Projects Committee Meeting
Thursday, September 3, 2020 7:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS

No unfinished business to address.

2. SWCP

Elliott presented the SWCP spreedsheet for review.

A. SWCP Application Approvals

B. 20-P-3	C.	D. Merlin Groteluschen*	E. $ 6,653.05	F. Livestock well/forage planting

G. SWCP Payments

H. 20-P-2	I.	J. Jeff Lusche*	K. $ 7,866.78	L. Livestock well (solar)
M. 20-S-1	N.	O. Dennis Beranek	P. $ 7,866.90	Q. TOT
R. 20-S-2	S.	T. Randy Beranek	U. $ 3,850.83	V. TOT
W. 20-S-3	X.	Y. Rick Beranek	Z. $ 5,961.97	AA. TOT
BB. 19-S-5	CC.	DD. Hartman Family Trust	EE. $12,500.00	FF. TOT

GG. SWCP Cancellations

HH. Wahoo Creek Cost Share Approvals

3. WATERSHEDS

A. Shell Creek

Attached is an arictle on accomplishments that was sent to area newspapers.

1. Shell Creek Environmental Enhancement Plan Implementation

a. Shell Creek Septic System Upgrade Applications

b. JAMES BROCK	c.	d.	$	4,800.00
e. RANDY BRABEC	f.	g.	$	4,800.00
h. JOHN SONDERMAN	i.	j.	$	4,800.00
k. BRANDON GROTELUSCHEN	l.	m.	$	4,800.00

n. Tom Sprunk Bank Stabilization/Wetlands Project

On August 26th, Jim Reedy, Eriic Smith (NRCS) Matt Bailey, Bill Bos, Elliott, Mountford met with Tom Sprunk and contractor Jim Wemhoff at the Columbus NRCS Field Office, to review completed plans and specifications for Mr. Sprunk's grade stabilization/wetlands project, located on a tributary draining directly to Shell Creek. On January 24, 2019, the Shell Creek Watershed Group (LPNNRD's Advisory Committee), approved a recommendation to provide 75% cost share up to a maximum of $40,000 toward the project. The engineer's estimate for total project cost is $30,500.00. The Projects Committee moved this recommendation to the LPNNRD Board that was approved on February 11, 2019. Mr. Sprunk was instructed to get a contractor bid and if within NRCS cost estimates, move forward with the project. LPNNRD's contribution will be reimbursed from approved EPA/NDEE 319 and NET grant funding.

o. Shell Creek Grant Funding Update

No new information. We have $365,000 of approved EPA/NDEE funds and $90,000 of NET funds available for Shell Creek Projects.

p. U.P. Railroad Bridge Replacement Project Update

Mountford talked with U.P. Railroad representative Adam Stutds, who indicated that their plan is to begin bridge replacement work near county road 15 (bridge foundation and grading) this fall and complete the bridge placement early next calendar year. While LPNNRD is not involved with the U.P. Railroad bridge replacement at Colfax County Road 14, that work should be completed soon.

q. Shell Creek Channel Improvement & Benching Project Update

Director Bailey reported that construction work is completed on the Shell Creek north channel/benching project near Colfax County Road 15 with only seeding remaining. Colfax County is working on final design of for the South Channel work and has been in contact with landowners discussing needed landrights for that portion of the project.

r. Shell Creek Study Proposal - 8:30 a.m.

Tirthankar Roy and Andrea Basche, UNL, joined the Committee by Zoom

asking for our thoughts and support for a four year study of the effect of conservation practices on the water quality and quantity in the the Shell Creek Watershed. The next step will be to continue to work with NDEE for potential grant support and meet with the Shell Creek Watershed Improvement Group (LPNNRD's official Advisory Group) to obtain background information on past conservation practices applied. No recommendation was requested at this time.

B. Wahoo Creek Watershed

1. Wahoo Creek Dam Site Planning Update & FYRA Invoices

Attached is FYRA's August 7, 2020, invoice totaling $6,344.52, which completes our present amended contact for their services for finalizing the Wahoo Creek Plan. As we have all learned, NRCS is requiring additional work on the economics portion of the Plan.

The Board has approved moving forward with another contract amendment with FYRA for completing additional economic analysis required by NRCS. However, before giving authorization to proceed, it is contingent on NRCS approving addtional funds to cover these costs. While NRCS has notified us that the funding is approved, we do not have a formal amendment to our funding agreement as of yet. When that is received and approved by LPNNRD, we will give FYRA the notice to proceed. Hopefully by Board Meeting.

2. Olsson Design Update and Invoice

Attached is the August 24, 2020, invoice from Olsson totaling $14,258.05 for work completed for the Wahoo Creek Watershed Sites 26a, 26b and 27 as attached. Of the total contract amount of $583,825 for those three sites, $272,870.02 (46.7%) will have been expended after this payment, of which most was for geotechnical engineering. Dam design and permitting activities will continue to be on hold until NRCS approves the Wahoo Creek Watershed Plan.

3. Wahoo Creek Watershed Water Quality Plan Phase II

a. Lands for Conservation Payment

b. **Name**	c. **Acres**	d. **Amount**
e. MARVIN PTACEK	f. 24	g. $ 4,752.00
h. STEVE VASA	i. 16	j. $ 3,168.00
k. GREGG FUJAN	l. 10	m. $ 1,980.00

n. ROGER FUJAN	o. 13	p. $ 2,574.00
q. MARCELLA BARTEK TRUST	r. 16	s. $ 3,168.00
t. ROBERT POKORNY	u. 42	v. $ 8,316.00
w. CARL & DOROTHY PETERSON TRUST	x. 38	y. $ 7,524.00
z. GEORGE CEJKA	aa. 5	bb. $ 990.00
cc. GARY PROCHASKA	dd. 14	ee. $ 2,772.00
ff.	gg.	hh.
ii. **TOTALS**	jj. 178	kk. $ 12,474.00

ll. Cottonwood Creek Watershed

1. Mike Chvatal Dam

Mike Chvatal's dam has been completed. F&S Excavating from Brainard started work on 8/20 and finished up on 8/26. We are waiting for bills and final check-out certification from NRCS field personnel.

4. JOINT WATER MANAGEMENT ADVISORY BOARD

A. North Bend Drainage Ditch Improvements Interlocal Agreement

At the August 11th LPNNRD Board Meeting, the Board approved budgeting $100,000 for the North Bend Drainage Ditch Improvement Project. Attached is an Interlocal Agreement between LPNNRD, Dodge County, City of Fremont and the North Bend Drainage District outlining the maximum local financial support from each entity. The Committee is asked to recommend Board approval.

B. Platte River Breach Repair Project (Rod & Gun Club) Partner Agreement

Attached is a proposed Partner Agreement between the City of Fremont, Dodge County, Fremont Rod & Gun Club (Club)) and LPNNRD. While we already have an approved Interlocal Agreement between Fremont, Dodge County and LPNNRD, this "Agreement" includes the Club and describe the project contracting/payment process and Operation & Maintenance after completion. Jovan Lausterer, our legal counsel, has reviewed the document.

A Section Committee including representatives from Dodge County, City of Fremont, LPNNRD and the Fremont Rod and Gun Club met on August 21st to review JEO Consulting Group's proposal for providing project engineering services. They were the only firm submitting a proposal. The next step will be for the Partners to negotiate a contract with JEO.

5. HAZARD MITIGATION PLAN UPDATE

ur Hazard Mitigation Plan has been officially approved by NEMA/FEMA. We are still working with JEO for proposing Dam Breach Overlay District for 15 of our existing floodwater dams in Saunders County. Meetings are underway with Saunders County, Wahoo, Yutan and Prauge. Flood Risk assessments with Fremont and Schuyler have been completed. We have a November 10, 2020 deadline to complete all HMP activities.

Attached is an August 28th JEO invoice for contract work completed totaling $4,491.50.

