

# 21-01 - Livestock water and Grazing distribution and Wildlife haven. Budget total \$50,806.

## Application Details

**Funding Opportunity:** 21075-Outdoor Heritage Fund September 2022 - Round 21  
**Funding Opportunity Due Date:** Sep 2, 2022 5:00 PM  
**Program Area:** Outdoor Heritage Fund  
**Status:** Submitted  
**Stage:** Final Application

**Initial Submit Date:** Sep 1, 2022 4:50 PM  
**Initially Submitted By:** James Kilzer  
**Last Submit Date:**  
**Last Submitted By:**

## Contact Information

### Primary Contact Information

**Active User\*:** Yes  
**Type:** External User  
**Name:** Mr. James E Kilzer  
Salutation First Name Middle Name Last Name  
**Title:** Assistant Business Manager  
**Email\*:** [odom@assumptionabbey.com](mailto:odom@assumptionabbey.com)  
**Address\*:** 418 3rd Ave. West  
P. O. Box A  
RICHARDTON North Dakota 58652  
City State/Province Postal Code/Zip  
**Phone\*:** (701) 974-3315 178  
Phone Ext.  
### ### ####  
**Fax:** (701) 974-3317  
### ### ####  
**Comments:**

### Organization Information

**Status\*:** Approved  
**Name\*:** Assumption Abbey  
**Organization Type\*:** In-State Non-Profit  
**Tax Id:**  
**Organization Website:** <https://www.assumptionabbey.com/>

**Address\*:**

418 3rd Ave. West

RICHARDTON North Dakota 58652-7100  
City State/Province Postal Code/Zip

**Phone\*:**

701-974-3315 178  
### ### ##### Ext.

**Fax:**

701-974-3317  
### ### #####

## Budget

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***Objective of Grant***

**Objective of Grant:**

To reduce livestock pressure on pasture dams; to restore damaged shoreline including one dam embankment; to improve water quality for livestock and wildlife; to improve distribution of grazing pressure on this pasture; to exercise enhanced stewardship of our native North Dakota prairie.

***Summary***

<b>Grant Request:</b>	\$34,310.00
<b>Matching Funds:</b>	\$16,496.00
<b>Total Project Costs:</b>	\$50,806.00
<b>You must have at least 25% match</b>	
<b>Percentage of Match:</b>	32.47%

***Project Expenses***

Project Expense Description	OHF Request	Match Share (Cash)	Match Share (In-Kind)	Match Share (Indirect)	Other Project Sponsor's Share	Total Each Project Expense
Landowner remove easy concrete from "Lake Julius" embankment	\$0.00	\$0.00	\$3,500.00	\$0.00	\$0.00	\$3,500.00
Contractor remove difficult concrete from "Lake Julius" embankment	\$3,966.00	\$0.00	\$0.00	\$0.00	\$0.00	\$3,966.00
Contractor grade "Lake Julius" embankment face & top	\$2,875.00	\$1,000.00	\$0.00	\$0.00	\$0.00	\$3,875.00
Contractor install geosynthetic riprap fabric and rock riprap on "Lake Julius" embankment	\$9,500.00	\$3,230.00	\$0.00	\$0.00	\$0.00	\$12,730.00
Contractor install rock riprap on vehicle crossing of "Lake Julius overflow"	\$5,700.00	\$2,000.00	\$0.00	\$0.00	\$0.00	\$7,700.00
Contractor mobilization fee (for Lake Julius embankment and riprap work)	\$1,000.00	\$2,500.00	\$0.00	\$0.00	\$0.00	\$3,500.00
Neighbor trench in 3000 feet of water pipe for new tank (labor only)	\$5,625.00	\$1,875.00	\$0.00	\$0.00	\$0.00	\$7,500.00
3000 feet of 1.5 inch pipe, & fittings from Pump Systems	\$3,695.00	\$1,232.00	\$0.00	\$0.00	\$0.00	\$4,927.00
Purchase 1060 gallon livestock water tank - 10 ft round fiberglass from Steffan Feeds	\$1,265.00	\$422.00	\$0.00	\$0.00	\$0.00	\$1,687.00
Electric fence 1200 feet. Materials by Wald Fencing of Hebron ND.	\$470.00	\$315.00	\$0.00	\$0.00	\$0.00	\$785.00
Electric fence 1200 feet. Landowner install.	\$0.00	\$0.00	\$350.00	\$0.00	\$0.00	\$350.00
Bioremediation of four small pasture dams with SparkClear (30# for 2x treatment)	\$214.00	\$72.00	\$0.00	\$0.00	\$0.00	\$286.00
	<b>\$34,310.00</b>	<b>\$12,646.00</b>	<b>\$3,850.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$50,806.00</b>

