other public notification outlets?

7. Purpose and Need Establishment

8. Schedule

9. Data to Gather

- Dodge County Sheriff drone footage from 2019 Flooding
- City/Dodge County emergency actions taken during 2019 flooding that would have impacted flow diversion
- Identify weak points/location that needs to be addressed.
- NRD’s existing projects impacting flooding/water diversion operations
- Highway 30 Plans including digital proposed project surface (if available) and bridge modifications
- NDOT/Dodge County data on stream crossing structures in the watershed
- North Bend cut-off ditch project information
- Platte Township / West Fremont flooding damage information
- USACE Hydraulic Model
- FHU Elkhorn Model

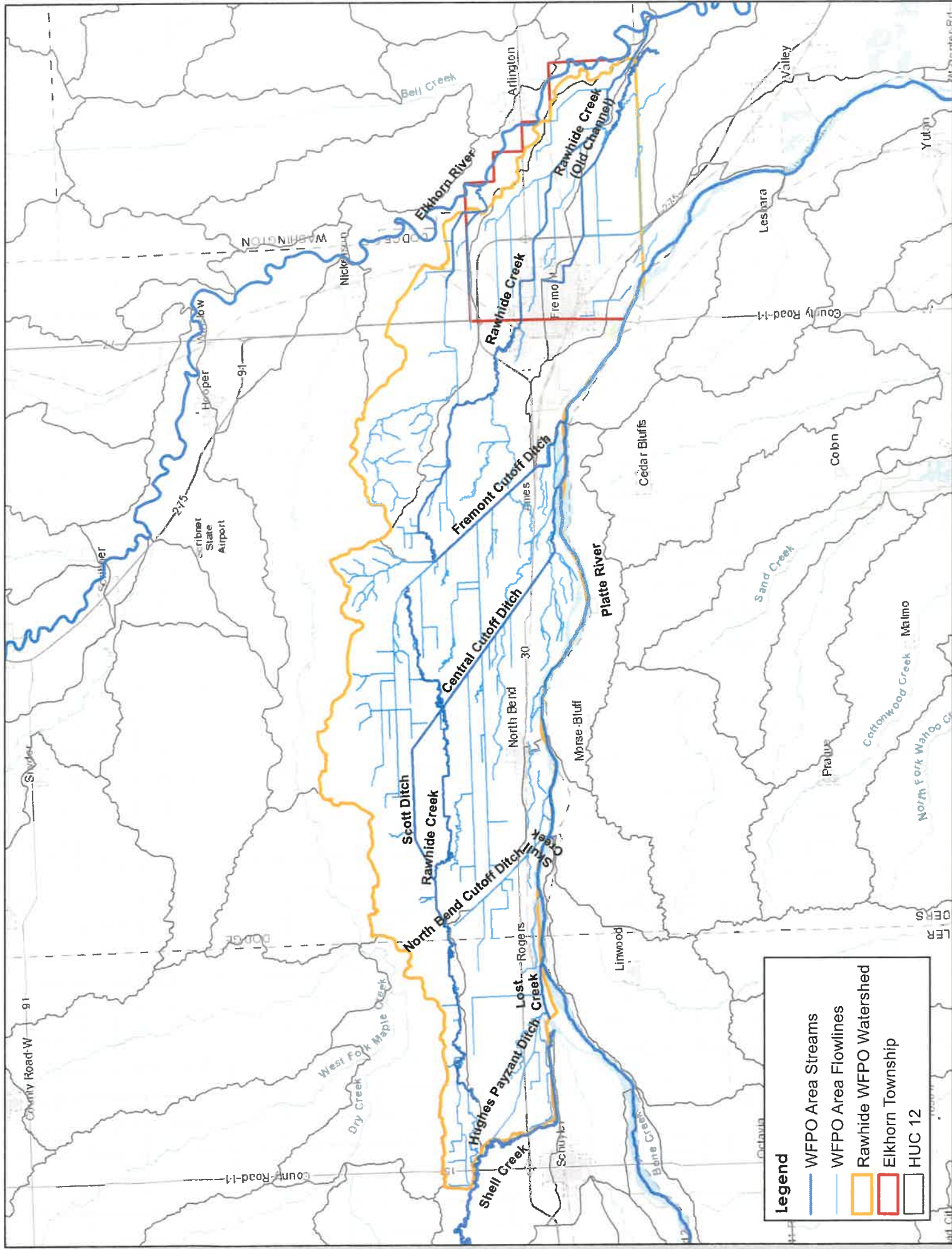


Rawhide Creek WFPO Plan-EA Progress Meeting Agenda

- Hindmarsh Photos (Landowner/s in Southeast corner of project area)
- Determine if data exists for damages from July 2021 event for west side of Fremont.
- Public input on historical flooding observations – gathered through the story map and public outreach process.

10. Next Steps

- a. Site Visit
 - i. September 29th for East Drainage Area
 - ii.
- b. Next Progress Meeting (Reoccurring meeting)
- c. Kickoff meeting with NRCS and USACE: TBD
- d. Public and Agency Scoping Meetings: TBD
 - i. Meet via Zoom and Microsoft Teams?
- e. Presentation at NARD conference in Kearny on September 27th
 - i. **From the Big Flood To the Big Picture**
- f. Summarize Action Items from today's meeting



Legend

- WFPO Area Streams
- WFPO Area Flowlines
- Rawhide WFPO Watershed
- Elk Horn Township
- HUC 12

Saunders County SID No. 8 – Woodcliff Lakes
980 Co Rd W, T-1018, Suite A
Fremont, NE 68025
Address 3
402-753-0247; office@woodcliffakes.com

July 20, 2021

Mr. Eric Gottschalk
General Manager
Lower Platte North NRD
511 Commercial Park Road
Wahoo, NE 68066

RE: Cost-share, Financial Assistance for Bank Stabilization near Lots 1142 – 1134 Project

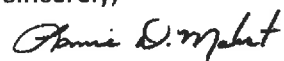
Dear Mr. Gottschalk:

Saunders County SID No. 8 – Woodcliff Lakes would like to formally request cost-share assistance from the Lower Platte North NRD for a new bank stabilization project that arose after the spring 2021 ice jams. The ice jam related flooding eroded a significant portion of floodplain bench, encroaching on the toe of the roadway slope and associated buried utilities. The project consists of stabilization of approximately 550 feet of Platte River bank, using a combination of peaked stone toe protection and six (6) bendway weirs. The project was publicly advertised for bids, and a bid letting was held on 7/8/2021. A total of eight (8) bids were received. The SID is currently working on contracting with the low bidder, Sawyer Construction.

The SID would like to formally request the NRD provide cost-share assistance for the bank stabilization project described above, up to 50% of the total project cost, \$216,185, \$108,092.50. The cost share could be provided over the course of multiple years.

We appreciate the NRD's support and assistance with this important project. Feel free to call me at (402)680-4953 or email me at lonniemahrt@jimsearch.com if you have any questions. We look forward to hearing your feedback to this request for assistance.

Sincerely,



Lonnie Mahrt
SID Board Chair

Enclosure: Final plans for Bank Stabilization near Lots 1142 – 1134

WOODCLIFF LAKES BANK STABILIZATION NEAR LOTS 1142-1134 SAUNDERS COUNTY SID NO. 8 SAUNDERS COUNTY, NEBRASKA

JEO PROJECT NUMBER 210511.00

WOODCLIFF LAKES
BANK STABILIZATION NEAR LOTS 1142-1134
SAUNDERS COUNTY SID NO. 8
SAUNDERS COUNTY, NEBRASKA

COVER SHEET



PROJECT NO. 210511.00
DATE 6/16/2021
DRAWN BY JAA
FILE NAME S-210511.00.dwg
FIELD BOOK WOODCLIFF #14
FIELD CREW M.S. & N.F.
SURVEY FILE NO. SV_210511
PLAN IN HAND N/A
DATE N/A
70 PERCENT REVIEW JGP
DATE 5/5/2021
95 PERCENT REVIEW JGP
DATE 5/7/2021
REVISIONS

C0.1

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INDEX OF SHEETS:

SHEET NO:	SHEET NAME:
C0.1	COVER SHEET
C0.2	SYMBOLS
C0.3	HORIZONTAL ALIGNMENT & CONTROL SHEET
C1.1	PROPOSED SITE PLAN
C1.2	EROSION CONTROL & REMOVALS PLAN
D1.1-1.2	STANDARD DETAILS



LOCATION MAP
SCALE: 1" = 2000'

ESTIMATE OF QUANTITIES			
Item #	Description	Unit	Quantity
1	Mobilization	LS	1
2	Bonding and Insurance	LS	1
3	Site Grading	LS	1
4	Clearing and Grubbing	LS	1
5	Riprap, NDOT Type C	TON	1400
6	Surge/Erosion Stone	TON	950
7	Crushed Rock Surfacing	TON	60
8	Crushed Rock Base Course	TON	44
9	Salvage and Reuse Existing Riprap	LS	1
10	Straw Wattle	LF	750
11	Seeding and Mulching, Floodplain Mix	AC	0.95
12	Traffic Control	LS	1.0

NOTE:

NEITHER THE OWNER (CLIENT) NOR JEO CONSULTING GROUP, INC. ASSUMES ANY RESPONSIBILITY FOR UTILITY LOCATIONS BEING ACCURATELY SHOWN OR NOT SHOWN ON THE PLANS. A REQUEST FOR UTILITY LOCATES MUST BE MADE BY THE CONTRACTOR FOR THIS LOCATION AS PER THE ONE-CALL NOTIFICATION SYSTEM ACT.

THE EXACT LOCATION AND/OR SIZE OF UNDERGROUND FEATURES MAY NOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. FIELD VERIFICATION OF UTILITIES MAY BE REQUIRED. CONTRACTOR(S) SHALL NOTIFY THE RESPECTIVE UTILITY COMPANIES BEFORE COMMENCING ANY WORK.

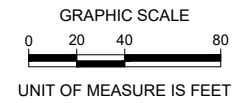


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LEGEND

SYMBOL	DESCRIPTION
0+00 1+00	BASELINE ALIGNMENT (DESIGN)
(C1)	BASELINE ALIGNMENT CURVE TAG LABEL
(L1)	BASELINE ALIGNMENT LINE TAG LABEL
△	BASELINE ALIGNMENT PI POINT
○	POINT OF CURVATURE OR TANGENCY



HORIZONTAL SURVEY CONTROL - NEBRASKA STATE PLANE 1983 GRID

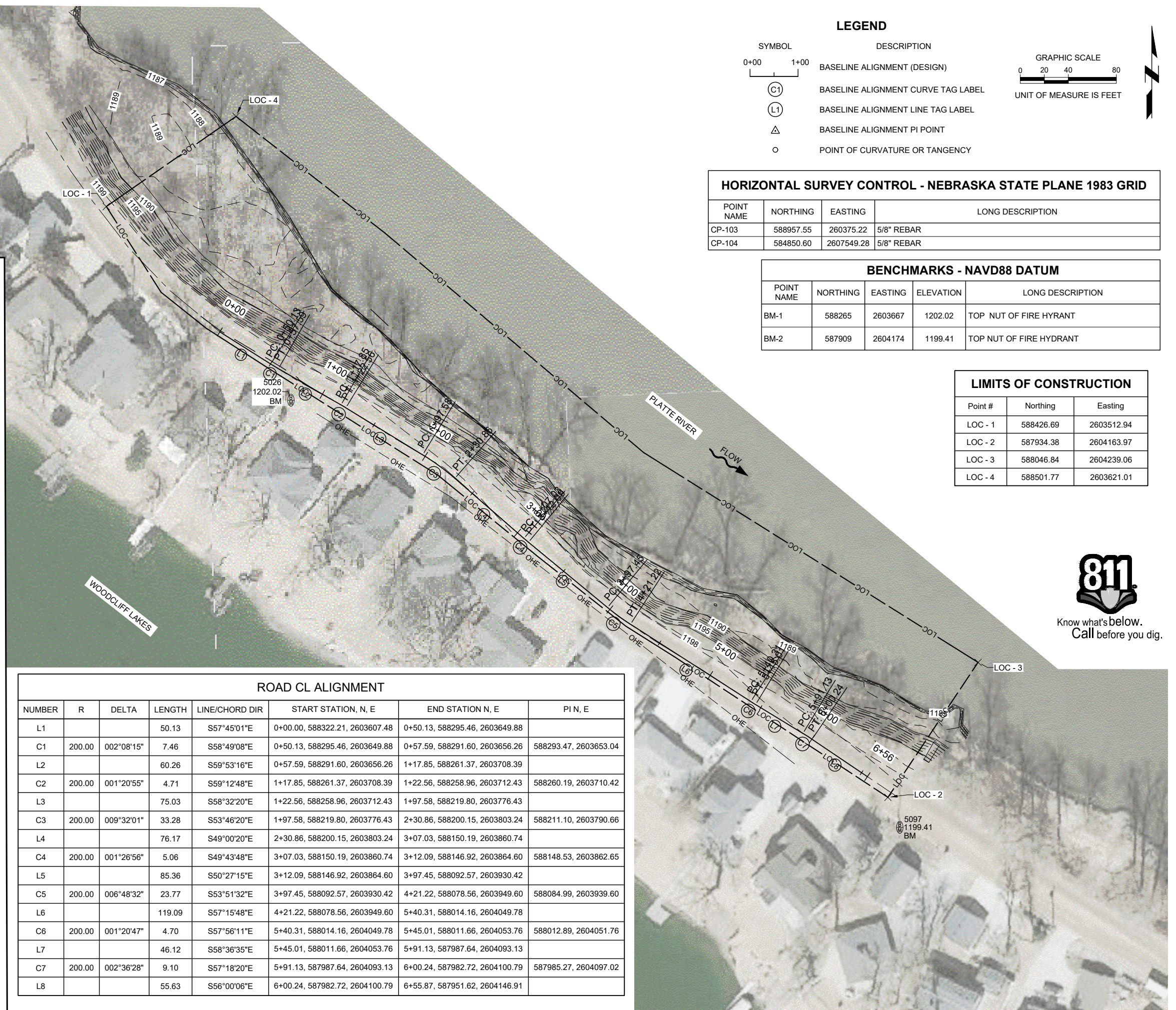
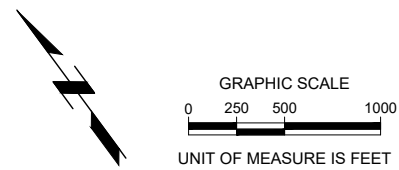
POINT NAME	NORTHING	EASTING	LONG DESCRIPTION
CP-103	588957.55	260375.22	5/8" REBAR
CP-104	584850.60	2607549.28	5/8" REBAR

BENCHMARKS - NAVD88 DATUM

POINT NAME	NORTHING	EASTING	ELEVATION	LONG DESCRIPTION
BM-1	588265	2603667	1202.02	TOP NUT OF FIRE HYDRANT
BM-2	587909	2604174	1199.41	TOP NUT OF FIRE HYDRANT

LIMITS OF CONSTRUCTION

Point #	Northing	Easting
LOC - 1	588426.69	2603512.94
LOC - 2	587934.38	2604163.97
LOC - 3	588046.84	2604239.06
LOC - 4	588501.77	2603621.01