6. EROSION AND SEDIMENT RULES AND REGULATIONS

7. OTHER

A. Johnson Lake Aeration Project - Fremont

The Board has approved 50% cost share, up to a maximum of $5,000 assistance toward the Johnson Lake Aeration Project in Fremont. Attached are the estimates for the project. Don Cunningham asked if LPNNRD would consider providing our assistance in advance since the Friends of the Fremont Area Parks don't have the upfront funds to pay the total bill and then request our reimbursement as is our usual procedure. Payment of 50% of the $9,308.50 estimates (attached) is $4,654.25. Don Cunningham joined by Zoom to discuss this situation. Don will talk with other Partners to see if other upfront funding can be provided. Depending on the outcome of his discussions, the Board may be asked to consider an advance assistance payment to the Friends of Fremont Area Parks so that the aeration system can be purchased.

B. FY 2021 Long Range Plan

Lacey will be sending a copy of our draft FY 2021 Long Range Plan for Board member review and potential approval at the September 14th Board Meeting. Any input from Directors is requested by September 10th.

C. Selection of Projects Committee Vice-Chairman

With Projects Committee Vice-Chairman Don Veskerna moving to Operations Committee, there is a vacancy to be filled.

8. ADJOURNMENT

The Projects Committee Adjourned at 9:02 a.m.

SWCP Monthly Report

SWCP #	STATUS	NAME
APPROVED SMALL DAM PROJECTS:		
15-S-12	Approved	Mike Chvatal
APPROVED SUMMER PROJECTS:		
20-S-1		Dennis Beranek
20-S-2		Randy Beranek
20-S-3		Rick Beranek
20-S-4		Elaine Kaspar
20-C-1		Louis Lutjelusche*
20-C-2		Terry & Spring Wendt*
20-C-3		Randy Brabec*
20-P-1		Keith Runge*
20-P-2		Jeff Lusche*
20-D-1		Diers Family Farm

TOTAL SUMMER APPROVALS

APPROVED FALL PROJECTS:	
20-B-1	Joseph Hanis
20-B-2	Dwayne Lanc
20-S-5	John Kaspar
20-S-6	Dave Vrana
20-S-7	Robert & Linda Fickes
20-S-8	Dennis Brabec*

20-P-3	Merlin Groteluschen*

TOTAL FALL APPROVALS

TOTAL FY20 SWCP APPROVAL

PAID PROJECTS

SWCP #	*STATUS*	*NAME*
20-C-2	PAID	Terry & Spring Wendt*
20-P-2	PAID	Jeff Lusche*
20-S-1	PAID	Dennis Beranek
20-S-2	PAID	Randy Beranek
20-S-3	PAID	Rick Beranek

Total SWCP PAID:

September 3, 2020

SWCP LOCAL	
SWCP TREE ALLOCATION	
STATE ALLOCATION	
CASH CARRY-OVER	
AMOUNT SPENT	
CASH BALANCE	
ALLOCATION %	

	AMOUNT	***PROJECT***
$	46,356.00	Small Dam
$	10,000.00	TOT
$	10,000.00	TOT
$	10,000.00	TOT
$	12,500.00	WASCOB/TO
$	12,123.00	Planned grazing system
$	12,500.00	Planned grazing system
$	6,534.56	Grass Waterway
$	11,276.95	Livestock well (solar)
$	10,759.69	Livestock well (solar)
$	18,964.65	Livestock well (solar)
$	**114,658.85**	
$	12,500.00	WASCOB w/ TO
$	12,500.00	TOT/WASCOB w/TO
$	(12,500.00)	TOT/WASCOB w/TO
$	3,210.00	Terrace enlargement
$	10,000.00	TOT/WASCOB w/TO
$	20,130.09	Grassed Waterway

$	6,653.05	Livestock well/forage planting

$	**52,493.14**
$	**167,151.99**

LANDS FOR CONSERV

	AMOUNT	PROJECT	Name
$	7,464.60	Planned Grazing System	MARVIN PTACEK
$	7,866.78	Livestock well (solar)	STEVE VASA
$	7,866.90	TOT	GREGG FUJAN
$	3,850.83	TOT	ROGER FUJAN
$	5,961.97	TOT	MARCELLA BARTEK TRUST
			ROBERT POKORNY
			CARL & DOROTHY PETERSON TRUST
			GEORGE CEJKA
			GARY PROCHASKA

TOTALS

SHELL CREEK SEP

Name

JAMES BROCK

RANDY BRABEC

JOHN SONDERMAN

BRANDON GROTELUSCHEN

TOTAL

$ 33,011.08

TOTAL

$25,000.00
$3,000.00
$83,029.99
$0.00
$33,011.08
$75,018.91
151%

SHELL CREEK FUND

VATION (GRANT FUNDED)

Acres	Amount
24	$ 4,752.00
16	$ 3,168.00
10	$ 1,980.00
13	$ 2,574.00
16	$ 3,168.00
42	$ 8,316.00
38	$ 7,524.00
5	$ 990.00
14	$ 2,772.00

178	$	12,474.00

TIC SYSTEM

Amount	
$	4,800.00
$	4,800.00
$	4,800.00
$	4,800.00
$	19,200.00
$	**38,400.00**

Midwest Messenger South

Tekamah, Nebraska

Date: Friday, August 28, 2020
Frequency: Weekly
Circulation: N/A
Article Size: 22.04 column inches
Ad Value: $N/A
Page/Section: A 0007

Farmers, ranchers doing their part to improve water quality

By Craig Derickson
Nebraska State Conservationist for NRCS

Drive across Nebraska or fly overhead and you will see evidence of USDA's Natural Resources Conservation Service's (NRCS) work on the state's landscape.

Conservation practices like streamside buffers, restored wetlands, and fields planted with protective cover are just a few visible signs of the agency's work in our state.

NRCS conservationists work with farmers and ranchers wanting to install conservation practices. NRCS offers assistance to install more than 170 practices to improve soil health, water quality, air quality and wildlife habitat.

When planning these practices, NRCS staff works to help producers maintain or improve agricultural productivity.

As the nation celebrates National Water Quality Month in August, NRCS in Nebraska salutes the conservation-minded farmers and ranchers who do their part daily to improve water quality and other natural resources on their operations. Without their efforts we wouldn't have clean, safe water for drinking, recreation and other purposes.

Agriculture can and does play a critical role in improving water quality and other natural resources in our state. Because 97% of the land is privately owned in

Please turn to WATER on Page 12

Continued from page 7

Nebraska, considerable water quality and other natural resource improvements will be achieved by farmers, ranchers, and private landowners as they make conservation decisions every day.

For instance, the Shell Creek Watershed Improvement Group is made up of landowners and farmers who led a grassroots effort to improve water quality. They worked with NRCS and a variety of partners on the local, state and federal level including, the Lower Platte North Natural Resources District, Nebraska Department of Environment and Energy, local high school science classes, and others to monitor the health of the watershed and promote water quality practices.

Through this collaborative effort, over 240 landowners have installed more than 340 conservation practices, including no-till farming, filter and buffer strips and cover crops. As a result of these practices, Atrazine levels have significantly declined in Shell Creek, resulting in the creek being removed from the EPA's list of "impaired waterways."

This is just one example of how our

Water

success in improving water quality in Nebraska rests with private landowners, and I am confident they will continue to do their part.

But we invite more producers to include conservation as part of their operation. Farmers and ranchers who are interested in learning how to integrate conservation into their operation, can visit USDA's farmers.gov website for more information about NRCS conservation opportunities and assistance.