### Budget Narrative

#### Budget Narrative:

The excavator earth-moving work on "Lake Julius" embankment is budgeted from contractor estimate (supplied with this application); Edward H Schwartz Construction of New England, ND, was recommended to us by Northern Improvement Company whom we know well from prior projects. Pipeline from an existing developed spring/tank to a new water tank will be trenched in by a neighbor, Tim Meyer, who has done many pasture water installations in our area. Budget for trenching is based upon Mr. Meyer's quote. The NRCS Field Office Technical Guide (FOTG) sets caps for costing of certain items, indicating that "every year these prices are subject to change on review of the Field Office Technical Guide." Given that the available version of this Guide is "for 2020" and considering the inflationary pressures of the past couple of years, I think this justifies exception to the cap amounts. The bid for trenching plus the cost of pipe comes to \$3.71 per foot (\$2.50 trenching; \$1.21 pipe), compared to the \$2.63 stipulated in the FOTG. The round fiberglass water tank, price quoted by Steffan Feeds in Dickinson, ND, calculates to \$1.59 per gallon, compared to the stipulated cap of \$1.41 per gallon. Materials for electric fence to keep livestock off Lake Julius are priced as quoted by Wald Fencing of Hebron ND (bid mailed, not received yet). Landowner will install electric fence. Fencing costs including labor come to \$1.09 per foot, compared to the FOTG benchmark of \$0.84 per foot. Smaller fencing jobs will cost more per foot than larger fencing projects, with solar charger, ground rod, and corner posts needed for a smaller run of fenceline. Bioremediation of water quality in four small pasture ponds is a proof-of-concept effort, with very modest cost. Curiously, in several months of contacts, working on this grant application, no one I talked to had heard of "bioremediation" of pasture pond water. Keepers of golf courses, using ample fertilizer and water, know the challenge of keeping water features clean and attractive on the links; and they have come up with solutions which work. The agriculture community can take advantage of this product development, to good effect, in agricultural ponds receiving nutrient excess similar to water features on golf courses.

### Bid Attachments

Description	File Name	Type	Size	Upload Date
Removal of miscellaneous concrete riprap; grading of dam face and top; application of geosynthetic fabric and rock riprap; armoring overflow vehicular crossing with riprap.	<a href="#">Lake Julius earthmoving - Schwartz Construction bid.pdf</a>	pdf	332 KB	08/30/2022 10:15 AM
Materials: pipe and fittings to extend from existing spring-fed tank to new springfed tank for livestock water.	<a href="#">Pipeline to new Tank - Pump Systems bid.pdf</a>	pdf	156 KB	09/01/2022 12:21 PM

### Match Funding

Match Amount	Funding Source	Match Type
\$12,646.00	Cash - to be paid by landowner to contractors.	Cash
\$3,850.00	In-kind - labor and machine power supplied by land owner.	In-Kind
<b>\$16,496.00</b>		

## Description

### Directives

<b>Major Directive*:</b>	Directive B Choose One
<b>Additional Directive:</b>	Directive C Choose All That Apply
<b>Type of Agency*:</b>	Tax-exempt, nonprofit corporation Choose One

### Abstract/Executive Summary

#### Abstract/Executive Summary\*:

Our objectives are: to reduce livestock pressure on two pasture dams; to restore damaged shoreline and embankment of one pasture dam (half-acre of water; 2 acre fenced enclosure); to improve water quality available for livestock and wildlife; and to improve distribution of grazing pressure on this pasture. A new spring-fed tank will take the place of a dam for livestock water needs. The new tank will be located at the center of a 200 acre pasture. This project should produce cleaner water for livestock and wildlife alike; restore damaged pond shoreline; improve grazing distribution; and improve livestock performance. Project should be completed by winter freeze-up 2022, if contractors are available, or summer 2023 at the latest. Total project costs: \$50,806. Participants are land owner (Assumption Abbey), Edward H. Schwartz Construction of New England, ND, (dam, earth-moving), neighbor Tim Meyer (water pipeline & tank installation), with supplies purchased from Pump Systems of Dickinson ND and Wald Fencing of Hebron ND.