ROAD CL ALIGNMENT

NUMBER	R	DELTA	LENGTH	LINE/CHORD DIR	START STATION, N, E	END STATION, N, E	PI, N, E
L1			50.13	S57°45'01"E	0+00.00, 588322.21, 2603607.48	0+50.13, 588295.46, 2603649.88	
C1	200.00	002°08'15"	7.46	S58°49'08"E	0+50.13, 588295.46, 2603649.88	0+57.59, 588291.60, 2603656.26	588293.47, 2603653.04
L2			60.26	S59°53'16"E	0+57.59, 588291.60, 2603656.26	1+17.85, 588261.37, 2603708.39	
C2	200.00	001°20'55"	4.71	S59°12'48"E	1+17.85, 588261.37, 2603708.39	1+22.56, 588258.96, 2603712.43	588260.19, 2603710.42
L3			75.03	S58°32'20"E	1+22.56, 588258.96, 2603712.43	1+97.58, 588219.80, 2603776.43	
C3	200.00	009°32'01"	33.28	S53°46'20"E	1+97.58, 588219.80, 2603776.43	2+30.86, 588200.15, 2603803.24	588211.10, 2603790.66
L4			76.17	S49°00'20"E	2+30.86, 588200.15, 2603803.24	3+07.03, 588150.19, 2603860.74	
C4	200.00	001°26'56"	5.06	S49°43'48"E	3+07.03, 588150.19, 2603860.74	3+12.09, 588146.92, 2603864.60	588148.53, 2603862.65
L5			85.36	S50°27'15"E	3+12.09, 588146.92, 2603864.60	3+97.45, 588092.57, 2603930.42	
C5	200.00	006°48'32"	23.77	S53°51'32"E	3+97.45, 588092.57, 2603930.42	4+21.22, 588078.56, 2603949.60	588084.99, 2603939.60
L6			119.09	S57°15'48"E	4+21.22, 588078.56, 2603949.60	5+40.31, 588014.16, 2604049.78	
C6	200.00	001°20'47"	4.70	S57°56'11"E	5+40.31, 588014.16, 2604049.78	5+45.01, 588011.66, 2604053.76	588012.89, 2604051.76
L7			46.12	S58°36'35"E	5+45.01, 588011.66, 2604053.76	5+91.13, 587987.64, 2604093.13	
C7	200.00	002°36'28"	9.10	S57°18'20"E	5+91.13, 587987.64, 2604093.13	6+00.24, 587982.72, 2604100.79	587985.27, 2604097.02
L8			55.63	S56°00'06"E	6+00.24, 587982.72, 2604100.79	6+55.87, 587951.62, 2604146.91	

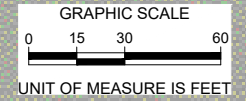


WOODCLIFF LAKES
BANK STABILIZATION NEAR LOTS 1142-1134
SAUNDERS COUNTY SID NO. 8
SAUNDERS COUNTY, NEBRASKA

HORIZONTAL ALIGNMENT & CONTROL SHEET



PROJECT NO.	210511.00
DATE	6/16/2021
DRAWN BY	JAA
FILE NAME	S-210511.00.dwg
FIELD BOOK	WOODCLIFF #14
FIELD CREW	M.S. & N.F.
SURVEY FILE NO.	SV_210511
PLAN IN HAND	N/A
DATE	N/A
70 PERCENT REVIEW	JGP
DATE	5/5/2021
95 PERCENT REVIEW	JGP
DATE	5/7/2021
REVISIONS	



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WOODCLIFF LAKES
BANK STABILIZATION NEAR LOTS 1142-1134
SAUNDERS COUNTY SID NO. 8
SAUNDERS COUNTY, NEBRASKA

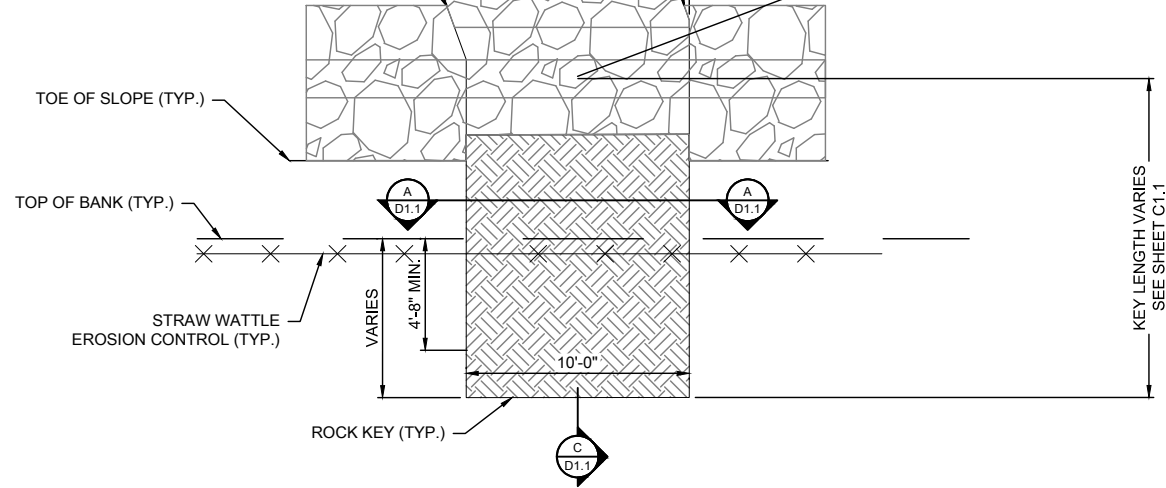
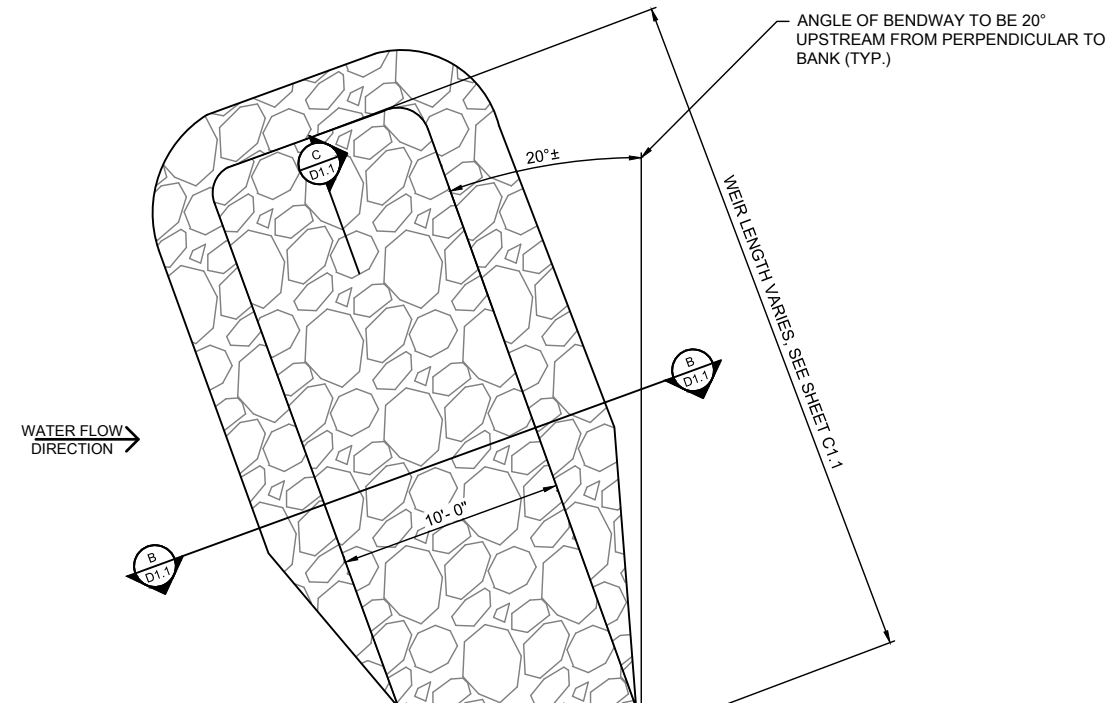
EROSION CONTROL & REMOVALS PLAN



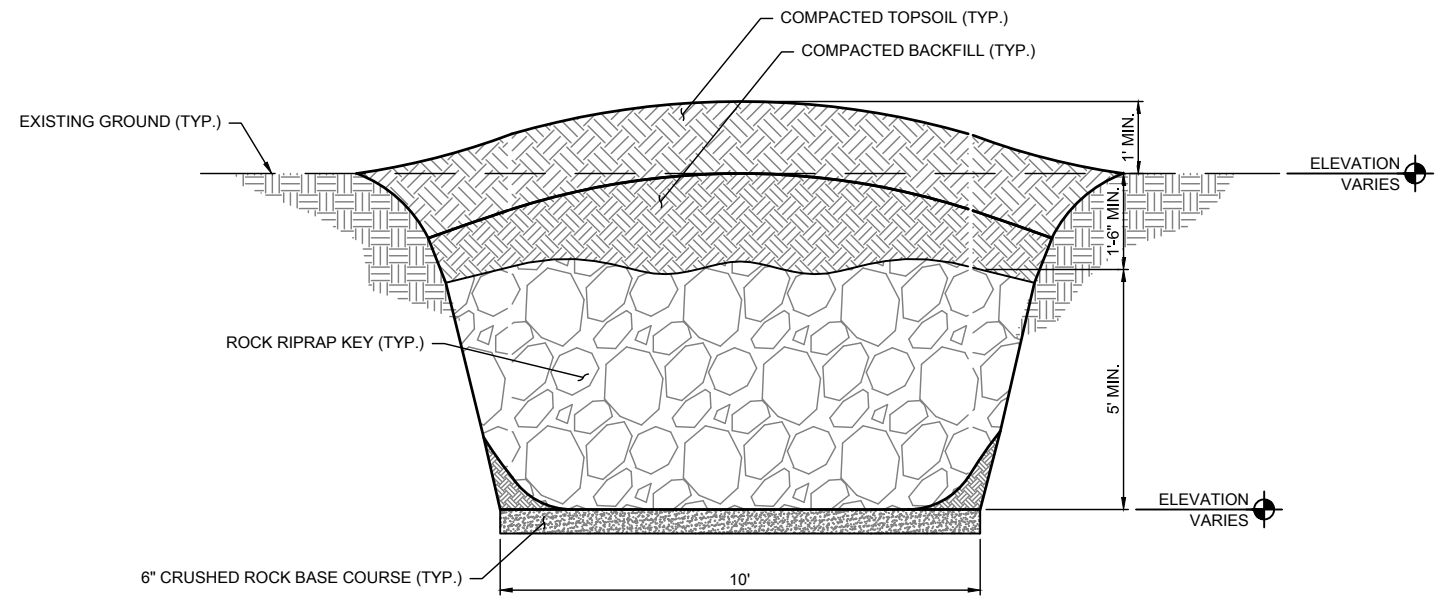
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INITIALS	JGP
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REVISIONS	



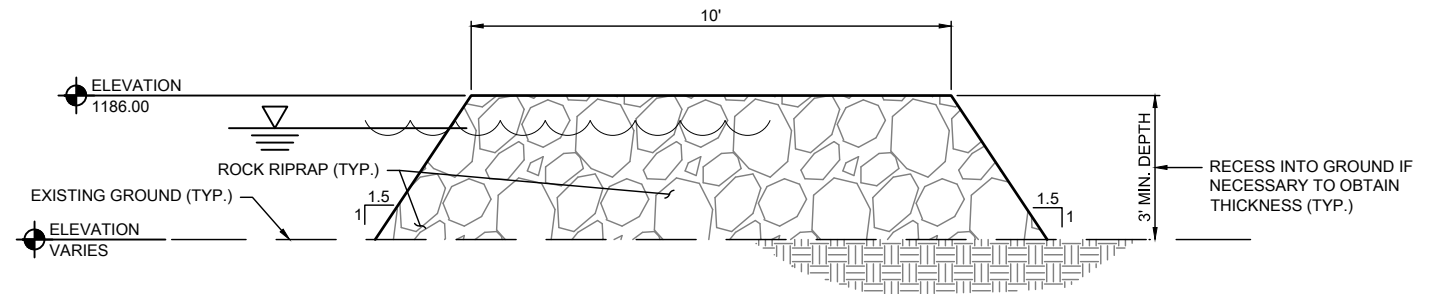
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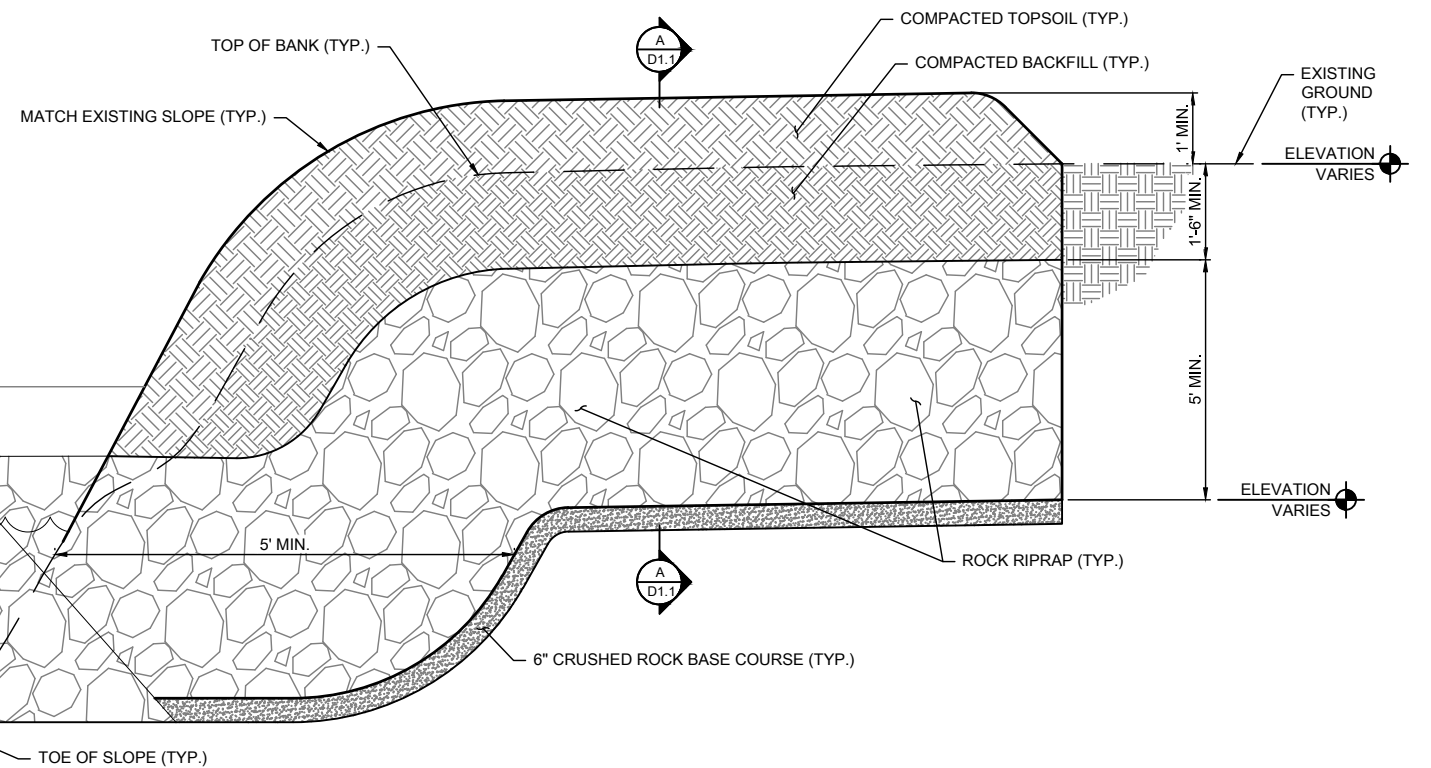
1 TYPICAL BENDWAY WEIR
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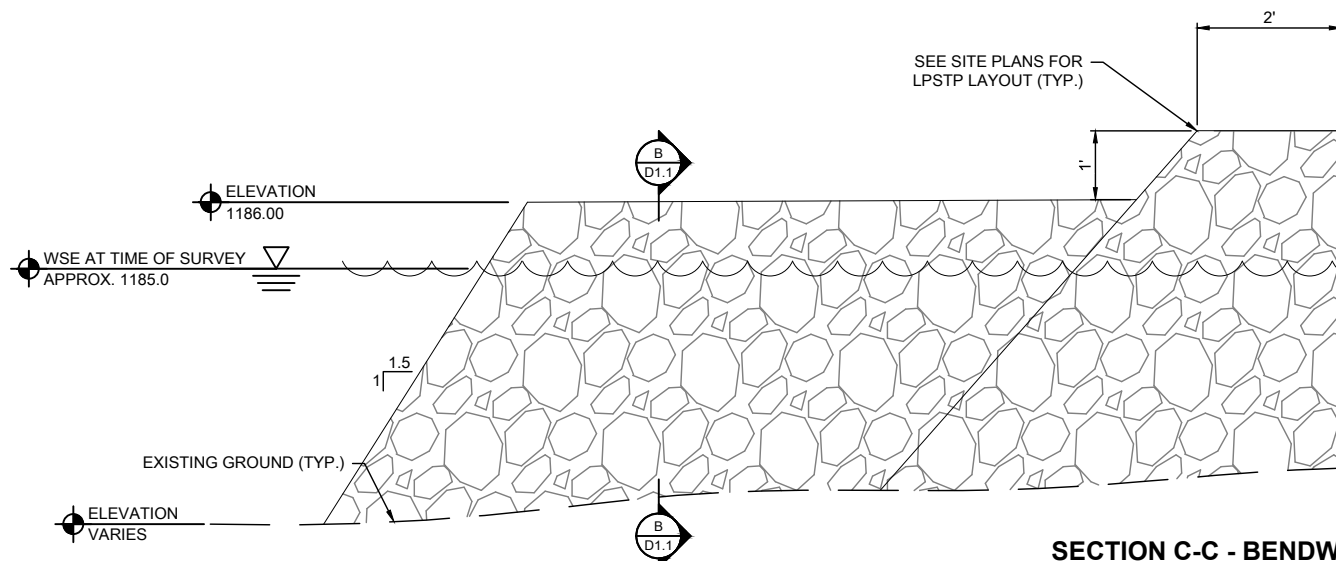
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SCALE: N.T.S.