Middle Loup River foot bridge

Proposal Draft

Impacts of conservation practices on the water quality and quantity in the Shell Creek Watershed, Nebraska

Project Investigators

PI: Tirthankar Roy, Ph.D.
Assistant Professor, Department of Civil and Environmental Engineering
University of Nebraska-Lincoln

Co-PI: Andrea Basche, Ph.D.
Assistant Professor, Department of Agronomy and Horticulture
University of Nebraska-Lincoln

Contents

1. Background

[1]The Shell Creek Watershed (SCW) has a success story. A couple of decades ago, the watershed was crippled with several water-related issues, including chronic flooding, upland and streambank erosion, uncontrolled disposal of livestock waste, and public infrastructure encroachment. The Atrazine and E. Coli levels exceeded the safe limit, impairing aquatic life and recreational uses of the creek. Interestingly, the watershed had the lowest level of conservation practices in place in comparison to many other watersheds in the state. The resistance to conservation practices hailed from the lack of trust in the government, poor understanding of hydrology, animosity among communities, and blind trust in the existing practices. Fast forward to the present time, the Atrazine levels in the creek are well within the safe limits and E. coli levels are declining. Aquatic life has significantly improved with the return of mussel and fish species. Not only that, but residents of the watershed report that the frequency and severity of flooding have also reduced significantly. The creek is now considered to be a valued asset by the community.

So, how did all these things happen? It is argued that these were made possible through implementation of a comprehensive watershed management plan that heavily relied on conservation practices and nature-based solutions. The 2005 watershed management plan, implemented through 2015 by the Shell Creek Watershed Improvement Group (SCWIG), showed success. The plan included a citizen advisory group, a technical advisory group, and public input. Sub-watershed rotations, State Water Quality Initiative (SWQI), interim monitoring and inter-generational engagement were the pillars of success. A revised watershed management plan started in 2016 focuses on improving soil health in addition to reducing excess runoff (Shell Creek Watershed Environmental Enhancement Plan 2016).

From a scientific standpoint, what is interesting is the fact that reduced flooding in the watershed appeared to be associated with improved water quality. While the atrazine and E. Coli levels dropped significantly, the flood peaks appeared to be attenuated, even though the storm intensities seemed to have increased. This sets the stage for our project proposal. Our proposed study will be two-fold. In the first part of the project, we will investigate how runoff was reduced concurrently with the improvement in the water quality. Our hypothesis is that *conservation practices implemented over the period of the water management plan were able to reduce both the pollutant load and the excess runoff in the watershed*. We will test this hypothesis by analyzing data from multiple sources and

[1] The first paragraph in the 'Background' section is based on a presentation by Elbert Traylor and Carla McCullough at the Nonpoint Source (NPS) Workshop in 2018 (Traylor and McCullough 2018).

integrated modeling. Once successfully completed, this project will shed light on the importance (or lack thereof) of conservation practices to improve the effectiveness of integrated water resources management. In the second part, we will investigate how the hydrology in the watershed will evolve in the future, given the uncertainties in the future projections of hydrometeorological variables and a wide range of conservation practice scenarios. This objective will be explored primarily by developing a well-calibrated and validated (using historical data) integrated modeling framework. This framework will be used to run representative future scenarios designed based on different levels of potential future conservation practices, taking into consideration the uncertainties ingrained in the future projections of hydroclimatic variables.

2. Proposed Methodology

2.1. Study Design

The proposed study (Figure 1) will begin by conducting a thorough literature review, which will include literature on different types of conservation practices implemented throughout the country as well as previous work done in the SCW. This will help us better understand the problem and pinpoint the knowledge gaps. We will then gather all the relevant data for the basin that has already been collected during prior studies and activities. The data analysis efforts will be completed by additional data collection and modeling exercises, and these efforts combined will allow us to properly test our scientific hypothesis. For the second part of the project, we will set up a well-calibrated and validated integrated hydrologic modeling framework to assess the impacts of future water management practices in the basin, subject to uncertainties in the projections of hydroclimatic variables (downscaled) and different conservation practice scenarios. We will specifically look into the following conservation practices, cover crops, no-till agriculture, grade stabilization of tributaries, and the reconnection of the main channel with ox bows and flood plains.

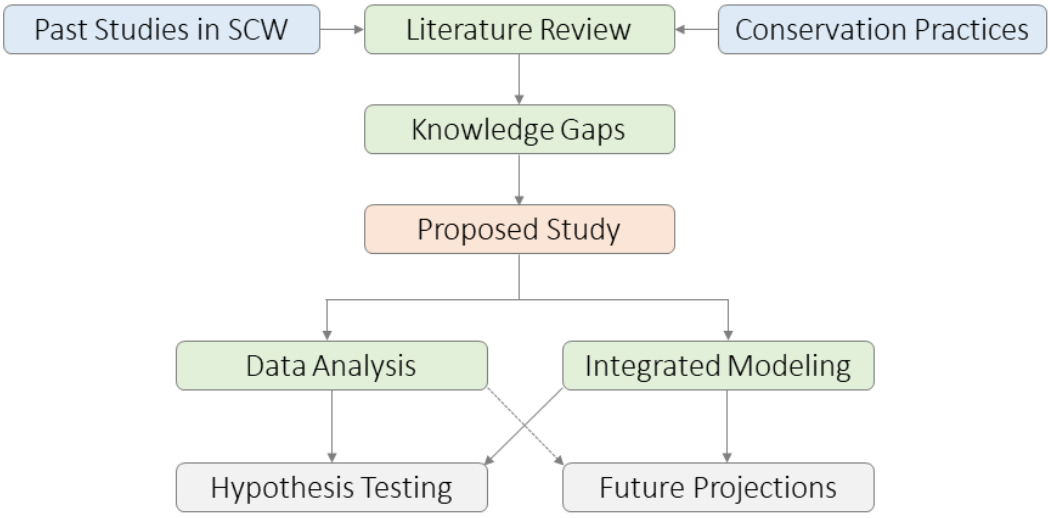


Figure 1: The structure of the proposed study. The two main components are: (1) hypothesis testing on the current hydrological conditions in the watershed and (2) assessing the future impacts of different conservation practice scenarios.

2.2. Data Analysis

In this project, we will use data from multiple sources, as indicated below.

Past Studies

We will analyze data from the past studies carried out on different hydrological aspects in the watershed. A watershed inventory is available (discussed in the Shell Creek Watershed Environmental Enhancement Plan), which includes information about conservation practices, land-use land-cover, and agricultural land conditions, for example. Past data also includes information about watershed characteristics and water quality. For pollutant sources and loads, we will analyze the SPARROW model results available from past analyses. We will work closely with the NDEE to collect all the relevant past data available.

Remote Sensing Data on Crop and Soil Management

We will develop a contract with Dagan, Inc (formerly known as Applied GeoSolutions LLC) to create spatially explicit information about crop and soil management at a field level over the last two/three decades in the SCW. Specifically, Dagan, Inc has developed a state-of-the-art methodology that utilizes satellite products to create a database of current and historical agricultural practices. Through the OpTIS platform, Dagan, Inc will provide information on crop residue management (no-till, reduced tillage, and conventional tillage), winter crops (cover crops, perennial crops, winter commodity crops

or no winter cover), and crop rotations. This data will provide the foundation for our understanding of how crop and soil management practices have changed in time.

Future Hydroclimatic Projections

In the second part of the project, we will use future projections of relevant hydroclimatic variables to analyze the impacts of different water conservation practice scenarios. For climate data, we will use the newest (Phase-6) Coupled Model Intercomparison (CMIP-6) data (Eyring *et al.* 2016), which is the state-of-the-art for climate information and is significantly improved than its previous version (e.g., high resolution, more process representations, etc.). The relevant variables will be statistically downscaled to a higher resolution (actionable scale) and then used in the integrated modeling framework to study the future impacts of different conservation practices in the watershed.

2.3. Integrated Modeling

The data analysis efforts will be complemented by modeling the water quality and quantity, along with the impacts of conservation practices in the watershed. The study will help us better understand the hydrologic functioning of the SCW. Our modeling framework will follow an integrated approach. For water quality, we will use the U.S. Geological Survey's (USGS) SPARROW model. Since this model was already used before for the watershed, our proposed analyses will, therefore, be consistent with the prior efforts. We will design representative conservation practice scenarios meant to improve soil health and hydrologic functioning, and then process them through a watershed management model (e.g., APEX (Wang *et al.* 2012); other models will be explored as well). These efforts would be followed by hydraulic modeling of the watershed using the U.S. Army Corps of Engineers' (USACE) HEC-RAS model (the more advanced 2D version will be implemented).