### Project Duration

#### Project Duration\*:

The project should be completed by winter freeze up 2022, if contractors are available, or summer 2023 at the latest. Pond shoreline recovery will occur naturally over a few years' time. The trenched pipeline to a new water tank can be done independently from the other components of the project. Work on the dam must be sequenced: Landowner remove easy miscellaneous concrete; Contractor complete his earthmoving work; Landowner install electric fence, including across the dam embankment.

## Narrative

### Narrative

Briefly summarize your organization's history, mission, current programs and activities. Include an overview of your organizational structure, including board, staff and volunteer involvement.

#### Organization Information\*:

Assumption Abbey is a Catholic Benedictine monastery, home to thirty-three vowed brothers and priests. In our monastery's earliest years, several of our members established homesteads, as a way to acquire land for later sale, to pay for monastery construction costs. Our monastery disbanded in 1924 due to bankruptcy, but with the help of another monastery, reopened in 1926. We are stewards of 2000 acres of land, most of it prairie pasture, rented to a neighbor. We are governed by an Abbot and a Council of six members. We are engaged in pastoral, educational and charitable work in our region. We also have a "daughter monastery" and K-12 school in Bogota, Colombia, founded in 1960. Our mission, in addition to obvious ministry functions, is largely focused on hospitality. We host many individual retreatants, groups and travelers. Visitors may enjoy our church, courtyard and grounds, visit our wine cellar and gift shop, and converse with monks, young and old, about our life and our calling.

#### Describe the proposed project identifying how the project will meet the specific directive(s) of the Outdoor Heritage Fund Program.

Identify project goals, strategies and benefits and your timetable for implementation. Include information about the need for the project and whether there is urgency for funding. Indicate if this is a new project or if it is replacing funding that is no longer available to your organization. Identify any innovative features or processes of your project.

Note: if your proposal provides funding to an individual, the names of the recipients must be reported to the Industrial Commission/Outdoor Heritage Fund. These names will be disclosed upon request.

If your project involves an extenuating circumstance to [exempted activities](#) please explain.

**Purpose of Grant\*:**

The purpose of this project is largely described in Directive C (ranch/livestock improvement) and Directive B (wildlife benefit). We address each of these Directives in turn. Our "Lake Julius" provides water for 200 acres of pasture. // Cattle will suffer more cases of a condition called "foot rot" when exposed to wet muddy ground or wading a pond shoreline for water. Bacteria can invade any break or abrasion on the skin, cause foot inflammation and tissue death, leading to lameness, loss of vigor and even death of an animal. Treating foot rot cases is costly in antibiotics and a rancher's precious time. Cattle's overall performance is enhanced when given access to cleaner water. Cattle will remain optimally hydrated and carry less parasite load when drinking clean water, as compared to drinking pond water gone stagnant, polluted by livestock urine and feces, water clouded by runoff from degraded shoreline slopes, and muddied by cattle wading into the pond. Electric fence will keep cattle out of the pond in question and maintain a hundred-foot buffer of shoreline not accessible to cattle. This fenced area will be about two acres, including a half-acre of water. Water quality will be further improved by treatment of the pond with a bio-remediation product (minerals, enzymes and bacteria) to clarify the water. In lieu of cattle drinking from this pond, water will be brought via buried pipe, teed off from an existing developed spring/tank some 3000 feet away. // Wildlife will enjoy the same benefits as described for livestock above: cleaner, more palatable, more healthy water. In addition, the electric fence keeping cattle off the pond will produce a hundred-foot shoreline buffer of grasses and shrubs. This will give wildlife an enhanced level of security, enabling ground-nesting of geese, ducks or other birds. This pond is frequented by migratory birds, permanent-resident birds, and our local resident whitetail and mule deer. This pond is home to fathead and stickleback minnows, painted turtles, muskrats, sometimes a very large snapping turtle, plus pond microflora and microfauna at the base of the food chain. We recognize that pasture dams are hardly built any more for ranch water, because dams are more expensive than pipe-and-tank water systems for livestock. We are very grateful for the natural beauty of our existing pasture dams. Our largest dam is 35 acres in size. We also have four smaller dams. One of these smaller dams serves 200 acres of pasture. This small dam has been hard used and much degraded by cattle, as evidenced in supplied photos. The project includes removing ineffective riprap, re-grading the dam embankment, and covering it with proper riprap to protect it for many decades to come. The purpose of this project is to reverse much livestock damage to this particular pasture dam which we call "Lake Julius" after a beloved monk of our monastery now long deceased. This project will also take some livestock pressure off a tributary of our largest dam, will better distribute grazing pressure, and will improve livestock performance with the new and cleaner water source. We used to allow public fishing on our largest dam, when it was "young" from about the late 1950s into the 1980s. We are currently reluctant to foster public access, knowing from our own experience how deer, waterfowl and cattle are driven out in response to human presence. We anticipate a human aesthetic benefit to ourselves and retreat guests, but wish to maintain our 2000 acres as something of a haven for wildlife, where they can be at ease and disturbed as little as possible, and where cow-calf pairs can spend their summers without being roused and set to bawling (to pair up) when visitors flush them. Thus our aim is 1) ranch/livestock benefit; 2) wildlife benefit; 3) landowner and very limited guest enjoyment of the finished project.