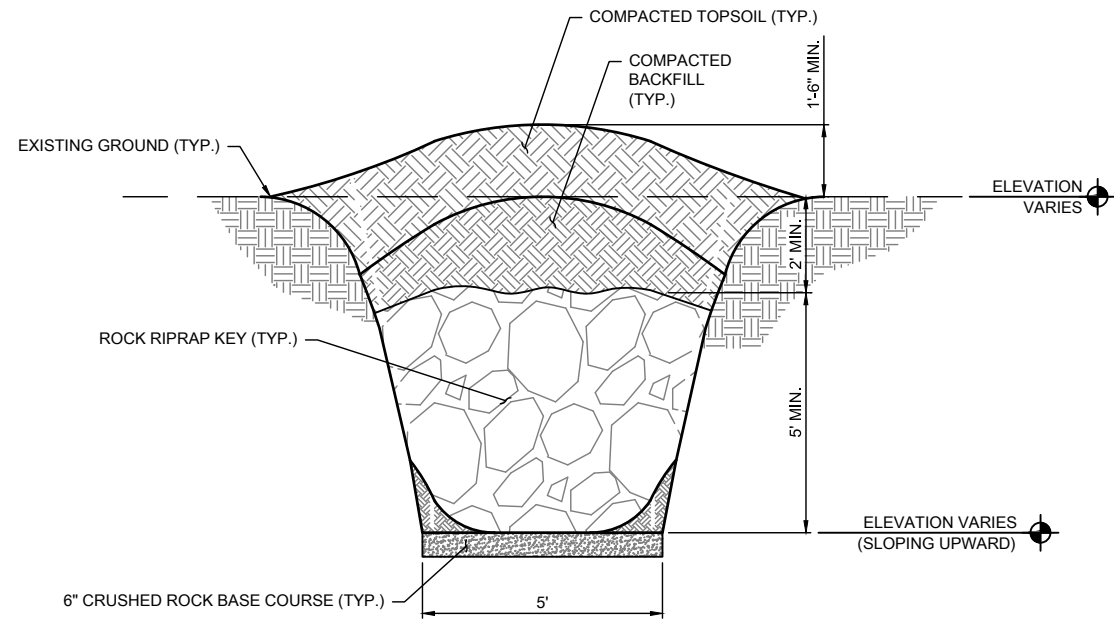
SECTION B-B BENDWAY WEIR - TYPICAL SECTION
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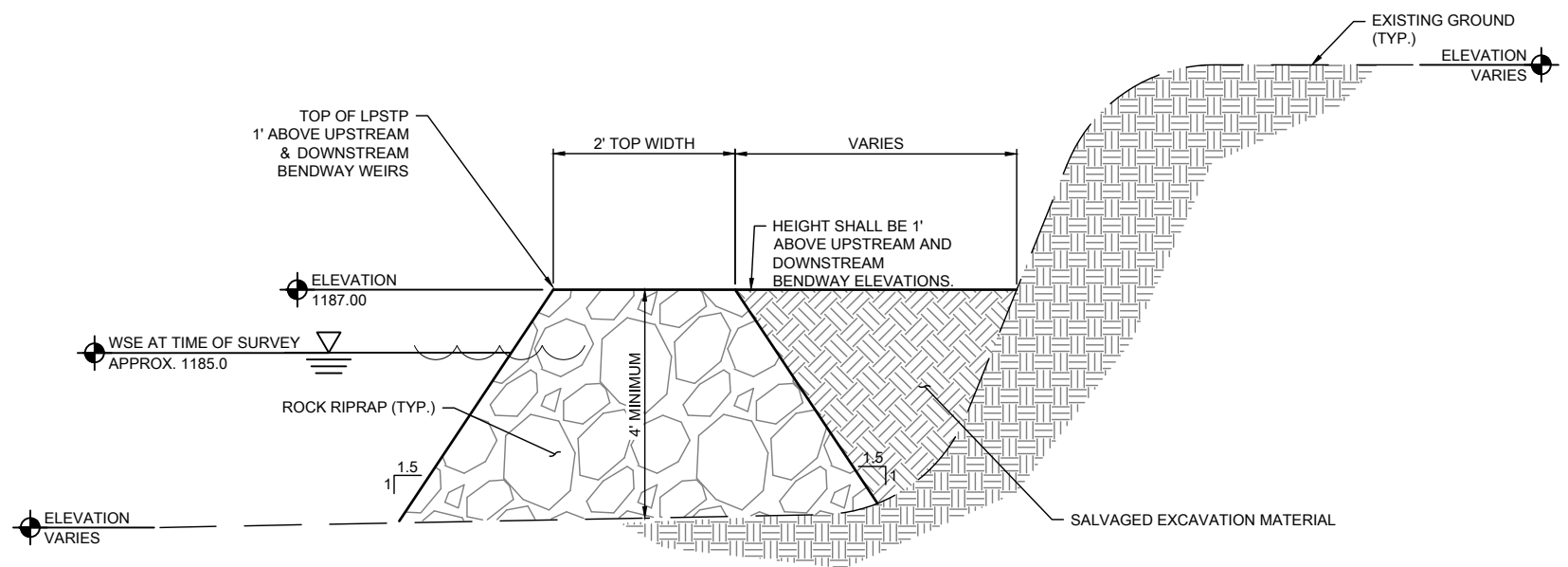
SECTION C-C - BENDWAY WEIR - TYPICAL LONGITUDINAL SECTION
SCALE: N.T.S.



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1 ROCK KEY (LPSTP) - TYPICAL SECTION
SCALE: N.T.S.



2 LONGITUDINAL PEAKED STONE TOE PROTECTION DETAIL (LPSTP)
SCALE: N.T.S.



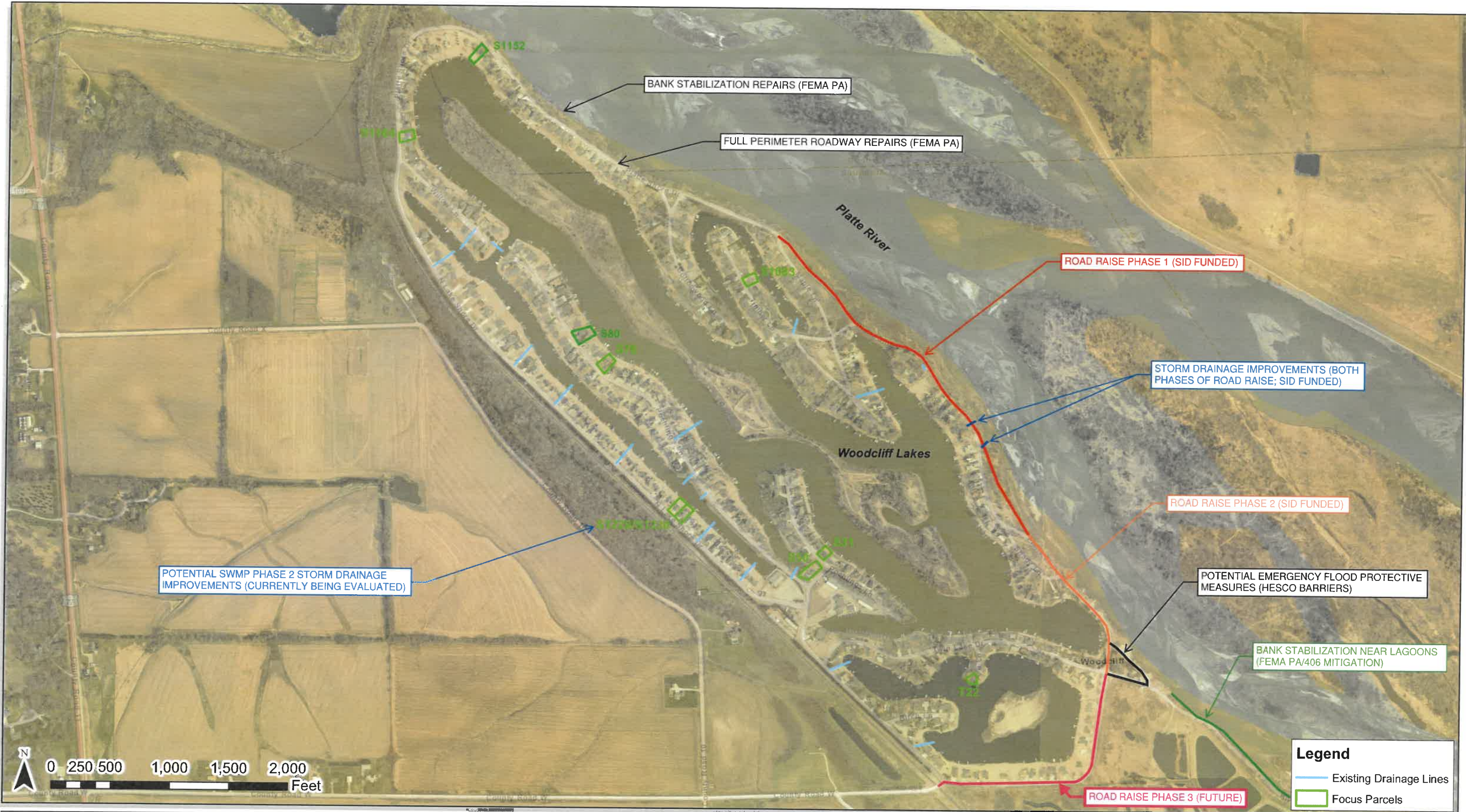
WOODCLIFF LAKES
BANK STABILIZATION NEAR LOTS 1142-1134
SAUNDERS COUNTY SID NO. 8
SAUNDERS COUNTY, NEBRASKA

STANDARD DETAILS



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DATE	
95 PERCENT REVIEW	JGP
INITIALS	5/7/2021
DATE	
REVISIONS	

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Legend

- Existing Drainage Lines
- Focus Parcels

Created By: JDJ
 Date: 09/25/2019
 Revised:
 Software: ArcGIS 10.4
 File:

This map was prepared using information from record drawings supplied by JEO and/or other applicable city, county, federal, or public or private entities. JEO does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plat.

OVERALL SITE MAP

Woodcliff Lakes





Bid Tab

PROJECT | Bank Stabilization Improvements for Saunders County SID No. 8

JEO PROJECT NO. | 190733.01

LOCATION | Saunders County, Nebraska

LETTING | 05/11/2021 09:00 AM CDT

OPINION OF PROBABLE COST | \$557,532.00

Bidder	Total Base Bid
Mount Farm Drainage, LLC Riverton, IA	<i>\$507,163.17</i>
Sawyer Construction Co. Fremont, NE	\$517,780.40
Niewohner Construction Inc. Onawa, IA	\$547,208.00
High Plains Enterprises Inc. Martell, NE	\$626,092.00
Gana Trucking & Excavating Martell, NE	\$659,160.81
Horizon Building Services, LLC Council Bluffs, IA	\$706,765.00

** Numbers in italics indicate an irregularity in the contractor's original bid form*



Tab Sheet

PROJECT | Bank Stabilization Improvements for Saunders County SID No. 8

JEO PROJECT NO. | 190733.01

LOCATION | Saunders County, Nebraska

				Mount Farm Drainage		Sawyer Construction	
BASE BID							
Item	Qty.	Unit	Description	Unit Price	Total	Unit	Total
1	1	LS	Mobilization		\$9,600.00		\$10,000.00
2	1	LS	Bonding and Insurance		\$9,360.00		\$8,000.00
3	1	LS	Site Grading		\$21,178.25		\$35,000.00
4	1	LS	Clearing and Grubbing		\$1,783.97		\$8,500.00
5	3,296	TON	Riprap, NDOT Type C	\$77.62	\$255,835.52	\$71.05	\$234,180.80
6	2,198	TON	Surge/Erosion Stone	\$73.14	\$160,761.72	\$65.00	\$142,870.00
7	115	TON	Crushed Rock Base Course	\$77.69	\$8,934.35	\$40.00	\$4,600.00
8	232	TON	Coarse Aggregate	\$48.13	\$11,166.16	\$40.00	\$9,280.00
9	1,842	LF	Live Pole Plantings	\$9.60	\$17,683.20	\$28.80	\$53,049.60
10	1	LS	Erosion Control		\$3,300.00		\$6,000.00
11	1	AC	Seeding and Mulching, Native Mix	\$5,400.00	\$5,400.00	\$4,500.00	\$4,500.00
12	0.4	AC	Seeding and Mulching, Floodplain Mix	\$5,400.00	\$2,160.00	\$4,500.00	\$1,800.00
TOTAL BASE BID					<i>\$507,163.17</i>		\$517,780.40

* Numbers in italics indicate an irregularity in the contractor's original bid form