It is important to note that we will not just use the models but will calibrate and validate the model results against ground-based observations. This will ensure that the model simulations are meaningful and accurate. For topography, we will use the high-resolution LiDAR data from the Nebraska Department of Natural Resources (NDNR) or USGS. In addition to the precipitation data from the National Centers for Environmental Information (NCEI) and flow data from USGS, we will also explore a wide range of other precipitation products (e.g., radar, satellite). Multiple precipitation products will help capture the input uncertainty in the model. A wide range of remotely sensed data on crop and soil management will be acquired from Dagan, Inc. Some of these data, combined with the Natural Resources Conservation Service (NRCS) SSURGO soil data, will be used in integrated modeling. We will also explore the 100-m land cover data from the USGS.

Additionally, Google Earth will be used to get an overview of the changes in land-use land-cover over the last several decades.

In the second part of our project, we will implement our integrated modeling framework to assess the impacts of different conservation practices in the watershed. This will be done by creating representative future scenarios based on different levels of potential future conservation practices, given our understanding of historical and current practices utilized on the landscape, and running them through our integrated modeling platform. Statistical downscaling using machine learning algorithms will be carried out to transform the coarse-resolution climate projections to fine-scale information relevant to our analysis. We will try a suite of machine learning algorithms and choose the one that performs the best.

3. Project Outline

Proposed timeframe: July 2021 – December 2024 (total 3.5 years).

Task 1: Literature Review (4 months)

1. Review all the available information about the past activities in the watershed (i.e., previously collected hydrologic data, prior modeling efforts, survey efforts to categorize conservation practices, activities associated with Shell Creek Watershed Improvement Group).
2. Explore mechanisms through which conservation practices have been able to reduce the impacts of flooding in other regions.
3. Explore mechanisms through which conservation practices have been able to reduce water pollution in other regions.
4. Identify the methods that have been previously used to model the effects of conservation practices on landscape hydrology.

Task 2: Data Acquisition and Repository Creation (4 months)

1. Collect information about the channel characteristics from the 2014 geomorphic assessment.
2. Collect all available information on hydrometeorological variables from different sources (e.g., radar, satellite, in-situ observations).
3. Collect all available information on cropping history (e.g., USDA-NASS cropland data layer, coordination with Dagan, Inc.)
4. Create an online data repository for the systematic storage and documentation of the collected data.

Task 3: Data Mining and Results Interpretation (8 months)

1. Exploratory data analysis and interpretation of the patterns found.
2. Data-based modeling to understand the processes.
3. Hydrometeorological data analysis (precipitation, temperature, soil moisture, etc.)
4. Design conservation scenarios, including increased use of zero tillage and conservation tillage practices, cover crops, perennial crops, agroforestry, and wetlands, that could improve soil health and subsequent landscape hydrologic function.

Task 4: Model Setup, Calibration, and Validation (10 months)

1. Set up the SPARROW model for water quality modeling.
2. Set up the APEX model for analyzing conservation practice scenarios.
3. Set up the 2D HEC-RAS model for hydraulic modeling.
4. Test additional models as necessary.
5. Perform model calibration and validation using in-situ observations.

Task 5: Analysis of Future Conservation Practice Scenarios (12 months)

1. Statistically downscale relevant variables from the CMIP-6 projections.
2. Design representative future conservation practice scenarios.
3. Analyze the impacts of future conservation practice scenarios using the integrated modeling platform.
4. Provide recommendations for sustainable agriculture and natural resources management in the future.

Task 6: Project Wrap-up and Final Report Preparation (4 months)

1. Carry out a thorough review of the results.
2. Complete the final report.
3. Finalize the data repository.

4. Expected Outcomes

This study will clarify whether or not conservation practices implemented in the past were able to reduce the runoff while improving the water quality at the SCW. There will be multiple deliverables and we are open to suggestions for additional items:

1. An analysis platform to study the impacts of different conservation practice scenarios on the hydrology of the SCW.
2. Strategic guidance for the implementation of the proposed management plans.
3. High-resolution land-use data for 30 years.
4. Three peer-reviewed articles.
5. Extension articles summarizing the key findings (e.g., Cropwatch)
6. Presentation at seminars and regional (e.g., Nebraska Water Center Conference) as well as international (e.g., American Geophysical Union Fall Meeting) conferences.
7. Presentation at the NRCS manager meetings.
8. Detailed project report.

5. Relevance

Our project outlook and approach are well aligned with several of the focus areas of the 2016 Shell Creek Watershed Environmental Enhancement Plan. As suggested in the plan, we also believe in a more holistic approach to solving water management problems. This is because different hydrologic processes within any natural system are interrelated. There are strong feedbacks and interactions which dictate the spatial and temporal dynamics of these processes. For example, evaporation from a given region depends on the precipitation, which, in turn, contributes to the local precipitation (precipitation recycling). Therefore, disentangling processes that are closely connected distorts the physically-based representation of the natural system. The 2016 plan also discusses a need for hydraulic modeling, which is essential to study future flooding scenarios. Our integrated modeling framework will also include hydraulic modeling of the channel and floodplain within the watershed.

References

Eyring, V., Bony, S., Meehl, G. A., Senior, C. A., Stevens, B., Stouffer, R. J., and Taylor, K. E.: Overview of the Coupled Model Intercomparison Project Phase 6 (CMIP6) experimental design and organization, Geosci. Model Dev., 9, 1937-1958, doi:10.5194/gmd-9-1937-2016, 2016.

Shell Creek Watershed Environmental Enhancement Plan (2016), Lower Platte North NRD.

Traylor and McCullough (2018), Shell Creek Watershed: A Tough Nut to Crack, NPS Workshop.

Wang, X., J.R. Williams, P.W. Gassman, C. Baffaut, R.C. Izaurralde, J. Jeong, J. R. Kiniry. 2012. EPIC and APEX: model use, calibration and validation. Transactions of the ASABE 55(4):1447-1462.

FYRA Engineering, LLC
12702 Westport Parkway, Suite 300
Omaha, NE 68138
Phone: 402.502.7131
Fax: 402.932.6940

INVOICE FOR SERVICES

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

DATE:	7 August 2020
PROJECT NO.:	022-17-02
PERIOD COVERED:	23 May 2020 Through 31 Jul 2020
INVOICE NO.:	022-045
FED ID:	45-5611118

Project Name:	Wahoo Creek Watershed Plan/EA
Contract Amount:	$574,990.00
31 Oct 2019 Addendum Amount	$48,000.00
Contract Date:	8 December 2017

022-17-02-1.02-Coord Meetings w/NRCS

Description	Employee	Billing Rate	Hours	Current Due
Engineer	Kaufman, Janel	$ 150.00	1.50	$ 225.00
022-17-02-1.02-Coord Meetings w/NRCS			**1.50**	**$ 225.00**

022-17-02-1.04-Monthly Invoicing/Schedule

Description	Employee	Billing Rate	Hours	Current Due
Engineer	Kaufman, Janel	$ 150.00	0.50	$ 75.00
Admin	Stratton, Ann	$ 75.00	0.75	$ 56.25
022-17-02-1.04-Monthly Invoicing/Schedule			**1.25**	**$ 131.25**

022-17-02-1.06-Plan Review

Description	Employee	Billing Rate	Hours	Current Due
Principal	Sotak, Mike	$ 205.00	10.00	$ 2,050.00
Engineer	Kaufman, Janel	$ 150.00	4.50	$ 675.00
Engineer Intern	VanHove, Mike	$ 102.00	0.50	$ 51.00
Engineer Intern	Petrow, Anna	$ 102.00	4.75	$ 484.50
022-17-02-1.06-Plan Review			**19.75**	**$ 3,260.50**
Task 1 Total				**$ 3,616.75**

022-17-02-5-Additional services for the Wahoo Creek Watershed Plan-EA

Description	Employee	Billing Rate	Hours	Current Due
Principal	Sotak, Mike	$ 205.00	3.75	$ 768.75
Engineer	Kaufman, Janel	$ 150.00	4.00	$ 600.00
Engineer Intern	Kelley, Connor	$ 102.00	1.00	$ 102.00
Engineer Intern	Petrow, Anna	$ 102.00	12.25	$ 1,249.50
Expenses		$ -	-	$ 7.52
022-17-02-5-Additional services for the Wahoo Creek Watershed Plan-EA			**21.00**	**$ 2,727.77**
Task 5 Total				**$ 2,727.77**

TOTAL DUE CURRENT INVOICE: $ 6,344.52

CONTRACT AMOUNT:	$	622,990.00
PREVIOUS BILLING:	$	616,645.48
CURRENT INVOICE:	$	6,344.52
TOTAL INV'D. TO DATE:	$	622,990.00
CONTRACT REMAINING:	$	-

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

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

DATE: 7 August 2020
PROJECT NO.: 022-17-02
PERIOD COVERED: 23 May 2020 Through 31 Jul 2020
INVOICE NO.: 022-045
FED ID: 45-5611118

Project Name: Wahoo Creek Watershed Plan/EA
Contract Amount: $574,990.00
31 Oct 2019 Addendum Amount $48,000.00
Contract Date: 8 December 2017

Summary for Invoice: **022-039**
Project Name: **Wahoo Creek Watershed Plan/EA**

Tasks	Contracted Fee	Previously Billed	This Invoice	Total To Date
022-17-02-1.01 Coord Meetings w/LPNNRD	$ 5,724	$ 16,175.49	$ -	$ 16,175.49
022-17-02-1.02-Coord Meetings w/NRCS	$ 8,904	$ 11,141.25	$ 225.00	$ 11,366.25
022-17-02-1.03-Project Meetings	$ 49,372	$ 23,605.04	$ -	$ 23,605.04
022-17-02-1.04-Monthly Invoicing/Schedule	$ 7,875	$ 13,379.25	$ 131.25	$ 13,510.50
022-17-02-1.05-Project Scoping	$ 7,170	$ 7,068.75	$ -	$ 7,068.75
022-17-02-1.06-Plan Review	$ 6,740	$ 21,280.59	$ 3,260.50	$ 24,541.09
022-17-02-2.01-Develop, Write & Summarize Plan	$ 60,100	$ 83,011.48	$ -	$ 83,011.48
022-17-02-2.02-Maintain Admin Record	$ 3,560	$ 859.25	$ -	$ 859.25
022-17-02-2.03-Develop and Describe Purpose & Need	$ 2,320	$ 1,820.00	$ -	$ 1,820.00
022-17-02-2.04-Formulate, Describe & Compare Alternatives	$ 27,270	$ 19,239.25	$ -	$ 19,239.25
022-17-02-2.05-Collect & Analyze Social/Demographic Data	$ 1,435	$ 1,562.50	$ -	$ 1,562.50
022-17-02-2.06-Historic & Cultural Resources	$ 675	$ 9,869.00	$ -	$ 9,869.00
022-17-02-2.07-Prime & Unique Farmland	$ 675	$ 2,404.75	$ -	$ 2,404.75
022-17-02-2.08-Identify Wetlands & Other Water Bodies	$ 117,145	$ 102,862.36	$ -	$ 102,862.36
022-17-02-2.09-Collect Soils Data	$ 810	$ -	$ -	$ -
022-17-02-2.10-Identify and Anlyze Soil Erosion	$ 810	$ 1,952.75	$ -	$ 1,952.75
022-17-02-2.11-Collect & Analyze Floodplain Data	$ 3,900	$ 6,521.00	$ -	$ 6,521.00
022-17-02-2.12-Collect & Analyze Data on Critical Areas	$ 6,300	$ 3,071.00	$ -	$ 3,071.00
022-17-02-2.13-Identify Land Use and Crop Inventory	$ 810	$ 1,125.00	$ -	$ 1,125.00
022-17-02-2.14-T&E Species & Migratory Birds	$ 11,500	$ 12,192.50	$ -	$ 12,192.50
022-17-02-2.15-Consumptive Use Data	$ 1,840	$ 1,366.50	$ -	$ 1,366.50
022-17-02-2.16-Effects on Public Health & Safety	$ 4,440	$ 1,936.00	$ -	$ 1,936.00
022-17-02-2.17-Effects to Homes/Bus/Ag	$ 4,440	$ 4,124.75	$ -	$ 4,124.75
022-17-02-2.18-Cummulative Impacts	$ 11,080	$ 2,821.25	$ -	$ 2,821.25
022-17-02-2.19-Federal, State & Local Permits	$ 1,790	$ 1,775.00	$ -	$ 1,775.00
022-17-02-2.20-Conflicts w/Other Plans	$ 4,460	$ 3,822.50	$ -	$ 3,822.50
022-17-02-2.21-Interagency & Public Involvement	$ 2,940	$ 5,197.02	$ -	$ 5,197.02
022-17-02-2.22-Risk & Uncertainty	$ 4,880	$ 4,292.00	$ -	$ 4,292.00
022-17-02-2.23-Preferred Alternatives Discussion	$ 11,840	$ 14,006.00	$ -	$ 14,006.00
022-17-02-2.24-Mitigation Features	$ 6,760	$ 4,486.00	$ -	$ 4,486.00
022-17-02-2.25-Hydrologic Investigation	$ 26,460	$ 33,403.25	$ -	$ 33,403.25
022-17-02-2.26-Economic Data & Discussion	$ 14,640	$ 51,211.00	$ -	$ 51,211.00
022-17-02-2.27-Installation & Financing	$ 2,600	$ 775.00	$ -	$ 775.00
022-17-02-2.28-Operations, Maintenance & Replacement	$ 3,240	$ 740.00	$ -	$ 740.00
022-17-02-2.29-Project Maps	$ 24,850	$ 28,438.25	$ -	$ 28,438.25
022-17-02-2.30-Utility Investigations	$ 5,200	$ 1,940.00	$ -	$ 1,940.00
022-17-02-2.31-Recreation Site 77 Planning	$ 7,350	$ -	$ -	$ -
022-17-02-3.01-Interagency Scoping Mtg	$ 10,720	$ 6,396.50	$ -	$ 6,396.50
022-17-02-3.02-Agency Coord	$ 7,680	$ 6,181.00	$ -	$ 6,181.00
022-17-02-4.01-Breach Analysis	$ 26,343	$ 36,054.50	$ -	$ 36,054.50
022-17-02-4.02-Hydraulics/Structure Sizing	$ 19,244	$ 30,321.25	$ -	$ 30,321.25
022-17-02-4.03-Develop Land Rights & Structure Costs	$ 29,784	$ 29,048.25	$ -	$ 29,048.25
022-17-02-4.04-Land Rights Assessment	$ 4,534	$ 1,496.25	$ -	$ 1,496.25
022-17-02-4.05-Site Survey	$ 14,779	$ 5,080.00	$ -	$ 5,080.00
022-17-02-5-Additional services for the Wahoo Creek Watershed Plan-EA	$ 48,000	$ 2,592.00	$ 2,727.77	$ 5,319.77
Totals:	**$ 622,990**	**$ 616,645.48**	**$ 6,344.52**	**$ 622,990.00**

Expenses Breakdown
022-17-02-5-Additional services for the Wahoo Creek Watershed Plan-EA