LOWER PLATTE NORTH
Natural Resources District



Long Range Implementation Plan
Fiscal Year 2022

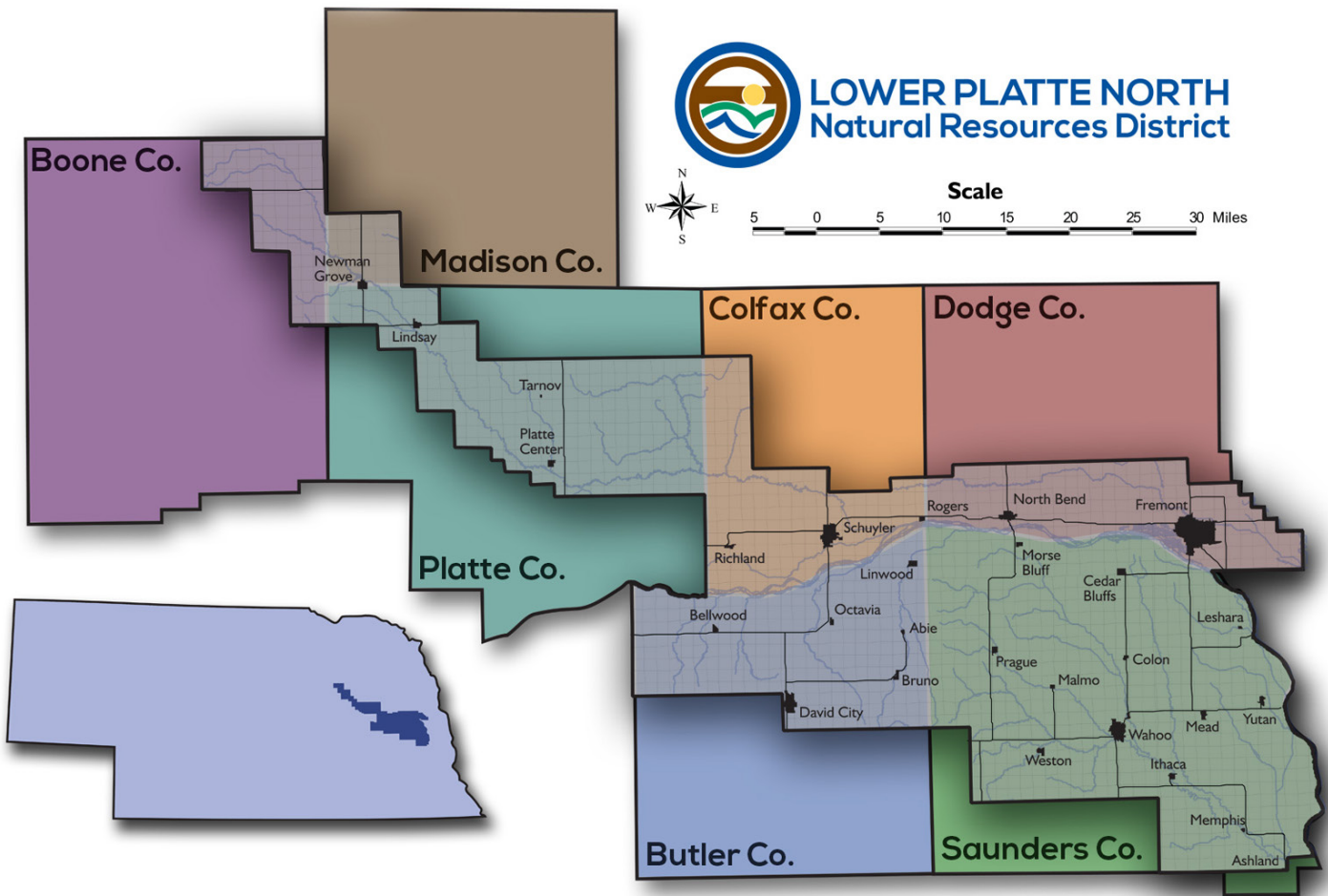


**LOWER PLATTE NORTH
Natural Resources District**



Scale

5 0 5 10 15 20 25 30 Miles



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Introduction

The Lower Platte North Natural Resources District (LPNNRD) is one of 23 Natural Resources Districts created in 1969 with the passage of LB 1357 by the Nebraska Unicameral. Since its formation in 1972, the LPNNRD has been assisting people in the Lower Platte North River Basin in the development and protection of our soil and water resources. Nebraska Statutes require that Natural Resources Districts develop a Long Range Implementation Plan. The purpose of this plan is to summarize accomplishments during fiscal year 2021 (July 1, 2021 to June 30, 2022) and planned District activities for fiscal year 2022. There are also objectives for a five-year period from fiscal years 2023 to 2027. The plan serves as an implementation tool of the district's Master Plan, which is updated every ten years.

Authority and Responsibilities

The Natural Resources Districts have been given statutory responsibility outlined in Sections 2-3229, R.R.S. 1943. In this section it states that "The purposes of the Natural Resources Districts shall be to develop and execute, through the exercise of powers and authorities contained in this act, plans, facilities, works and programs relating to: (1) erosion prevention and control, (2) prevention of damages from flood water and sediment, (3) flood prevention and control, (4) soil conservation, (5) water supply for any beneficial uses, (6) development, management, utilization, and conservation of groundwater and surface water, (7) pollution control, (8) solid waste disposal and sanitary drainage, (9) drainage improvement and channel rectification, (10) development and management of fish and wildlife habitat, (11) development and management of recreational and park facilities, and (12) forestry and range management."

Lower Platte North NRD programs and projects are available to meet the goal of properly developing our water and related land resources.

Description of the District

The Lower Platte North Natural Resources District is located in the Lower Platte River Basin in eastern Nebraska and includes 1,031,000 acres of land. A portion of Saunders, Butler, Platte, Dodge, Colfax, Boone and Madison Counties are within the district (see Appendix A), which includes twenty-eight cities, towns and villages. Besides the Platte River, other notable tributaries in the district include Wahoo Creek, Skull Creek, Bone Creek, Loseke Creek, Taylor Creek, Shell Creek, Elm Creek, Clear Creek, Rawhide Creek, Silver Creek, Sand Creek, and Duck Creek.

The population of the district is approximately 62,000, of which about half is rural and half urban. The Lower Platte North NRD is financed by a tax levy which may be up to four and one-half cents per \$100 valuation for general purposes and another one cent for water programs. The FY 2022 tax levy is .03345 cents per \$100 valuation.

Governing Body

The Lower Platte North Natural Resources District (LPNNRD) is governed by a 19-member Board of Directors. The directors are elected at the general election for a term of four years, with half of the members up for election every two years.

The district is divided into nine (9) subdistricts. Two board members are elected from each of the nine subdistricts, and one board member is elected at large every four years.

The district operates by a set of bylaws which are kept on file at the district headquarters at Wahoo, Nebraska.



FY 2021 Platte River Basin Activities

One of the great natural resources of Nebraska is the Platte River. It is the feature that attracted early settlers to our state and guided the wagon trails. Today, we look at the Platte River differently. It is a water source for agriculture and cities like Fremont, Lincoln and Omaha, a haven for wildlife, and a place for recreation. Issues surrounding the Platte are a top priority at the LPNNRD, since approximately 72 miles of the river flow directly through, or border, the district.

Ice Jam Agreement

In 1994, the LPNNRD entered into an agreement with the Pappio-Missouri River NRD, Lower Platte South NRD, and Cass, Douglas, Sarpy and Saunders Counties to more effectively deal with ice jams and their resulting flood damages along the Lower Platte River. This area of concern is primarily from Fremont, Nebraska to the mouth of the Platte River. This group has pooled funds of \$150,000 to retain a contractor to use explosives when needed, to remove ice jams in a timely manner.

During the winter of 2020-21, the explosives contractor was put on stand-by, but no explosives were used.

Rock & Jetty Program

This program was developed to offer cost-share assistance to landowners to construct erosion control devices for stream bank stabilization and to assist Dike and Drainage Districts with maintenance of dikes along the Platte and Elkhorn rivers and perennial streams. In FY21, \$25,000 is budgeted for projects on rivers & streams. We assisted a couple landowners on maintenance projects in FY 20-21 at a cost of \$3,170.

FY 2022 Platte River Basin Objectives

- Administer \$25,000 in the Rock & Jetty Program to assist with priority stream bank stabilization for cooperators sustaining damage from the March 2019 flooding. This includes assisting cooperators with meeting the regulations of the Clean Water Act and 404 permits.
- As a member of the Joint Water Management Advisory Board, provide leadership and assistance to move forward with exploring flood reduction solutions for the lower one-third of Dodge County within the District.
- Support the Lower Platte Weed Management Area financially and technically in controlling noxious and invasive weeds.
- Support the Nebraska Land Trust in acquiring easements for the protection and preservation of quality lands.

FY 2023-2027 Long Range Platte River Basin Objectives

- Continue to budget cost-share funds for priority bank stabilization along the Platte and Elkhorn rivers and other perennial streams in the district.
- Continue to be an active member on the Joint Water Management Advisory Board.
- Promote riparian buffer zones along the Platte River and other perennial streams.
- Continue to explore new, innovative and cost-effective ways to protect against stream bank erosion.
- Provide education on stream bank protection and regulations.
- Support and budget annually, as needed, for the Ice Jam Agreement Fund.
- Keep up to date on Clean Water Act and Endangered Species Act regulations.
- Continue to participate with the City of Fremont to study potential nonstructural measures to reduce flooding and economic

losses from the Lower Platte River.

- Work with the City of Schuyler as they evaluate the need for future federal funding for completing structural and non-structural approaches to reduce flooding and economic losses from the Platte River through the LPNNRD District-Wide Hazard Mitigation Plan.
- Encourage cities and counties to initiate floodplain management planning to promote wise floodplain development.
- Assist dike and drainage districts within the LPNNRD to properly repair and maintain levy projects.
- Budget annually as needed to support the Lower Platte Weed Management group in controlling noxious weeds.



GROUND AND SURFACE WATER

One of the Lower Platte North NRD's major responsibilities is to conserve and protect our ground and surface water supplies. To accomplish this goal, the Lower Platte North continues to participate in water quality studies, ground water level monitoring, and water resource educational activities.

FY 2021 Ground & Surface Water Activities

Ground Water Management Area

LPNNRD implemented a District-wide Groundwater Management Area (GWMA) on January 1, 1997, to address both water quality and quantity concerns. This action was based on data gathered since 1985 indicating where groundwater quality conditions have deteriorated beyond those established as health standards, such as nitrate nitrogen. On that date, groundwater quality Phase I (education) regulations became effective for the entire District. One primary rule in Phase I requires certification for fertilizer and water use. The District has developed a groundwater program emphasizing a protection-based approach rather than a reactive, corrective approach. Since that time, advanced Phase areas have been determined by trigger levels listed in the rules and regulations of the GWMA. The District has two Phase groundwater quality control areas, those being Bellwood and Richland/Schuyler. The Bellwood Phase 2 Area was established in 2003 and presently covers approximately 30 square miles in the western portion of the Platte Valley in Butler County and includes the town of Bellwood. In 2015 nitrate levels decreased to a point that the trigger levels were not being achieved, so this area was decreased to 20 square miles. The Richland/Schuyler Phase 2 Area was established in 2004. In 2015 this area was raised to Phase 3 because of the rising nitrates. This area covers approximately 55 square miles in the Platte Valley of Colfax

County and includes the towns of Richland and Schuyler. In 2015, 10 additional sections north of the Richland/Schuyler Area became a Phase 2 area and in 2020 raised to Phase 3. Elevated nitrate-nitrogen levels continue to be the major concern in both Phase areas. Emphasis on awareness is a priority to the District with numerous grants being considered.

In June 2018, the District updated its Groundwater Rules and Regulations by adding a Phase Four under Water Quality and managing water by consumptive use or acre feet limitations. As of July 1, 2021, the District had 9155 registered active wells with 4586 irrigation wells and 206 wells in our GWEL network.

In Summer of 2012, the District saw mid-summer declines in the Bruno area and the uplands of Platte and Colfax Counties. These are now designated as the Butler-Saunders and Platte-Colfax Special Quantity Subareas. The District mandated water flow meters, rolling allocations and annual reports in these areas starting in 2016.

In 2012 seven NRD's agreed to develop a Lower Platte Basin plan, which is a cooperative agreement for the Basin Plan. This plan was approved in December of 2017 with each district assigned a depletion allotment within the Basin. The allotment is in 5-year increments starting in 2016 with a formula to determine the acre feet used for new water uses. The District completed its V-IMP in June of 2018 by adding an additional rule of requiring municipalities to report yearly water use, with an annual report due to NDNR. The Coalition contracted with the Flatwater Group to analyze the data that will be used in the next 5-year allotment.

In 2016 the Lower Platte River Consortium, made up of the Lower Platte South NRD, the Lower Platte North NRD, the Papio-Missouri River NRD, Lincoln Water System (LWS), Metropolitan Utilities District (MUD), and the Nebraska Department of Natural Resources

(DNR), embarked on an effort to develop a drought contingency plan to maintain/mitigate sustainable water supplies to the Lower Platte River during drought conditions. The final report was finalized in the Spring of 2020. The group is in the process of ranking the projects to be considered for supplying water into the Platte River.

Current rules and regulations of the GWMA are available at the LPNNRD headquarters in Wahoo and via the district website at www.lpnrd.org.

Ground Water Quality Sampling

The Lower Platte North NRD continues efforts to develop a ground water quality inventory. The District has been divided into four primary aquifer regions: Todd Valley, Platte Valley, Shell Creek and the Uplands, and further divided into 26 subareas. Staff samples the same 53 wells each summer, weather permitting, to determine long term trends for nitrate-nitrogen. This is referred to as the Statewide Network. The data collected is provided to the Nebraska Department of Environment and Energy (NDEE). NDEE in turn provides this to the Nebraska Legislature on an annual basis.

In 2021 samples were collected from all 53 sites.

Year	Nitrate-Nitrogen Range	% Nitrate-nitrogen 0-8.0 ppm	% Nitrate nitrogen 8.01-10.0 ppm	% Nitrate nitrogen > 10 ppm
2021	0 - 23.1 ppm	69.8% (37 of 53)	7.6% (4 of 53)	22.6% (12 of 53)

Samples for pesticide analysis were collected from seven of these sites (18%). The pesticide analysis was for a suite of 25 parameters, and all results were less than reporting level.

Ground Water Energy Level Monitoring Network

One of the responsibilities of the NRDs in the State is to monitor fluctuations in groundwater

levels. With the help of area cooperators, a ground water energy level monitoring network has been established in the LPNNRD. This monitoring network has been established to obtain a better understanding of the groundwater levels throughout the District. As of Spring 2021, the LPNNRD had 206 wells in the groundwater energy level monitoring network. These wells are monitored each spring and fall, with selected wells also measured in late August.

The LPNNRD compares the latest spring reading to the 1987 base-year to determine if a subarea needs to be declared a Level 2 or Level 3 groundwater management area. Level 2 and 3 management areas require flow meters on wells, annual reporting of water use, and establishment of acre-inch allocations. For the 26 subareas within the District, 24 subareas are currently at Level 1 management, while the other 2 subareas still need additional information before these can be designated. The District prefers at least three years of data before the subarea can be designated as a Level 1, 2, or 3 management area.

Fall readings in 2020 and Spring of 2021 showed a decline from the previous year's measurement. This change was likely the effects of less rainfall in the summer months of June through August 2020 and as a consequence more irrigation occurred. Spring readings in 2021 showed 87% of the wells measured had levels lower in Spring 2021 compared to Spring of 2020. There was a 4% rise in 7 wells from a year ago.

Chemigation

Chemigation is the act of injecting chemicals into the water line of an irrigation system that is then applied onto the crops. It is considered to be one of the most efficient ways of applying essential nutrients in times when the crop is uptaking the most amount of nitrogen through its growing stages. In order to use chemigation, a licensed permit holder must obtain a permit through the Lower Platte North NRD. Special equipment must be installed to

protect Nebraska’s groundwater from possible back-flow of chemicals into the groundwater source. To obtain this permit, administered by NDEE you must pass the Chemigation Certification test taught through UNL Water. There is an online test producers may take due to the recent COVID-19 protocols. The chemigation equipment must be properly equipped, inspected and approved by the NRD before applying any chemicals. The number of chemigation permits continues to slowly rise throughout the district due to chemigation’s efficient application rate when the crops are in the most need of nutrients. In sandier soil types, chemigation is extremely effective due to the soil’s incapability to hold essential nutrients in the root zone after heavy rainfall events.