Expense Type	Amount
Rounding	$ 7.52
	$ 7.52

Progress Report for Wahoo Creek Watershed Dams Sites

Lower Platte North NRD

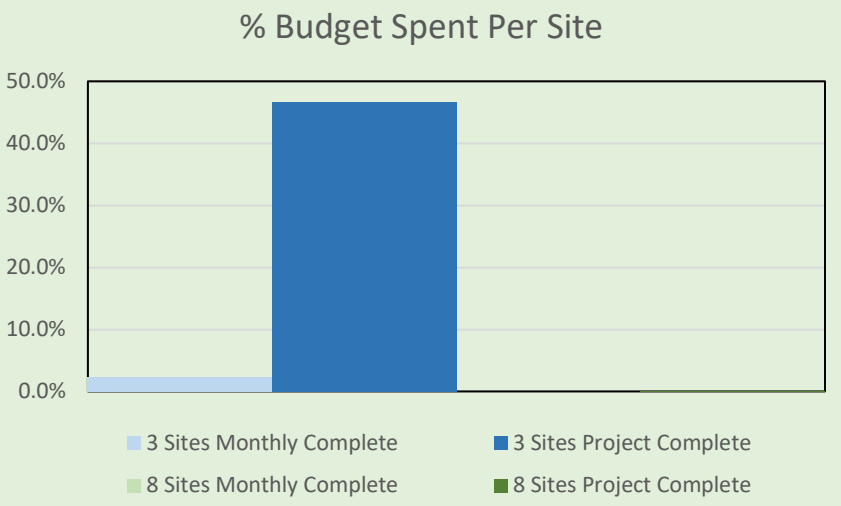
For Work Compled During The Month Of : July, 2020
(through 8/1/2020)

Project # 018-3423 Dam Site 26A, 26B, &27 Project Phase	Phase Budget	Billings for Month Current Earned/Billings	 % Completed This Month	Project Total Billings to Date JTD Earned/Billings	 % Completed Overall
010 - Project Management/Meetings	$ 21,840		0.0%	$ 6,654.79	30.5%
020 - Geotechnical Engineering	$ 222,485	$ 13,328.86	6.0%	$ 203,469.75	91.5%
030 - Dam Design	$ 173,160		0.0%	$ 44,845.67	25.9%
040 - Permitting	$ 79,960		0.0%	$ 6,539.48	8.2%
050 - Survey and Legal Descriptions	$ 10,780		0.0%	$ 11,360.33	105.4%
060 - Community/Public Participation	$ -			$ -	
070 - Construction Services	$ 75,600			$ -	
				$ -	
3 Sites Totals	$ 583,825	$ 13,328.86	2.3%	$ 272,870.02	46.7%

Project # A18-3423 (separate invoice) Sites 55, 66, 77, 82, 83, 84, 85, &86 Project Phase	Phase Totals	Billings for Month Current Earned/Billings	 % Completed This Month	Project Total Billings to Date JTD Earned/Billings	 % Completed Overall
100 - Project Management/Meetings	$ 62,400		0.0%	$ -	0.0%
110 - Geotechnical Engineering	$ 607,460		0.0%	$ -	0.0%
120 - Dam Design	$ 436,278		0.0%	$ -	0.0%
130 - Permitting	$ 251,140		0.0%	$ -	0.0%
140 - Survey and Legal Descriptions	$ 28,875		0.0%	$ -	0.0%
150 - Community/Public Participation	$ 30,000		0.0%	$ 429.02	1.4%
160 - Other	$ -			$ -	
8 Sites Totals	$ 1,416,153	$ -	0.0%	$ 429.02	0.0%

Billings For Month	**$ 13,328.86**
Total Billings To Date	$ 273,299.04
Project Budget	$ 1,999,978
Budget Remaining	$ 1,726,678.96

* As suggested by the NRCS at the 3-11-19 LPNNRD board meeting, design will be slowed down for a few weeks while the watershed plan is being completed. We will continue with the geotechnical analysis



Summary Of Work Completed This Month	
Sites 26A, 26B, & 27	Eight Sites
	- No work on these sites -

Work on the geotechnical reports for sites 26 and 27 have been completed as far as we can to this point. Some geotechnical work will still be needed once final design is underway.

Planned Work For Next Month

For questions regarding billings, please contact Mike Placke at (402) 458-5957 or mplacke@olsson.com

Invoice

601 P St Suite 200
PO Box 84608
Lincoln, NE 68501-4608
Tel 402.474.6311, Fax 402.474.5063

August 24, 2020
Invoice No: 365601

Invoice Total $13,328.86

Tom Mountford
Assistant Manager
Lower Platte North NRD
PO Box 126
Wahoo, NE 68066-0126

Olsson Project # 018-3423 Lower Platte North NRD Wahoo Creek Watershed & 11 Dam Sites
Professional services rendered July 12, 2020 through August 8, 2020 for work completed in accordance with agreement.

Phase 020 Geotechnical Engineering

Labor

	Hours	Amount	
	1.00	61.70	
Team Leader	15.00	3,154.66	
Project Engineer	72.25	8,197.49	
Senior Technician	5.25	356.32	
Student Technician - Level 1	18.75	838.69	
Totals	112.25	12,608.86	
Total Labor			**12,608.86**

Unit Billing

Pin-Hole Dispersion

6 Tests @ $120/Test		720.00	
Total Units		**720.00**	**720.00**
	Total this Phase		**$13,328.86**

Billing Limits	**Current**	**Prior**	**To-Date**	
Total Billings	13,328.86	261,131.46	274,460.32	
Limit			583,825.00	
Balance Remaining			309,364.68	
		AMOUNT DUE THIS INVOICE		**$13,328.86**

Outstanding Invoices

Number	**Date**	**Balance**
362579	7/22/2020	14,258.05
Total		**14,258.05**

Email invoice to tmountford@lpnnrd.org

INVOICE PAYMENT IS REQUESTED WITHIN 30 DAYS

Project	018-3423	Lower Platte North NRD Wahoo Creek Water	Invoice	365601

Authorized By: Michael Placke

INVOICE PAYMENT IS REQUESTED WITHIN 30 DAYS

INTERLOCAL COOPERATION ACT AGREEMENT
NORTH BEND DRAINAGE DITCH IMPROVEMENTS
FOR
LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT
DODGE COUNTY
CITY OF FREMONT
CITY OF NORTH BEND
NORTH BEND DRAINAGE DISTRICT

This Agreement (hereinafter named "Agreement") is made by and among the following Parties (all are political subdivisions of the State of Nebraska):

Lower Platte North Natural Resources District
Dodge County
City of Fremont
City of North Bend
North Bend Drainage District

The parties hereinafter being referred to individually as "Partner" and collectively as "Partners".

WHEREAS:

Flooding and resulting damages from winter ice jams and seasonal rainstorms frequently occur along the Lower Platte River corridor. Protection measures against flooding damages located along the Platte River include three drainage ditches that were built to collect and divert Platte River flood waters back to the Platte River. The North Bend Drainage Ditch is one of three ditches. The drainage ditch, approximately four miles in length, protects the City of North Bend, River View Estates and other residential developments around North Bend, as well as many acres agricultural cropland located in the North Bend area.

The North Bend Drainage District has applied for FEMA/NEMA Hazard Mitigation grant assistance, up to $1.7 million, to assist the District in increasing the level of protection provided by the North Bend Drainage Ditch by deepening the ditch and raising the height of ditch bank.

The Partners desire to enter into an Interlocal Agreement to pledge support for the project and to share the required local match of 25% or up to $425,000.

THEREFORE, in consideration of the foregoing recitals and their mutual covenants hereinafter expressed, the Partners agree as follows:

1. **Authority:**

The Partners desire to work together to make improvements to the North Bend Drainage Ditch and to make the most efficient use of their respective powers by cooperating on a basis of mutual advantage under the auspices of the Interlocal Cooperation Act (Neb. Rev. Stat. §§ 13-801 to 13-827). In furtherance of this cooperative effort the Parties desire to enter into this Interlocal Agreement with one another for joint and cooperative action for any power or powers, privileges or authorities exercised or capable of exercise individually by them as public agencies under the Interlocal Cooperation Act.

2. Funding for Improvements to the North Bend Drainage Ditch:

The Partners agree to share the maximum local cost estimated at $425,000, for improvements to the North Bend Drainage Ditch in the following proportions:

City of North Bend - $100,000
Dodge County - $100,000
Lower Platte North NRD - $100,000
City of Fremont - $100,000
North Bend Drainage Ditch - $25,000

It is anticipated that the Partners may receive NEMA/FEMA grant assistance, reimbursable up to $1,275,000 (75%), based on the total maximum estimated project cost. Dodge County would be the subgrantee and fiscal agent for the NEMA/FEMA grant, if received.

The North Bend Drainage District will issue Requests for Proposals for engineering and improvement work and take the lead for making the improvements to the ditch. If the NEMA/FEMA grant is approved, the North Bend Drainage District will submit expenses to the County for 75% reimbursement and bill each Partner for their monetary share (shown above) of the remaining 25%, minus any contributed in-kind credit.

3. Effective Date:

This Agreement becomes effective upon execution by all Partners. The original copy of this Agreement will be maintained as part of the records of LPNNRD, with a copy being provided to each of the Partners. The Agreement may be signed in counterparts, as necessary.

4. Duration of Agreement:

This Agreement shall extend from the date of execution by all Partners and will remain in effect, unless mutually or individually terminated by one or more of the Partners upon an advance 90 day written notice.

5. Amendments and Addendums of Agreement:

This Agreement may be amended, or Addendums added, subject to approval by all Partners.

6. **Indemnification:**

The Partners assume no liability under this Agreement unless expressly accepted herein. Each party agrees to defend the other from and against all liabilities, obligations, losses, damages, claims, and demands arising from the acts of its respective officers, agents, or employees.

IN WITNESS WHEREOF, each Partner has caused this Agreement to be executed by its duly authorized officer as of the date and year.

Lower Platte North Natural Resources District

By: _____
Board Chairperson

Date: _____

City of North Bend

By: _____
Mayor

Date: _____

Dodge County

By: _____
Chairman, Board of Supervisors

Date: _____

City of Fremont

By: _____
Scott Getzschman, Mayor

Date: _____

North Bend Drainage District

By: _____
Chairman

Date: _____

AGREEMENT

PROJECT CONTRACTING/PAYMENT PROCESS & OPERTION & MAINTENANCE
for
PLATTE RIVER BREACH REPAIR PROJECT
DODGE COUNTY

This "Agreement", in reference to the Platte River Breach Repair Project, Dodge County, Nebraska, hereinafter referred to as the "Project", is made and entered into by the following parties, hereinafter referred to individually as "Partner" and collectively as "Partners", to wit:

City of Fremont (City)
Dodge County (County)
Lower Platte North Natural Resources District (LPNNRD)
Fremont Rod & Gun Club (Club)

Whereas, the City, County and LPNNRD are political subdivisions of the State of Nebraska and the Club is an incorporated association.

Whereas, 2019 flood events along the Lower Platte River caused a substantial breach in the embankment on the west end of Club property, resulting in substantial damage to private property and public infrastructure.

Whereas, the Partners assisted with emergency repairs in early 2020, to divert Platte Water flood flows from reentering the breach until more substantial repairs could be made.

Whereas, as a result of dredging activities planned at Lake Ventura in 2020, there is an opportunity to use the resulting dredge material from Lake Ventura to engineer, fill, shape, and stabilize the breach area opening, at a total estimated Project cost of $612,380.

Whereas, the County will act as the fiscal agent for the Project repair and will administer a $485,000 Community Development Block Grant approved through the Nebraska Department of Economic Development to partially fund the Project.

Whereas, the City, County and LPNNRD have entered into a separate Interlocal Agreement, to assist with the local share of Project expense, up to $50,000 each, totaling $150,000.

Whereas, the City has agreed to obtain and hold all necessary public easements for the Project from the Club and be the public entity applicant for future disaster assistance.

Whereas, the Club has previously provided approximately $20,000 toward repairs in the Project area and will provide up to an additional $12,380 toward the local share of the Project.

Whereas, the City, County and LPNNRD previously agreed to enter into a future agreement with the Club addressing Project operation and maintenance responsibilities.

Therefore, in consideration of the foregoing recitals and their mutual covenants hereinafter expressed, the Partners agree as follows:

1. **Purpose:** The purpose of this Agreement is to define the Partners responsibilities for Project contracting, contractor selection, payment process, and future operation and maintenance of the completed Project.

2. **Project Contracting, Contractor Selection:** The Club will enter into a contract with JEO Consulting Firm for Project engineering services and also enter into an eventual contract with the construction contractor for completing the Project. The Partners will jointly review submitted Project bids and approve selection of the construction contractor.

3. **Project Payment Process:** The Club will receive and approve all said Project engineering and construction invoices. The Club will pay $12,380 toward the initial Project expenses and then forward all unpaid invoices to the County, who as the acting fiscal agent, will make payment to the contractors. It is understood that the County will use approved Community Development Block Grant (CDBG) funding first, up to $485,000, for paying Project invoices. After CDBG funding is exhausted, the County will continue to pay all approved Project expenses that will be invoiced and shared equally by the City, County and LPNNRD up to $50,000 each.

4. **Project Operation and Maintenance:** This Agreement between the City, County and LPNNRD, and Club is executed to identify operation and maintenance responsibilities of the completed Project. The Club agrees to complete all normal operation and maintenance activities on an annual basis, including but not limited to mowing, tree removal, noxious weed control and minor repairs to the Project. The Club agrees to complete annual written operation and maintenance reports and provide each Partner a copy of said report . Each Partner may, from time to time, request that the Club complete certain maintenance activities. Upon receiving such request, the Club shall complete the requested maintenance activity within a reasonable period of time.
   In the event of needed major future Project repairs, as a result of flooding or ice-out damage, the Partners will work together to secure available federal or state financial assistance and will also consider contributing local financial assistance as needed.

5. **Effective Date of Agreement:** This Agreement becomes effective upon final execution by the Partners. The original copy of this Agreement will be maintained as part of the public records of the City, with a copy of the Agreement to be provided to the Partners. The Agreement may be signed in counterparts, as necessary.

6. **Hold Harmless:** The Club hereby agrees to indemnify and shall hold the City, County and LPNNRD harmless to the fullest extent allowed by law from and against any and all claims, damages, losses, and expenses, arising out of or resulting from its acts and the acts of its agents and employees in performance of this Agreement.

7. **Duration of Agreement:** This Agreement shall extend from the date of execution by the Partners and will remain in effect unless one or more Partners agree to amend, addend, or terminate the Agreement. City, County, or LPNNRD may terminate their obligations of this Agreement upon submitting a 90-day written notice to the other Partners.

IN WITNESS WHEREOF,

This Agreement for Platte River Breach Repair Project is executed by the City of Fremont on this _____day of _____, 2020.

City of Fremont

By:_____
Scott Getzschman

Title:___Mayor_____

IN WITNESS WHEREOF,

This Agreement for the Platte River Breach Repair Project is executed by Dodge County on this _____day of _____, 2020.

Dodge County

By:_____
Bob Missel

Title: Chairman_____

IN WITNESS WHEREOF,

This Agreement, for the Platte River Breach Repair Project is executed by the Lower Platte North Natural Resources District on this _____day of _____, 2020.

Lower Platte North Natural Resources District

By:_____
Gene Ruzicka

Title: Chairman

This Agreement for the Platte River Breach Repair Project is executed by the Fremont Rod and Gun Club on this _____day of _____, 2020.