Chemigation Permits	Total	Renewal	New	Emergency
November 2020	748	695	53	0
November 2021	704	658	46	0

In 2014, the Legislature approved changes to Title 195 that would allow individual NRDs to set chemigation fees. Chemigation fees for LPNNRD are: \$90 for a New permit, \$30 for a Renewal permit, and \$300 for an Emergency permit. New permits are to be inspected each year they are permitted and renewal permits are to be inspected on a 3 year rotation. Failure to renew by June 1st of the following year the permit was obtained will cause the permit to lapse. If a renewal permit lapses and the producer decides to use chemigation as a practice of crop application the individual must obtain a new permit and an inspection is required.

Decommissioned (Abandoned) Wells

Decommissioned (Abandoned) wells are a health and safety concern and have been ruled as illegal by the Nebraska Legislature. A well not used for three consecutive years or one which is no longer useful is considered

to be abandoned and needs to be properly decommissioned.

The Lower Platte North NRD offers up to 75% cost share assistance to landowners to properly decommission abandoned water wells. In addition, the district will assist with up to 75% of the cost for pump and obstruction removal on domestic and stock wells. To receive cost share assistance, the actual decommissioning must be performed by a certified well driller or pump installer. The landowner has six months from the time of application to accomplish this task unless good cause is shown.

Since 1992 the district has administered local and state cost-share dollars to decommission 707 wells. Through this program in FY 20-21, a total of \$13,510.62 was administered by LPNNRD for the plugging of 16 wells. The district will administer approximately \$15,000 of state and local funds to plug additional wells during the current fiscal year.

Flow Meter Maintenance Program/Flow Meter Readings

Since 2008, the LPNNRD has implemented the requirement of installing a District approved flow meter on any new or replacement well. Thereafter in 2012, the District also required the installation of a flow meter on any expansion of acres from an existing well. This pumping information is invaluable to the District to know what has been pumped during years of extended drought. It is vital that the LPNNRD keeps track of this going forward into the future. In order to know the volume of water within our aquifer systems, we need to know the water that is being extracted.

In 2016, the district chose to contract with a private company through the bidding process. The company was scheduled to maintain the flow meters within the LPNNRD’s SQS areas for the first four years. Since that was completed the District has chosen to open the flow meter maintenance program district wide in 2020. Maintenance on the flow meters will be performed once every four years. The district is in charge of the labor and site visit at each

meter. Each mechanical meter site visit is \$60 and each battery operated site visit is \$75. This maintenance includes the regular greasing of the mechanical meters and changing the batteries on the digitally read meters. Along with the regular maintenance the private company also ensures that the meter is not damaged from water or vibration. There are approximately 1,056 irrigation well flow meters that are getting routine maintenance once every four years.

Along with the irrigation wells, the LPNNRD also records meter readings from all of the municipality wells within the District including MUD, Lincoln and Fremont. Livestock wells and commercial wells are required to report if the well was drilled after the 2012 requirement date. Nearly 1,175 readings are recorded annually throughout the LPNNRD District. This Fiscal year the LPNNRD budgeted \$12,500 for the meter maintenance program.

Registered Wells

The Nebraska Legislature declared that the conservation and the beneficial use of ground water are essential to the future well-being of the State. State Law requires that all water wells in the State of Nebraska be registered with the Department of Water Resources. Wells that are not registered are illegal and should be registered as soon as possible. A breakdown by decade from 1970 to present shows the growth of active irrigation wells in the District.

Table of Active Irrigation Wells within LPNNRD compiled by Completion Date

Date	Number of Active Irrigation Wells in the District
December 31, 1970	1,428
December 31, 1980	2,756
December 31, 1990	3,241
December 31, 2000	3,686
December 31, 2010	4,307
December 16, 2016	4,528
December 31, 2020	4,585
January 1, 2021	4,586

Well Permits

In May of 2008, the LPNNRD placed a flow meter and water reporting condition on well permits for all permits issued after that date. All well permits require well owners to install a flow meter and report their water use for the calendar year to the LPNNRD by December 15 of each year. This reporting requirement is effective the year the well is drilled and for each year thereafter, until the well is decommissioned. Summer of 2020 brought drier conditions and as wells were being pumped harder than the last 3 years, replacement well permit requests across the District have increased. As of August 1st, 2021, the District has issued 39 well permits with 8 new irrigation wells, 29 replacement irrigation wells, 2 municipal wells.

Special Studies

The LPNNRD has done a number of studies within the District. The following is a list of studies that is currently being conducted within the District.

Aquifer Vulnerability Mapping and Analysis

The Lower Platte North has been working with UNL to collect and analyze data within the LPN Water Quality Management Areas. The first stage involved some intensive water sampling of irrigation wells for nitrates. A few samples were collected for isotope nitrate samples for the purpose of determining if the nitrates were organic or inorganic sources. This was followed-up with vadose soil sampling analysis to assist in determining the amount of nitrates in soil and pore water present in the unsaturated zones above the water table. A nitrate tool was developed utilizing this data, along with geological information to assist in determining vulnerability. This project will be wrapping up later in 2021 with informational meetings in the area.

3D Airborne Electromagnetic (AEM) Hydrogeologic Framework and Assessment

Papio-Missouri River NRD, NeDNR and LPN started a study in January 2021 to assess

AEM survey information, well logs and other geological information. The data will be used to characterize different geological layers and assign variables such as hydraulic conductivity. This data could be used in a groundwater model to better understand, assess and forecast groundwater flow within the geographical areas. This study should be completed in January 2022.

Lower Platte River Consortium Study

Municipal wellfields in the Lower Platte River Basin depend on the Platte River to recharge the groundwater for their use. This study looked at long term water supplies in the Lower Platte River Basin, and the ability to enhance streamflow, especially in drought conditions, to sustain these municipal water systems. Sustaining water in the river would also provide a benefit to wildlife and agriculture by lessening the likelihood of a 'call' on the river. Due to different hydrologic conditions in the Platte River, such as gaining and losing segments, siting of future reservoirs, groundwater storage projects, etc. becomes important in order to most effectively move water to a desired location downstream. The plan was completed in Spring 2020 with the group now in the process of conducting a desktop exercise on determining which projects are feasible.

Eastern Nebraska Water Resources Assessment

LPNNRD is a partner in the Eastern Nebraska Water Resources Assessment (ENWRA). The ENWRA study has been utilizing Airborne Electromagnetic (AEM) over eastern Nebraska to better model the geology of the glaciated portion of the State. It has opened several questions concerning bedrock aquifers both in water quantity and water quality such as salinity. New flights were conducted in the summer of 2018 with the final report received in summer 2019. A study is being conducted in the Platte-Colfax Area (SQS#2) utilizing the AEM, additional data loggers and other geologic logs to determine the relationship between confining and unconfined layers

along with determining drawdown levels for management decisions. The flights and the results can be found on the ENWRA website at (www.enwra.org).

Elkhorn-Loup Model

The Elkhorn-Loup Model (ELM) project is a study of surface water and groundwater resources in the Elkhorn River basin upstream of Norfolk, Nebraska and the Loup River basin upstream of Columbus, Nebraska. Parts of this basin overlap and cover portions of upper Shell Creek.

Certifying Acres

In July 2009, the District signed a contract with GIS workshop to develop a database of county assessor records as the preliminary step to certifying irrigated acres. Using these records, LPNNRD staff mailed out letters to landowners to verify irrigated ground. As of January 2021, the majority of the irrigation in the district has been catalogued. The District is still granting new irrigation development. Those new acres are not entered into the certification database until such time as they show up on aerial photography and can be accurately modeled. In March of 2021, the District went through all the approved new irrigations and modeled out all those that had yet to be counted. Acre certification provides a true inventory of the irrigation needs of the District, which is an important part of present and future groundwater management and planning. In addition to cataloging irrigated acres, LPNNRD staff have been actively working with the Nebraska Department of Natural Resources (NeDNR), as well as local landowners to bring all irrigation wells in LPNNRD into compliance with Nebraska Revised Statute 46-602 (7).

Nebraska Ordnance Plant Water Pollution Clean Up at Mead

During the 1940s, 1950s and 1960s, an Army Ordnance Plant near Mead was used to assemble bombs and served as an early

Atlas Missile ICBM site. Over time, the soil and groundwater at the plant site became polluted with various explosive residues and solvents. The cleanup has been divided into three basic project areas: Soils (OU1), Ground Water (OU2), and Building contamination (OU3). This area has been under study by the Army Corps of Engineers (COE) since 1988. Tours and open houses are conducted on an annual basis.

Wellhead Protection Program

The LPNNRD implemented a wellhead protection program in FY 2001. The goal of the program is to minimize potential polluting activities on the land surrounding a community's public water supply well(s). The District has identified 22 communities with public supply wells and they have been encouraged to become involved in the program. The City of Ashland, with assistance from LPSNRD, has conducted some investigations within its wellhead management area in 2019-2020. An open house is planned for Ashland in August 2021. The Cities of David City and Wahoo are in the process of re-evaluating their wellhead management areas along with decommissioning wells within these areas.

Rural Water Districts

In recent years, the District has worked with communities who have had difficulties with water quality and quantity by forming two rural water systems. The Butler County system linked the village of Bruno in 2006, who was having water quality and quantity problems, to David City. Also in 2006, the Saunders County system linked the village of Colon, who was experiencing water quality concerns, to Wahoo. The LPNNRD operates both of these systems. The District purchases water from the larger communities and delivers it to the smaller communities; RW staff manage and maintain Colon's system and billing while Bruno manages their infrastructure and household billing. Both systems are designed to serve rural customers along each service route. Combined, the two

systems serve over 135 households in Saunders and Butler Counties. To address fiscal concerns both RWDs have implemented a phased rate increase strategy to more diligently manage the financial standings of both districts. The District has been in contact with several other communities and anticipates several more communities and rural customers to be serviced by rural water systems in the future. Both systems are greater than 10 years old and repairs/replacements of meters is expected to take up RWD staff's time in 202-22 as a number of meters and components are showing the signs of wearing out.

Geographic Information System (GIS) and Global Positioning System (GPS)

LPNNRD has used Geographic Information System (GIS) technology since 1996. GIS is an automated system combining database information and maps. Features on a map, created with GIS technology contain attribute or feature descriptions that are referenced by location. The data used by a GIS system consists of Vector and Raster Data. Vector data consists of point (wells), line (roads) and polygon data (irrigation boundaries); with Raster data consisting of pixels, where each pixel on the screen corresponds to a data point. Raster data includes aerial photography and elevation data such as LidAR (a highly accurate elevation dataset). The District has incorporated the use of GIS into most district functions, including the certification of irrigated acres, maintenance, project planning and modelling of groundwater availability and the movement of contaminants such as nitrates through the soil profile.

In addition to in-house GIS activities, LPNNRD GIS staff assist a variety of partners, including projecting FSA aerial photography into Nebraska State Plane Feet coordinates for NeDNR, custom authoring of maps for the Nebraska Land Trust, coordination of helicopter flight lines for invasive species control with the Lower Platte Weed Management Area, and helping other NRDs with GIS questions as they emerge.

LPNNRD entered into an agreement with Phoenix Web Group to create a robust, relational database. GIS will be the backbone of this database and will allow LPNNRD to quickly, and efficiently, look up any information pertaining to any project or cost share that has been completed for any constituent with land in LPNNRD.

The Global Positioning System (GPS) relies on 28 NAVSTAR satellites, which provide world wide positioning and navigation information around the clock. Receivers acquire signals from satellites to determine precise locations on earth. The data obtained from taking GPS positions can be downloaded and mapped with GIS, making the two technologies complementary. LPNNRD partnered with NRCS on the purchase of a sub-centimeter GPS base station. This allows NRCS and NRD staff to quickly and efficiently perform a variety of tasks in the field with survey level precision.

FY 2021 Ground and Surface Water Objectives

- Continue to monitor changes in groundwater levels and quality in the district.
- Continue with LPNNRD Groundwater Management Area (GWMA) programs to help avoid the Lower Platte Basin being designated “fully appropriated.”
- Continue to implement Voluntary Integrated Water Management Plan (V-IMP) for the District and basin-wide plan. Utilize acre feet allotments assigned to the District for the benefit of the basin.
- As part of the GWMA, continue with LPNNRD certification classes, demonstration plots, generation of maps indicating problem areas, and evolving the development of a master database.
- Continue to cooperate with the United States Geological Survey (USGS) in monitoring groundwater levels at two sites.
- Continue to cooperate with the United States Geological Survey (USGS) in

- monitoring surface water levels at four sites and one site for contamination evaluation.
- Use the Subarea Delineation Study to identify ‘small pocket aquifers’ in the Swedeburg, Prague, Yutan, and Yutan South subareas. Review other aquifer subareas to determine if Stay Management Areas are justified in other portions of our District.
- Continue sampling of approximately 53 wells in our District that are part of the Nebraska State-wide Network.
- Continue to monitor the Phase Areas in Richland-Schuyler and Bellwood for nitrate and elevate these areas as needed.
- Implement extensive sampling of soil and water in the Phase Areas for the purpose of identifying workable best management practices for curbing the rising nitrate trend.
- Administer \$15,000 of state and local cost-share funds to decommission abandoned water wells, and provide 100% cost-share assistance within Wellhead Protection Areas to communities that are actively doing projects within it’s management area.
- Maintain a multi-agency groundwater energy level monitoring network in the Wann Basin of the Platte Valley north of Ashland to pool information from different agencies collecting water level data. This information is being used by the COE and MUD to refine their groundwater modeling efforts.
- Continue to implement the Chemigation Program to inspect safety equipment on permitted irrigation systems in the district.
- Continue with the District’s Well Permitting Program and Variance Process throughout the District.
- Continue to review water use reports submitted to the LPNNRD as part of the well permitting process from new and replacement wells.
- Provide information and education on water conservation and safe disposal of farm and household chemicals.
- Continue to site registered and unregistered wells in the district using GPS.

- Promote and sponsor LPNNRD's Spring Conservation Sensation
- Provide information on Integrated Pest Management in news releases and the "Viaduct" newsletter to encourage reduced use of pesticides.
- Support and promote urban water conservation and chemical disposal throughout the District.
- Assist in organizing the annual NRD Water Programs Conference held each year to update the NRD's on activity of State and Federal Agencies, new research and Legislative issues.
- Continue to install flow meters on irrigation wells that are part of our Ground Water Energy Level (GWEL) Network.
- Expand the GWEL network to monitor aquifer sub-areas as designated in the 2009 Subarea Delineation Study. This will be done by incorporating additional high capacity wells and the drilling of new monitoring wells.
- Continue to monitor clean up efforts by the COE at the Former Ordnance Plant at Mead, Nebraska.
- Work with the COE to establish spacing requirements for future high capacity irrigation, industrial, and/or municipal wells that are requesting to be installed near known contaminant plumes from the Former Ordnance Plant near Mead, so these wells will not interfere with the COE's clean up efforts.
- Continue to monitor clean up efforts by the University of Nebraska at the Eastern Nebraska Research and Extension Center (ENREC) facilities east of Ithaca, Nebraska.
- Maintain transducers placed in District monitoring wells to record changes in groundwater energy levels and to start the process of installing real-time remote reads.
- Declare Level 2 or Level 3 Management areas as warranted caused by declining groundwater energy levels in 50% or more of the monitoring wells reaching their trigger levels after three consecutive spring readings.
- Review livestock permits from DEQ.
- Investigate irrigation runoff and groundwater management area complaints as needed.
- Expand the NeRain program within our District.
- Continue to be a sponsor member of the Elkhorn-Loup Model (ELM)
- Continue groundwater studies with the University and NeDNR in the SQS areas. Study will focus on confined and unconfined aquifers and drawdowns within these areas.
- Communicate with well drillers and pump installers on water concerns within the District.
- Continue to assist the Eastern Nebraska Water Resources Assessment (ENWRA) with the use of AEM (Airborne Electromagnetic) to study the eastern glaciated portions of Nebraska to provide a geologic framework map.
- Improve irrigation efficiency by working with UNL Extension on the Nebraska Agricultural Water Management Network (NAWMN) to install Watermark sensors and ET gauges with producers each year in our District.
- Continue with the process of updating Irrigated Acre Certification within the District.
- Continue working on projects identified within the Shell Creek Watershed Water Quality Plan.
- Update water quality objectives as identified in the Wahoo Creek Watershed and the Shell Creek Watershed Water Quality Plans.
- To increase producer participation in online reporting for entering their data to improve efficiency and quality of data.
- To complete the process of developing a hydro-geological framework utilizing AEM data, boreholes and other geological information.
- To utilize the real-time water level measurement network in Special Quantity Areas for in-season management decisions.

FY 2022-2026 Long Range Ground and Surface Water Objectives

- Continue groundwater quality sampling throughout the LPNNRD, both the State-wide network and intensive sampling of selected regional aquifers.
- Continue water quality education programs based on the goals and objectives of the LPNNRD Groundwater Management Area, which includes LPNNRD certification classes for landowners, municipal and industrial water users.
- If needed, designate further Phase II, III & IV boundaries for the Groundwater Quality Management Areas.
- To educate the need for check valves in protecting the aquifer from contamination.
- Continue with nitrogen application demonstrations and participate with demonstrations on integrated pest management and sustainable agriculture.
- Assist in the proper decommissioning of water wells in the district.
- Continue to use GPS to site registered and unregistered wells within the district.
- If necessary, designate Level II and III boundaries within the district to manage declining groundwater levels.
- If necessary, designate new Special Quantity Subareas (SQS) within the district to manage mid summer declines of groundwater energy levels in aquifers that operate under large pressure swings.
- Continue measurement of ground water energy levels in the district.
- Develop a groundwater model for each sub-area. Additional information on water use from all wells will be needed for accurate information.
- Continued partnership with the Eastern Nebraska Water Resources Assessment (ENWRA) and apply information to the glaciated portions of our District.
- Additional studies to identify vulnerable aquifers and modify GWMA rules and regulations to protect these aquifers and

- their long term sustainability. Continue geophysical work, installation of monitoring wells and test holes to better define these vulnerable sub-areas. Additional AEM flights with $\frac{1}{4}$ to $\frac{1}{3}$ mile spacing would gratefully assist in defining such areas. Eventually cover the entire District with these detailed AEM investigations.
- Continue using AEM (airborne electromagnetic) information to analyze bedrock aquifers both in water quantity and water quality. Test holes and monitoring wells will have to be installed and sampled to determine these as a possible source of usable groundwater. New management strategies need to be developed for these aquifers such as summer trigger levels for confined bedrock aquifers, especially if these are hydrologically isolated from overlying alluvial aquifers. This could develop into three dimensional management where aquifers at different depths are treated by a separate set of rules for each one. This could become very complex but will likely be the only way to sustain the use of these aquifers far into the future.
 - Install precipitation gauges near monitoring wells in important sub-areas.
 - Utilize the completed Lower Platte River Consortium Study for possible locations for recharge and reservoir sites to better convey water downstream to municipal wellfields.
 - Complete water quality objectives as identified in the Watershed Quality Plans.
 - Continue to update the Groundwater Management Plan to include Integrated Management of surface and ground water. It may be necessary to install additional surface water gauging sites coupled with nearby groundwater monitoring wells as tools for integrated water management.
 - Expand the GWEL network to have continuous recording monitoring wells in each sub-area to better manage the resource with the ability for remote real-time readings. This is especially important

in confined aquifers.

- Continue to update the certification of irrigated acres.
- Continue to assist District communities who have difficulties with water quality and quantity by helping determine rural water system feasibility.
- Keep the Saunders County Rural Water System study as an alternative in the event of changing federal regulations governing municipal water supplies.
- Update the Platte Valley modeling efforts using MODFLOW software. This information will be used to further define the 10/50 boundary line.
- Keep abreast of updates and new iterations of the Elkhorn-Loup Model (ELM) to determine which areas in the Shell Creek watershed are in hydrologic connection with the Elkhorn or Loup River basins.

In summary, the LPNNRD needs to focus on five areas in the next five years:

1. Using information from the AEM flights and test holes, establish a monitoring well network in these confined aquifers to record continuous ground water energy levels. It is midsummer declines (late July to mid-August) when large drops in aquifer pressure can cause some wells to run low on water. Map locations of potential recharge sites. More flights, test holes and/or monitoring wells might be necessary in areas to provide the necessary information.

2. Establish ground water management rules to better address confined aquifers. This could involve comparing spring to summer ground water energy levels and comparing this to the potentiometric aquifer thickness and the depth of bedrock. The current management rules for unconfined aquifers should be adequate for future conditions. These controls are based on three consecutive spring readings at or below their trigger levels in at least 50% of the GWEL wells in a given subarea.

3. AEM flights have given a new interest in bedrock aquifers such as the Dakota formation. Monitoring wells in selected areas are needed to determine the water quality and quantity of these bedrock aquifers. Also are these bedrock aquifers in hydrologic connection to any overlying aquifers? If this is the case and new high capacity wells are being established in these bedrock aquifers then management should shift focus to the more vulnerable aquifer to sustain long term viability of both aquifers. If these bedrock aquifers are isolated from the overlying aquifer then "three dimensional management" where wells are managed differently due to their depth may be in order. This could get complex but management needs to take the chemical and physical characteristics of the aquifer in account. For example, what is the salinity of the groundwater and is the bedrock aquifer cemented, unconsolidated, sandstone, limestone, or shale.

4. Horizontal wells. In the immediate future horizontal high capacity irrigation water wells will likely be established in thin aquifers to increase well output or yield. On the plus side, these could replace several vertical wells that are used in series and therefore be a cost savings to the well owner. On the negative side these could quickly dry up thin aquifers less than 20 feet in thickness and affect nearby wells. How do you manage such a system? At the least you could require 600 feet spacing from any point of the lateral to a neighbor's well but again this may not provide much protection in thin aquifers such as the area immediately west of Fremont. Other management options would be to restrict the number of acres irrigated, restrict the length and direction of the laterals, restrict well output such as limit the gallons per minute, establish water allocation, install monitoring wells such as near the end of the laterals to track groundwater levels, etc.

5. Integrated Water Management. Siting of potential recharge sites, storage reservoirs

(both surface and groundwater), and potential water reuse projects to enhance the water supply in the District. Additional monitoring wells, streamflow gauging, and precipitation sites will likely be necessary. Effects of climate change will also need to be considered as part of integrated water management.



In response to the Erosion and Sediment Control Act (LB 474), passed in 1986, the Natural Resources Commission developed the Nebraska Soil and Water Conservation Strategy. This strategy outlines a course of action for efficiently conserving and managing the state's natural resources.

The Lower Platte North NRD administers the Erosion and Sediment Act and has patterned its local program after the state strategy. The district administers state and local cost-share funds through Soil and Water Conservation Programs (SWCP) to offer incentives to farmers for installation of land treatment practices. LPNNRD staff also worked with NRCS staff to utilize Farm Bill Programs to repair erosion problems.

FY 2021 Soil Conservation Activities

Soil and Water Conservation Programs (SWCP)

Under Soil and Water Conservation Programs (SWCP), the LPNNRD administered \$83,029.99 of state funds and \$11,513.56 of local funds for land treatment practices during fiscal year 2021 in cooperation with 13 different landowner projects. In addition, 9 Buffer Strip contracts were administered with \$ 15,008 in state funds.

For fiscal year 2022, \$85,024.81 of state funds (from the Nebraska Department of Natural Resources) and \$25,000 of local funds will be allocated for soil and water conservation practices.

Wahoo Creek Water Quality Land Treatment Efforts

Wahoo Creek in Saunders County, Nebraska, has resided on the Environmental Protection Agency's (EPA) Section 319 list of impaired water bodies. To address the impaired status of Wahoo Creek, LPNNRD in partnership with the U.S. Environmental Protection Agency (EPA)

and the Nebraska Department of Environment and Energy (NDEE) developed the Wahoo Creek Watershed Water Quality Management Plan in 2013. These plans are updated every 5 years and the District will complete another update in 2021. This plan identifies goals to reduce excess phosphorus, nitrogen, soil sediments and E. coli bacteria in the Wahoo Creek Watershed. This plan meets the EPA requirement of containing "Nine Elements" of an effective watershed plan. The plan identifies water quality goals to protect and enhance the quality of all water resources within the Wahoo Creek. Sub-watersheds within the Wahoo Creek Watershed were prioritized for future water quality projects. LPNNRD in partnership with EPA, NDEQ and the Natural Resource Conservation Service (NRCS) identified four Wahoo Creek sub-watersheds as Water Quality Initiative (WQI) areas to receive special EQIP and EPA 319 funding for landowners to complete conservation practices to help achieve the numerous identified water quality goals.

Approximately \$32,185 of 319 Grant Funds in FY 2021 were spent in the Wahoo Creek watershed. These cost-share monies helped construct practices including approximately 7,000 linear feet of terraces, 3,000 linear feet of tile outlets. The Wahoo Creek Grant also included approximately 157 acres in the Lands for Conservation program that helps generate Summer work in the watershed.

In FY 2022, we will complete the Wahoo Creek Watershed Water Quality Plan Phase II, Part B, which is combining \$177,250 of remaining EPA 319 grant funds and \$43,000 of the remaining Nebraska Environmental Trust grant funds. These funds will be used to complete a large Shoreline/Road Stabilization Project at Czechland Lake, Lands for Conservation landowner payments, and for the Wahoo Creek Watershed Plan Update. For example, septic systems that are over 30 years old or have an open discharge are eligible for up to \$4,800 of

cost-share assistance to bring the system up to EPA/NDEE code. To accomplish water quality goals, as outlined in the EPA Water Quality Watershed Plan, is to continue this partnership effort for many years to come. The Railroad Road/Czechland Lake Shoreline Stabilization Project will be completed in the Fall of 2021. This is a cooperative effort between LPNNRD and Saunders County.

Shell Creek Watershed EPA Section 319 Water Quality Improvement Efforts

Shell Creek is a major tributary of the Lower Platte River. Land use in the approximately 305,000 acre watershed is predominantly row crop agriculture. The designated beneficial uses (Primary Contact Recreation and Aquatic Life) of some segments of Shell Creek are impaired by elevated levels of Escherichia coli (E. coli) bacteria, selenium, Atrazine and excessive erosion from storm water flow.

The Shell Creek Watershed Improvement Group (SCWIG) is a volunteer committee that formed in 1999 to lead local efforts to identify problems and to promote implementation of conservation practices to improve water quality in Shell Creek. This evolved into an advisory group to LPNNRD continuing to provide local leadership toward reducing erosion and quality impairments in the watershed. A community-based planning approach was used to gather input from the citizens of the watershed for development of the Shell Creek Watershed Environmental Enhancement Plan that emphasizes combinations of practices that improve water quality. Efforts are underway on the plan update to be completed by the end of 2021.

Over the past 20 years, the Shell Creek Watershed has benefited with over \$2 million in EPA Section 319 funds combined with approximately \$4 million in partnering federal and local funds for assisting landowners in establishing Best Management Practices on their farms. These efforts resulted in Shell Creek becoming the first watershed in the nation to be delisted for atrazine contamination in FY 2018.

In FY 2021, in cooperation with Colfax County, Shell Creek Channel and Bank Stabilization Project near Schuyler north of the Union Pacific Railroad bridge replacement near Colfax County Road 15 was completed. Completion of Shell Creek Channel Improvement and Bank Stabilization will occur south of the railroad bridge to the Platte River will occur in the fall of 2021. In addition, a large Wetland Project was completed in December 2020, in cooperation with a private Platte County landowner. There are over \$390,000 of EPA 319 grant funds and approximately \$14,000 of NET funds remaining to assist with other Shell Creek Watershed projects.

Erosion and Sediment Complaints

The LPNNRD responds to occasional erosion and sediment complaints. In most cases, these complaints are resolved before going through the formal complaint process. Many cases are drainage issues that are resolved between the District and landowners. During FY 2021 the district received no formal complaints, but one verbal and some minor drainage issues.

FY 2022 Soil Conservation Objectives

- Use technical assistance from the NRCS in the planning, design, construction, and maintenance of conservation measures applied to the land.
- Use Federal, state and local funds to promote and implement land and water treatment projects in the Dunlap Creek, North Branch and Miller Branch of Wahoo Creek, along with Cottonwood Creek Watershed and Shell Creek Watershed, to reduce erosion and improve water quality.
- Continue encouraging the implementation of summer conservation construction utilizing federal funding within the Wahoo Creek Watershed through the Lands for Conservation program; for FY22 the NRD has approved \$43,050.00 for the set aside of 210 acres.
- Administer \$85,024.81 of State NSWCP

funds and \$25,000 of local cost-share and grant funds to landowners for the construction of terraces, tile outlets, waterways, diversions, small dams, planting of permanent vegetation, and maintaining water quality.

- Continue to promote conservation tillage measures, pasture & range management, sustainable agriculture, and the Conservation Reserve Program (CRP), through news releases and the district's newsletter.
- Recognize the Outstanding Soil and Water Conservationist, at the LPNDRD Recognition Banquet.
- Continue to assist landowners in resolving soil erosion and sediment complaints.
- Provide financial support and staff time to conservation education activities.
- Continue to work closely with locally-led conservation groups to promote soil and water conservation throughout the district.
- Partner with the Shell Creek Watershed Improvement Group (SWIG), EPA/NDEE and NET toward continuing implementation of Best Management Practices in the Shell Creek Environmental Enhancement Plan Implementation.
- Work with NRCS, NDEQ, NET, and Saunders County and the Wahoo Creek locally led Steering Committee in pursuing additional federal and state funds to assist with land treatment practices as defined in water quality objectives in the Wahoo Creek Watershed Water Quality Plan.
- Assist local landowner groups form advising steering committees in the Wahoo and Bone/Skull Creek Watersheds.

FY 2023-2027 Soil Conservation Long Range Objectives

- Maintain existing land treatment practices and programs.
- Continue to work with all counties in the district to reduce roadside erosion.
- Administer the NDEQ/EPA 319 Grant

Program to improve water quality throughout Wahoo Creek, Shell Creek priority watersheds.

- Begin implementing Best Management Practices under NDEQ/EPA Corridor Alliance Watershed Water Quality Plan.
- Look for new and innovative soil and water conservation methods.
- Partner with NRCS, UNL Extension and landowners to improve all aspects of their water and soil quality.
- Continue to support the Land and Range Judging Contests.
- Continue targeting SWCP land treatment program funds for priority watersheds in the District.
- Use existing and new technology and GIS software programs for implementing and promoting soil conservation practices.
- Promote the use of and make available soil surveys and land use information.
- Continue to support Locally Led Landowner Groups to promote and implement soil and water conservation practices.