Fremont Rod & Gun Club

By:_____
John Miyoshi

Title: Board President_____

JEO CONSULTING GROUP

Engineering | Architecture | Surveying | Planning

Invoice

August 28, 2020
Project No: R170337.00
Invoice No: 118957
Invoice Amount: 4,491.50

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

Project Manager Rebecca Appleford

Project R170337.00 Lower Platte North NRD Hazard Mitigation Plan 2020 Update

Professional Services through August 21, 2020

	Contract Amount	Percent Complete	Billed-to-Date	Previous Billing	Current Billing
Lump Sum Phase(s)					
Project Management	$9,750.00	100 %	$9,750.00	$9,652.50	$97.50
Public and Stakeholder Engagement	$30,005.00	100 %	$30,005.00	$30,005.00	0.00
Data Collection	$7,500.00	100 %	$7,500.00	$7,500.00	0.00
Develop Mitigation Plan	$41,495.00	100 %	$41,495.00	$41,495.00	0.00
Submission and Adoption of the HMP	$4,250.00	95 %	$4,037.50	$3,612.50	$425.00
Parcel-Level Flood Risk Assessment - Fremont	$62,500.00	100 %	$62,500.00	$62,500.00	0.00
Parcel-Level Flood Risk Assessment - Schuyler	$62,500.00	100 %	$62,500.00	$62,500.00	0.00
Project Screening and Additional Project Tasks	$23,900.00	42 %	$10,000.00	$10,000.00	0.00
Saunders County, Prague, Wahoo, Yutan Dam Hazard Zoning Overlays	$8,100.00	50 %	$4,050.00	$81.00	$3,969.00
Total	**$250,000.00**		**$231,837.50**	**$227,346.00**	**$4,491.50**

Total Amount Due Upon Receipt **$4,491.50**

Email invoice to: Tom Mountford; tmountford@lpnnrd.org & Jill Breunig; jbreunig@lpnnrd.org

MONTHLY PROGRESS REPORT
Lower Platte North NRD Hazard Mitigation Plan Update

JEO PROJECT NO. 170337.00
Project Contact: Becky Appleford, 402.392.9915

Through the Period of August 21, 2020

---

1. Overall Project and Budget Status:

- Project Completion: 99% Budget: 99%

2. Work completed during current period (thru August 21, 2020)

a. Hazard Mitigation Plan Update

- Finalized required revisions to HMP and resubmitted to NEMA/FEMA on July 30th

b. Saunders County, Prague, Wahoo, Yutan Dam Hazard Zoning Overlays

- Developed zoning text for Yutan and Prague
- Drafted mapping of dam inundation areas for zoning
- Facilitated open house meetings with Yutan and Prague

3. Planned accomplishment for next period (August 21 – September 18, 2020):

a. Hazard Mitigation Plan Update

- Answer any questions from NEMA/FEMA regarding HMP revisions
- Provide notice of approval and adoption resolutions post plan approval
- Provide information to the NRD and other stakeholders as requested

b. Saunders County, Prague, Wahoo, Yutan Dam Hazard Zoning Overlays

- Facilitate the following scheduled meetings:

	Open House Meeting	Publication	Planning	Governing Body
Saunders	NA	26-Aug	14-Sep	29-Sep
Wahoo	NA	14-Aug	3-Sep	24-Sep
Yutan	18-Aug		14-Sep	20-Oct
Prague	20-Aug		31-Aug	17-Sep

4. Action items:

- Facilitate meetings for Zoning Overlays
- Begin adoption process for HMP
- Provide correspondence as needed

5. Project schedule:

- On schedule

6. Information from NRD or Planning Team:

- None

7. Next Meeting Dates and Times:

- None

Tom Mountford

From: Sales Contact <sales@midwestponds.com> on behalf of Sales Contact
Sent: Tuesday, September 1, 2020 4:02 PM
To: Koski, Kim
Cc: Don Cunningham; Tom Mountford; Dian Christensen; Stacy Gibney
Subject: Re: floating fountain finance conumdrum

If it is just a timing issue, ie, the funds are there in one capacity or another I would be happy to accept a Letter of Credit from your bank in lieu of actual cash changing hands. I could ship the unit, which is going to happen this week I believe, with that Letter of Credit guaranteeing payment. I am amenable to other ideas as well. In the meantime, I will place a hold on shipping the unit until we know more.

Thank you,

John G., Operations Manager

Sales and Support Team
CSJ&J Aquatic Gardens
www.midwestponds.com
Phone: (833) 779-2837
Email: sales@midwestponds.com

On Tue, Sep 1, 2020 at 1:25 PM Koski, Kim <Kim.Koski@fremontne.gov> wrote:

> I have a special FFAP meeting set up for next Thursday at noon to address your request for the funds for the NRD portion, it shouldn't be an issue to get approved. The FFAP needs to meet as a board because all expenditures need board approval.

From: Don Cunningham <dcunning1@yahoo.com>
Sent: Tuesday, September 1, 2020 12:57 PM
To: Sales Contact <sales@midwestponds.com>; Tom Mountford <tmountford@lpnnrd.org>; Koski, Kim <Kim.Koski@fremontne.gov>; Dian Christensen <dianchristensen@gmail.com>; Stacy Gibney <sgibney@fsbtfremont.bank>
Subject: floating fountain finance conumdrum

Good afternoon everyone.

We seem to be in a pickle when it comes to getting the money to Midwest Ponds. The Friends of the Fremont Area Parks cannot payout more money than has been deposited in their accounts. With a late donation, I believe that number is $4500. The Lower Platte North Natural Resources District has commited 50% of the project cost up to $5000. Whatever the remainder is, my wife and I have promised to make up that difference. However, NRD policy does not allow their release of their funds until the project is finished. So we are encountering a Catch-22, so to speak. We cannot complete a project that has not been shipped to us. The fountain cannot be shipped until funds are expended.

I hold out hope we can solve this snag.

What are your thoughts?

don cunningham

Kiwanis Prez

CSJ&J Aquatic Gardens/MidwestPonds.com
12297 Kings Eagle St.
Las Vegas, NV 89141 US
+1 8337792837
Sales@MidwestPonds.com

Estimate

ADDRESS
Don Cunningham
City of Fremont
725 N Park Ave
Fremont, NE 68025
United States

SHIP TO
Don Cunningham
City of Fremont
725 N Park Ave
Fremont, NE 68025
United States

ESTIMATE # FRE1001
DATE 08/18/2020
EXPIRATION DATE 08/31/2020

SHIP VIA
UPS

ACTIVITY	QTY	RATE	AMOUNT
13200 Atriarch Fountain, 3 HP, 230 V	1	5,995.00	5,995.00
20039 Timer 230 Volt	1	195.00	195.00
Scott Aerator Co.:13251 Amhearst Nozzle	1	799.95	799.95
28113 Additional Power Cable, 12 G / FT for fountain	40	3.15	126.00
13660 RGB Color Changing LED 4-Light Set	1	1,830.00	1,830.00
28114 Additional Power Cable, 14 G / FT for lights	40	3.00	120.00

Freight Included in Special Pricing
Complimentary Nozzle From Scott Aerator
Complimentary 230V Timer From CSJ&J
190 foot 12GA power cable for fountain
190 foot 14GA power cable for light kit

SUBTOTAL	9,065.95
DISCOUNT	-1,652.45
TOTAL	**$7,413.50**

Accepted By

Accepted Date

T&T Electric llc
(402) 720-9873
2157 N Somers Ave, Fremont, NE 68025

June 23, 2020

Don Cunningham

RE: Johnson Lake Fountain

- Install 240 volt electrical line to shoreline for pump
- Install 120 volt electrical line for lighting circuit to shoreline
- Trench from bath house to edge of lake
- Install junction at shoreline for power cords
- Install 240 volt mechanical timer for fountain
- Install photo eye for fountain lights dusk to dawn
- Install piping inside building to panel

BID PRICE ----------$1,895.00

CONSTRUCTION NOTES:
All concrete cutting and replacement to be done by others and is not included in this bid.

Please call me with any questions.

Regards,

Tyler Thomas