FLOOD CONTROL & DAMAGE REDUCTION ACTIVITIES

Watershed projects have been completed in five of eleven sub-watersheds (see Appendix E) in the LPNNRD to help reduce floodwater and provide grade stabilization. These completed projects include Bellwood, Clear Creek, Cottonwood Creek, Sand and Duck Creek and Swedeburg watersheds, along with Rawhide Creek. Current high priority flood reduction areas include Shell Creek, Wahoo Creek, Skull Creek and Bone Creek watersheds. On federal and state projects where the LPNNRD acts as project sponsor, the district obtains land rights and mitigates for loss of trees, wildlife habitats and fences destroyed by project construction. The LPNNRD is also responsible for operation and maintenance activities on these projects after they are built.

The LPNNRD offers local assistance for the construction of small dams that can help counties and/or landowners protect county roads, control erosion and provide water for livestock and wildlife.

FY 2021 Flood Control and Damage Reduction Activities

Wahoo Creek Flood Reduction Efforts

In 2017, the Natural Resource Conservation Service (NRCS) approved \$1.5 million under their Regional Conservation Partnership Program (RCP) to assist with planning, design and construction of three Wahoo Creek flood reduction dams, sites 26a, 26b & 27. These dam sites were originally identified as potential projects in the NRCS Wahoo Creek Watershed Plan completed in 1998. The total estimated cost to complete the three dams is \$4.1 million. In addition to RCP funding, there is another \$2.3 million of state funds approved through the Nebraska Department of Natural Resources Water Sustainability Fund, leaving \$1.5 million needed from local sources. An RCP agreement with NRCS was approved in September 2017

to accomplish planning, design, permits and construction of the project.

In the fall of 2017, NRCS approved additional funding for the Wahoo Creek Watershed under the federal Watershed Flood Prevention Operations Program (WFPO), historically referred to as P.L. 566. LPNNRD then entered into a three year agreement with NRCS to use federal funds for watershed planning to include sites 26a, 26b, 27 plus an additional seven remaining Wahoo Creek Watershed flood reduction dam sites (55, 66, 77, 82,, 84, 85 & 86). FYRA Engineering has been assisting LPNNRD with completing the Wahoo Creek Watershed plan which will be submitted to NRCS for approval in the fall of 2021. After watershed plan approval, LPNNRD has hired Olsson (Engineering) for completing the design, permitting, bid letting and construction oversight for dam sites 26a., 26b. & 27, along with designing the other seven dams.

After the watershed plan is approved, dam designs will be completed in 2022- 2023. After the first 3 dams are underway, it is anticipated that future federal and state assistance through the federal WFPO program and the state Water Sustainability Fund will be provided to assist with future construction of the remaining seven additional dams.

Sand Creek Environmental Restoration Project (Lake Wanahoo)

With the invaluable assistance of numerous local, state and federal partners, 2011 witnessed the completion of construction on Lake Wanahoo's earth embankment. The breakwater feature and the fisheries component were completed a few years prior to the embankment. Recreation components were completed for Lake Wanahoo in FY 2011. Construction of seven upstream flood reduction/environmental enhancement structures were completed in FY 2012 - FY 2014.

In FY19, LPNNRD assumed Lake Wanahoo's

recreation management responsibilities from the Nebraska Game and Parks Commission.

Operation and Maintenance

District staff completed inspections on 45 watershed structures and special projects in the NRD in FY 20/21. These inspections help detect problems before they become serious. Also during the 2020 fiscal year, noxious weeds and volunteer trees were sprayed on 45 dams, Clear Creek Levee and the Rawhide Ditch System. Annual maintenance activities such as removing debris, repairing fences and unplugging risers were completed at many of the dam locations.

Army Corps of Engineers 205 Flood Studies

Over the past few years, the District has partnered with local entities and the US Army Corps of Engineers to study flood protection alternatives for their areas. In 2004, LPNNRD partnered with Fremont, Inglewood and Dodge County to look at a potential levee project to remove areas from the Platte River 100-year ice induced floodplain. In FY 2017, the Fremont study evolved into a General Investigation (GI) Study which determined that there is not a feasible structural solution (levee) to the City of Fremont's flood threat from the Platte River. In 2018 the GI Study evolved back to a 205 Non-Structural Study for the City of Fremont and Dodge County. This effort will continue in FY 2022.

In 2005, LPNNRD entered into an interlocal agreement with the City of Schuyler to evaluate levee protection options to protect the city from flooding from the Platte River and Shell Creek. In FY 2012, the Schuyler 205 Study was completed and entered into the project design phase. In FY 2014 the design phase was completed and LPNNRD assisted Schuyler with obtaining needed land rights for the Shell Creek Levee portion of the project which began construction activities in the spring of 2014 and most construction activities were completed in

the fall of 2015. LPNNRD continued to assist Schuyler in FY 2018 with closing out the project with the Army Corps of Engineers. Schuyler continues to do a good job in maintaining the levee.

FY 2022 Flood Control and Damage Reduction Objectives

- Continue with accelerated land treatment efforts in identified priority watersheds in the District.
- Complete biennial inspections on 45 watershed structures; spray noxious weeds & cut and treat trees on 45 dams, Clear Creek Levee and Rawhide ditch; complete regular maintenance activities at all sites.
- Continue to be an active partner on the Joint Water Management Advisory Board to explore flood reduction and drainage solutions in the lower one-third of Dodge County within LPNNRD.
- Partner with the City of Fremont, Dodge County and Papio-Missouri River NRD to establish cameras and water sensors at five locations along the Platte River.
- Partner with Dodge County, City of Fremont, Dodge County, City of North Bend and the North Bend Drainage District toward an eventual FEMA Drainage Improvement Project.
- Partner with City of Fremont, Dodge County and the Fremont Rod & Gun Club on completing the Platte River Levee Breach Repair Project.
- Continue to educate the public on watershed management and flood reduction in LPNNRD newsletters, news releases and our website.
- Cooperate with landowners and counties in evaluating small dam sites for cost-share throughout the district.
- Continue to partner with the Army Corps of Engineers, FEMA, City of Fremont, Inglewood and Dodge County on exploring non-structural opportunities for feasible

flood control solutions.

- Support the City of Schuyler for exploring non-structural opportunities for feasible flood control solutions from the Platte River through the LPNNRD District-wide Hazard Mitigation Plan.
- Work with Communities, Counties and other entities on projects identified in our District-wide All Hazard Mitigation Plan.
- Complete the Wahoo Creek Watershed Plan that identifies the future completion of ten flood water reduction dams.
- Complete engineering designs on Wahoo Creek Dam Sites 26a, 26b and 27.
- Begin engineering designs on Wahoo Creek Dam Sites 55, 66, 77, 82, 84, 85, 86.
- Commit funds and staff time toward seeking federal and state funds for constructing the remaining seven unfunded flood water control structures (sites 55, 66, 77, 82, 84, 85, 86) in the Wahoo Creek Watershed.
- Begin the process of updating LPNNRD's district-wide All Hazard Mitigation Plan.
- Work with Dodge County and City of Fremont and other JWMAB members toward the completion of the Rawhide Watershed WFPO Planning efforts.

- Assist Fremont, Inglewood and Dodge County with non-structural flood protection projects as identified by the Army Corps of Engineers study and the Hazard Mitigation Plan Flood Resiliency study.
- Assist Schuyler with non-structural Platte River flood protection project opportunities as they become available.
- Assist District Communities in evaluating future flood protection for their communities through updating the District's Hazard Mitigation Plan and assisting with identified projects.
- Construct Wahoo Creek flood water reduction dams 26a., 26.b and 27.
- Complete engineering designs for eight remaining Wahoo Creek Dam Sites 55, 66, 77, 82, 84, 85 & 86.
- Commit funds and staff time toward obtaining federal and state funds for construction of the ten flood water reduction dams in the Wahoo Creek Watershed.
- Continue to work with JWMAB members on the numerous projects identified as flood reduction/drainage improvement projects.

FY 2023-2027 Flood Control and Damage Reduction Long Range Objectives

- Continue to commit funds and staff time toward obtaining additional funding for flood water control/reduction structures in the Wahoo Creek Watershed.
- Continue to budget staff time and funds to maintain and operate completed flood control structures that are sponsored by the LPNNRD.
- Continue to explore flood reduction opportunities for Shell Creek and Skull Creek Watersheds.
- Continue to encourage cities and counties in the district to accept and implement Floodplain Management Authorities.



The district administers several programs designed to enhance the region’s forest, range, and wildlife land, including the Tree Planting Program, Wildlife Habitat Programs with Game & Parks and Pheasants Forever, SWCP Program, and Mitigation Program. The district also sponsors educational activities such as Range Judging and Land Judging contests, and other school-oriented activities.

FY 2021 Forestry, Range, and Wildlife Habitat Activities

Tree Program

One of the most visible and popular programs offered by the LPNNRD is the district’s tree planting program. As a direct result of this program, begun in 1973, an estimated 862,750 trees and shrubs have been planted in the district. Trees and shrubs may be obtained from the NRD for windbreaks, shelterbelts, wildlife habitat, woodlots, and Christmas tree plantings. Besides providing a planting service, the NRD also designs tree plans and offers technical advice on ground preparation for tree sites.

During the spring of 2021, 6,215 trees and shrubs were distributed to District residents. Of this total, 5,245 were planted by the NRD field crew at 12 sites.

Wildlife Program

Lower Platte North continues to encourage landowners to set aside land for wildlife habitat by using Federal Programs and Programs provided by Nebraska Game & Parks and Pheasant Forever. Programs such as Corners For Wildlife and Wild Nebraska.

The district assisted with one Corners for Wildlife payment in FY 2020-2021.

Community Forestry Program

In FY 2020-2021 LPNNRD donated 900 seedlings for children in Fremont, and Newman Grove and provided trees to Conservation Sensation and Fremont EcoFair for educational purposes. The District budgets \$2,000 for Community tree development projects. The District assisted the American Legion Post in Newman Grove with their RollCall Veterans Memorial for Community Forestry funding.

FY 2022 Forestry, Range, and Wildlife Habitat Objectives

- Plant and distribute conservation trees and shrubs through the district’s Tree Planting Program.
- Continue to include tree planting as an eligible cost-share practice under the SWCP program.
- Offer trees and give staff presentations to elementary students across the district.
- Assist cooperators to sign up for Wildlife Programs.
- Cooperate with the Extension Service and the NRCS in obtaining tree orders from District residents.
- Recognize a cooperator for outstanding tree planting efforts at the Recognition Picnic/Banquet.
- Provide cost-sharing for the conversion of cropland to grassland through the SWCP program.
- Cooperate with Pheasant Forever Chapters to enhance wildlife habitat and establish windbreaks.

FY 2023-2027 Forestry, Range, and Wildlife Habitat Long Range Objectives

- Sell as many trees and shrubs each year

through the district's Tree Planting Program, and to plant as many trees and shrubs for qualified property owners.

- Provide information and education on tree planting, woodland management, grassland management, and proper wildlife habitat enhancement through the media, tours, and schools.
- Continue to administer Wildlife Habitat programs in cooperation with the Nebraska Game and Parks Commission and other partnering entities as opportunities arise.

FY 2021 Recreation Activities

Czechland Lake Recreation Area

Czechland Lake Recreation Area is a multipurpose project located one mile north of Prague, Nebraska on Highway 79. Flood control, recreation and education are the main benefits of the project. Located at a convenient distance from Omaha, Lincoln, Fremont and Wahoo, the 85 surface acre lake is situated on 265 acres of public access land operated and maintained by the LPNNRD.

State park permits and fees are not required for entrance to the area. Czechland Lake has 11 electrical camper pads at an \$18/night fee for the use of a camping pad. There are also three non-electrical pads. A Nebraska Fishing License is required for anglers. The lake fishery is managed by the Nebraska Game and Parks Commission, which stocks and monitors fish populations. Catfish, Bluegill, Northern Pike and Largemouth Bass were initially stocked in Czechland Lake.

Originally built as one of twelve floodwater structures in the Cottonwood Creek Watershed, Czechland Lake has developed into one of the area's most popular recreation spots. The reservoir and recreation area development was built at a total cost of \$1.8 million. Funding for the project was shared by the Nebraska Natural Resources Commission, Saunders County, USDA Natural Resources Conservation Service and LPNNRD. Grant monies from the U.S. Environmental Protection Agency have been used to reduce nonpoint source pollution entering the lake and to provide educational resources.

The Czechland recreation area was used extensively during FY 2021 generating approximately \$18,000 in camping revenue. Mowing, trash removal, repair and upkeep of park equipment, and thistle control kept LPNNRD park staff very busy during the spring and summer.

Homestead Lake (Skull Creek Site #55)

Construction was completed on Homestead Lake in 2001. The dam offers flood control for nearby communities, and has been developed for public recreation. Recreation facilities include a shelter, restroom, picnic areas, a boat ramp, and hunting areas. FY 2021 proved to be another very popular year for recreators as the area was extensively used.

Lake Wanahoo

Work was completed on recreation facilities at Lake Wanahoo one mile north of Wahoo in FY 2012. Recreation facilities at the 1,600 acre site straddle the 662-acre lake, with camping and boating access on the west side and a day use area on the east. A rocky hiking/biking trail winds throughout the park, linking the east and west side recreation areas over a breakwater levee one mile north of the dam. Mowed trails north of the levee provide access to undeveloped areas set aside for wildlife habitat.

The camping area contains 75 camper pads, 54 tent camping sites and 6 primitive cabins. All camper pads are equipped with electrical hookups and are rock surfaced. All sites, electrical, cabin and tent have fire rings and picnic tables.

The recreation area offers access to two large boat ramps wide enough to accommodate four boats at a time. Boating on the entire lake is no-wake only.

The day use area on the east side of the lake has two large picnic shelters and two smaller ones, all offering scenic views of the lake. In FY 2017 a dump station for RV's was constructed on the east day use area as well as a disc golf course/nature educational trail.

Both the camping and day use areas provide excellent fishing access, with a total of seven fishing jetties. One jetty on each side has an attached handicapped pier. The lake was

stocked with largemouth bass, bluegill, blue catfish, crappie, northern pike, and walleye beginning in 2008.

Limited hunting opportunities will continue to be available at Lake Wanahoo through the Game & Parks Commission PATH Program, where adults can schedule a time to mentor a youth hunter at designated hunting sites north of the recreation area.

The Lake Wanahoo Recreation Area was opened to the public in spring 2012. An operation and maintenance plan was developed with the assistance of the Nebraska Game and Parks Commission and Pheasants Forever in FY 2014 which identified activities that were implemented in 2015 .

In FY 2019, LPNNRD assumed the responsibilities of administering Lake Wanahoo as a public recreation area from the Nebraska Games & Park Commission.

In FY 2020, the Clint Johannes Education Building was completed on the day use portion of the recreation area. This facility provides a protected outdoor education space for LPNNRD education activities, as well as a rentable event facility for the public. Also in FY 2020, six new primitive cabins were installed in the primitive camping portion of the park to give visitors a unique alternative to tent camping.

FY 2022 Recreation Objectives

- Continue to budget funds for maintenance, including grass mowing, tree trimming, grading roads, outhouse cleaning, trash removal, painting and noxious weed control, at Lake Wanahoo, Czechland Lake and Homestead Lake Recreation Areas.
- LPNNRD will continue managing all recreation at the Lake Wanahoo recreation area.

FY 2023-2027 Recreation Long Range Objectives

- Continue to evaluate the development of new outdoor public recreational opportunities as they arise.
- Continue to assist NE Game & Parks and Pheasant Forever in developing new areas offering public access.



It is the general policy of the LPNNRD not to provide financial assistance for drainage improvement and channel rectification unless a project has public benefit and is sponsored by a county, city, Drainage District or a group of landowners through an established Improvement Project Area. Under this policy, the district has cooperated on several projects that have provided public benefit.

FY 2022 Drainage Improvement & Channel Rectification Objectives

- Work with Colfax County to complete the Shell Creek South Channel Improvement/Benching Project.
- In partnership with the North Bend Drainage District, Dodge County and City of Fremont, support the drainage improvement project assessment of the North Bend drainage ditch through FEMA.
- Continue to oversee the progress of the Rawhide Creek West Branch Project to ensure that landowners control vegetation on Rawhide Creek to help it stay clean.
- Provide continued assistance to Platte Center with stabilizing a segment of Elm Creek.
- Work with local landowners and Colfax County to improve Shell Creek flows east of Schuyler.

FY 2023-2027 Drainage Improvement & Channel Rectification Long Range Objectives

- Evaluate potential technical and funding assistance to counties, cities and other entities in the district that sponsor sound drainage and channel improvement projects.



WASTE DISPOSAL & POLLUTION CONTROL

Over 30 years ago, vast changes occurred in Nebraska's solid waste regulations. Landfills that weren't properly designed, operated or sited were required to shut down, as were unauthorized dumps. In order for a landfill to operate, it must be approved by the State and receive a permit. If a permit is not issued, the landfill cannot legally operate. Currently, the only permitted landfill in the Lower Platte North NRD is a facility near David City.

FY 2022 Waste Disposal & Pollution Objectives

- Promote recycling efforts in the district through education programs, newsletters, and news releases.
- Participate in education efforts to promote the reduction of pollution to our air, water, and soil resources.
- Cooperate and be supportive of other group and agency pollution control efforts, education, and/or regulation.

FY 2023-2027 Waste Disposal & Pollution Long Range Objectives

- Assist and encourage all District communities in establishing collection locations for recyclable wastes.
- Assist District cities and counties in establishing pickup days for hazardous household and farmstead wastes as opportunities arise.
- Promote waste reduction efforts in the district through education and incentives.



A major responsibility of the Lower Platte North NRD is to keep the public aware of the district's various projects and programs, and to inform and educate children and adults about the wise use and management of our natural resources.

FY 2021 Information & Education Activities

During fiscal year 2021, the Lower Platte North NRD conducted many activities to help residents learn the importance of our soil and water resources and to stay informed of issues and concerns regarding natural resources. Some of the highlights included:

Publications and Marketing

In FY 2012, the district switched distribution of "The Viaduct" newsletter from direct mail subscriptions to inserts in area newspapers. In FY 2021, more than 26,000 copies of the newsletter were distributed in area newspapers and via email.

Various brochures describing LPNNRD programs and services were updated as needed in FY 2021. These brochures are displayed in the office and distributed during LPNNRD sponsored events and exhibit booths. A Fact Sheet for use with the NARD's public relations campaign at public events is updated yearly.

Press releases are distributed to district papers and radio stations. Numerous ads spotlighting different NRD programs and upcoming deadlines air on KTIC Radio throughout the year. Digital ads on the Wahoo newspaper website continued in FY 2021. In FY 2020, the LPNNRD began airing 30-second program commercials on News Channel Nebraska. The Lake Wanhoo commercial aired during the summer of FY 2020. In FY 2021, the LPNNRD aired the newly produced Projects video, and Operations and Maintenance video,

along with the Lake Wanhoo video.

The NRD continues to maintain information and education outreach for the district through the use of social media outlets on Facebook, Twitter, and YouTube. Photos, videos and information is updated and maintained bi-weekly.

Website

The NRD's website at www.lpnrd.org contains information on nearly all of the district's projects and programs, along with staff and director information, committee and board meeting minutes, and more. Online application and registration forms for various projects and programs are available as well. Online payment capabilities continue to allow customers to pay for trees, rural water bills, and Lake Wanhoo permits. In 2019, the district began tracking the activity on the website including which pages are viewed to help keep current information available online. The website continues to be updated to allow for different types of viewing devices – desktop, mobile and tablet devices.

Video Promotion

During FY 2018, the district worked with redthread to create a 1 minute and 30 second video that promotes the conservation efforts of the district. The video is very unique to the Lower Platte North NRD because no professional acting or voice talent was hired for the video. A past director, current director, and current staff are featured in the video. The children of a current employee and a current director were also featured in the video.

During FY 2019, redthread created a promotional video for the Lake Wanhoo NRD Recreation Area. With the need to bring nature and outdoor recreation to people during the pandemic, the commercial was featured in 30-second spots on News Channel Nebraska during the summer of 2020.

KLKN produced a video to promote

LPNNRD's water conservation efforts. The video featured LPNNRD Water Department staff and various water quality and quantity efforts.

During FY 2020, redthread created a promotional video for the duties and responsibilities of the Operations & Maintenance department, and a video to promote the activities of the Projects department. The videos featured current staff, and the video was narrated by a current LPNNRD director.

The LPNNRD plans to create a video for the Information and Education department during FY 2022. This video will focus on the district's information outreach efforts and environmental education. Once completed, clips from the department videos will be combined to create another video that will feature all of the programs at the LPNNRD.

These videos are shown as commercials through area television stations, educational purposes for presentations and featured on social media platforms.

Education Programs

During FY 2021 the district continued with two year-long programs. The St. Wenceslaus Pre-kindergarten students learn about wildlife, trees, birds, recycling and water conservation through books, pictures, stories, and hands-on activities. The students also came out to Lake Wanahoo at the end of the year for a field trip filled with nature hikes and disc golf. The district teamed up Wahoo Public 8th Grade students for the Survival Club program, making a total of three full school years of the program. LPNNRD staff and other outdoor enthusiasts meet monthly with students during the school year to learn about hiking, knot tying, 2-legged predators, 4-legged predators, fishing, first aid, foraging for wild foods, fire building and other outdoor survival skills. Towards the end of the school year, the Survival Club meets at Lake Wanahoo for a year-end campout to test their new outdoor skills. The year-end campout was not held in 2021.

The district continues to participate in

the Career Exploration Opportunities (CEO) Program with Wahoo Public Schools. During the Spring semester of 2021, LPNNRD staff hosted one high school senior and he rotated between each department to learn about the LPNNRD responsibilities.

Since the completion of the Education Building on the East side of Lake Wanahoo, the LPNNRD staff has been able to hold events in conjunction with area teachers and students for hands-on education. LPNNRD staff started a monthly educational event, "Coffee, Lakeside," that has discussed topics such as gardening activities, migratory birds of Lake Wanahoo, fishes of Nebraska, tall-grass prairies, bats of Nebraska, and lake ecosystems.

The Lower Platte North NRD and Lower Platte South NRD rotate in hosting the East Central Land Judging Contest. Land Judging is a competition for high students that challenges them to gain a better understanding of soil structure and land evaluation. The Lower Platte North NRD works with local NRCS employees to choose a site location and help with site preparation. On October 6, 2020, the Lower Platte North NRD hosted the East Central Land Judging contest with special modifications to accommodate school guidelines and area health department guidelines. Over 180 students from 11 FFA chapters competed at the contest near Prague. The Lower Platte North NRD staff and NRCS staff assisted in the preparation, contest monitoring, and scoring efforts during the contest. The East Central Land Judging Contest will be held by Lower Platte South NRD in October 2021.

The annual LPNNRD Spring Conservation Sensation celebrated its 30th anniversary this year! Fifth and sixth grade students from Saunders, Butler, and Dodge Counties participated in various activities. Hands-on activities were presented by LPNNRD staff, additional personnel from various agencies and organizations, and volunteers to teach students about the environment, natural resources, tree planting, lake ecosystems, wildlife education and more.

The Outdoor Recreation Youth Workshop coordinated by the LPNNRD and Saunders County UNL-Extension was held at Lake Wanahoo. 4H students and other participants who attended learned a variety of outdoor recreation activities including how to kayak, how to play disc golf, how to start campfires, and they also had the opportunity to learn about owls by dissecting owl pellets. The other event coordinated between LPNNRD and Saunders County UNL-Extension is the Saunders County Youth Ag Tour, and due to low numbers, that was canceled.

Test Your Well Event is a program that partners with area FFA chapters to host public events, providing nitrate testing on water samples from private wells at no cost to the attendees. The district held an event with East Butler where over 50 water samples were collected and tested by the FFA students.

District staff provided various presentations and activities during natural resources festivals, field days, out-of-school time programs, school classrooms, online activities on the LPNNRD website, and adult education events. As a result of the district's educational outreach efforts, there was interaction with approximately 809 youth and 43 adults in FY 2021.

Awards, Contests, and Events

The LPNNRD provided a display at the 2021 Butler County Fair. Most of the County Fairs in the District did not offer booth space due to the lingering effects of the pandemic. The LPNNRD plans to provide displays at up to five area county fairs, and agriculture related events in the district in the future.

The LPNNRD provided assistance through preparation and completion during the 2021 NCF-Envirothon Virtual Contest. Staff helped to prepare media and advertising, prepare packages for contestants, and help with judging the oral presentations. The NCF-Envirothon was postponed from 2020 due to the pandemic, and for safety precautions, was held virtually in 2021.

In FY2021, LPNNRD directors voted to

rename the Lake Wanahoo Education Building to honor a former influential LPNNRD director. In a unanimous vote, the building was renamed to the Clint Johannes Education Building at Lake Wanahoo. An open house and dedication ceremony was held in August 2021. The LPNNRD holds environmental education programs for all ages throughout the year at the building for special programs and events with area schools, and outside-of-school groups.

FY 2022 Information & Education Objectives

- Publish the district newsletter "Viaduct" biannually in an electronic format and as a printed newspaper insert in 10 area newspapers.
- Send timely news releases to the local media on various LPNNRD programs, projects, and activities.
- Disperse pamphlets and other publications about LPNNRD programs.
- Update the district's website frequently.
- Continue to provide a display at county fairs (up to five major counties) within the district.
- Continue information and education outreach for the district through the use of tools such as local radio stations, local tv stations, and social media outlets (Facebook, Twitter, YouTube, etc.).
- Continue with the annual awards and recognition program.
- Provide district elementary students with free trees, as requested, in the spring.
- Provide LPNNRD staff as requested to speak to community organizations and schools on NRD activities and environmental topics.
- Provide various education programs, events, and activities to area schools and out-of-school time programs.
- Provide assistance for the East Central Region Land Judging Contest in the fall of 2021, hosted by Lower Platte South NRD.
- Host the 31st Annual Spring Conservation

- Sensation in May 2022.
- Develop new programs and promotional projects to aid in outreach efforts of the district.
 - Develop a video for the Information and Education department.
 - Provide assistance and publications for the students involved in the Shell Creek Watershed Monitoring Program.

FY 2023-2027 Information & Education Long Range Objectives

- Search for new and effective ways to inform and educate the public on the NRD purpose and programs.
- Participate with the Information & Education Staff Group to coordinate statewide I&E activities and produce statewide products.
- Increase participation in activities sponsored by other agencies related to NRD responsibilities.
- Seek to have conservation/environmental education as a part of the school curriculum.
- Support environmental education activities and events throughout the district, and neighboring NRDs.
- Provide assistance for the East Central Region Land Judging Contest in the fall of 2022, hosted by Lower Platte South NRD.
- Assist in the development of an outdoor classroom for a district school.
- Partner with district schools to host Test Your Well Events annually.



LPNNRD Staff

The staff of the Lower Platte North NRD includes 17 full-time and part-time employees stationed at the district office in Wahoo. The NRD administers a full-time field technician, four field office assistants in Natural Resource Conservation Service county offices, and a Recreation Facilitator for Czechland & Homestead Lake Recreation Areas.

In addition to the listed full-time and part-time positions, the district employs seasonal conservation technicians to assist in the layout of land treatment structures. There are also seasonal summer employees hired to help with Lake Wanhoo, water sampling, tree planting and maintenance of LPNNRD projects. Personnel positions and assigned responsibilities could increase in the future as increased project and program responsibilities increase.

Current staff as of September 1, 2021:

Sydney Abbott, **Education Coordinator**
 Daryl Andersen, **Water Resources Manager**
 Tyler Benal, **Water Resources Specialist**
 Jill Breunig, **Bookkeeping Department Head/Administrative Assistant**
 Will Brueggemann, **Water Resources Specialist**
 Duke Dokulil, **Operations & Maintenance Technician**
 Sean Elliott, **Projects/Rural Water Manager**
 Eric Gottschalk, **General Manager**
 Bob Heimann, **Operations & Maintenance Manager**
 David Moore, **Operations & Maintenance Technician**
 Tom Mountford, **Assistant General Manager**
 Russell Oaklund, **Lead Water Resources Specialist**
 Dave Odvody, **Recreation Facilitator**
 Chris Poole, **Grants/GIS Department Head**
 Karen Rezac, **Department/Administrative Assistant**
 Lacey Sabatka, **Information Coordinator**
 Bret Schomer, **Wanhoo Recreation Supervisor/Water Resources Specialist**

Staff Support for NRCS Offices:

Vacant, **Conservation Technician**
 Kimberly Piitz, **NRD/NRCS Field Office Assistant (Butler County)**
 Kristin Miller, **NRD/NRCS Field Office Assistant (Colfax County)**
 Luz Schafersman, **NRD/NRCS Field Office Assistant (Dodge County)**
 Marla Milliken, **NRD/NRCS Field Office Assistant (Saunders County)**
 Melissa Foreman, **Shell Creek Watershed Coordinator (LPN & SCWIG Volunteer)**



FY 2022 Financial Objectives

- Funding required for the LPNNRD projects and programs for Fiscal Year 2022 requires a general operating budget of \$7,782,546 of which \$3,458,000 is required from the district's local tax levy. The 2022 tax levy of .033457 cents per \$100 actual valuation is required from District property. Projected expenses and income for FY 2022-2027 are shown in Appendix F.
- A tax levy of .03345 means that an owner of a \$150,000 home will pay \$50.19 in NRD taxes in FY 2022. An owner of farm land valued at \$7,000 per acre will pay \$2.34 an acre/year to the NRD in FY 2022. The LPNNRD levy represents about two percent of the total property tax collected.

FY 2023-2027 Financial Long Range Objectives

- Although it is expected that the amount of revenue from all sources will fluctuate during the next few years, it is anticipated that the LPNNRD will operate at a mill levy between \$0.035 and \$0.055 per \$100 actual valuation as the District continues to assist with flood reduction project priorities and addresses our responsibilities with groundwater water quality and quantity management.

APPENDIX A - Estimated Population by County



COUNTY	% OF COUNTY IN DISTRICT	ACRES IN DISTRICT	RURAL POPULATION IN DISTRICT	URBAN POPULATION IN DISTRICT	TOTAL
Boone	12.78	56,175	231	--	231
Butler	44.38	167,700	1,863	3,724	5,587
Colfax	40.76	108,582	1,218	6,379	7,597
Dodge	31.96	111,147	3,075	27,923	30,998
Madison	6.25	22,998	129	721	850
Platte	37.78	165,401	2,222	637	2,859
Saunders	81.39	395,098	7,028	8,313	15,341
TOTAL		1,027,101	15,766	47,697	63,463

Twenty-eight cities, towns and villages are located within the Lower Platte North NRD, listed below with their populations (according to 2010 United States Census):

Abie	69	Memphis.....	114
Ashland	2,453	Morse Bluff	135
Bellwood.....	435	Newman Grove	721
Bruno	88	North Bend.....	1,177
Cedar Bluffs.....	610	Octavia	127
Colon.....	110	Platte Center	336
David City.....	2,906	Prague	303
Fremont	26,397	Richland	73
Inglewood.....	325	Rogers.....	95
Ithaca	148	Schuyler	6,211
Leshara	112	Tarnov	46
Lindsay	255	Wahoo	4,508
Linwood	88	Weston	324
Malmo	120	Yutan.....	1,174
Mead.....	569		