Please list the counties that would be impacted by this project:

**Counties\*:** Stark

**Is This Project Part of a Comprehensive Conservation Plan?\*** No

**If Yes, Please Provide Copy of Plan:**

**Does Your Project Involve an Extenuating Circumstance?\*** No

**Please Explain:**

Provide a description of how you will manage and oversee the project to ensure it is carried out on schedule and in a manner that best ensures its objectives will be met. Include a brief background and work experience for those managing the project.

**Management of Project\*:**

Our monastery business manager Odo Muggli and assistant business manager James Kilzer will be responsible for overseeing this project. We have between us fifty-plus years of experience in this role, with diverse projects accomplished through the years. We have dealt with easements, contracts, leases, and everything from paving to roofing. We will negotiate the availability and timing of the contractors. We hope to see the project finished before winter freeze up in Fall 2022, or at least no later than summer 2023.

Indicate how the project will be funded or sustained in future years. Include information on the sustainability of this project after OHF funds have been expended and whether the sustainability will be in the form of ongoing management or additional funding from a different source.

**Sustainability\*:**

This is a "durable goods" project, needing nothing more than the predictable maintenance of completed structures/repairs by land owner. We anticipate no problem keeping the completed project in good shape for many decades to come. We have been here since 1899 and plan to be here long term, as responsible stewards of this prairie land we enjoy.

Indicate how the project will be affected if less funding is available than that requested.

**Partial Funding\*:**

As with any project like this at our monastery, certain cost thresholds require approval by our monastery's Abbot, or by our Council, or by our plenary Chapter of members. Our approval of spending, and appropriation of necessary funds, is decided by the required party (Abbot, Council or Chapter), based on dollar amount. We could appeal to our donor base for contributions, though decision to do so has not been made at present.

Schwartz Construction indicates willingness to negotiate additional landowner labor/machinery contribution to reduce cash cost, though this potential is rather limited. We are capable of covering whatever costs are not covered by a grant. There remains the matter of fund approval once the cash cost-to-us is determined.

If you are a successful recipient of Outdoor Heritage Fund dollars, how would you recognize the Outdoor Heritage Fund partnership? \* There must be signage at the location of the project acknowledging OHF funding when appropriate. If there are provisions in that contract that your organization is unable to meet, please indicate below what those provisions would be.

**Partnership Recognition\*:**

We publish a quarterly eight-page newsletter with a circulation of five thousand recipients. This current project will be reported in our newsletter and on our social media, with clear acknowledgment of the Outdoor Heritage Fund partnership which made it possible. Our local Richardton Merchant newspaper may report on this project. If Richardton Merchant or any other local newspaper covers this story, we will ask that Outdoor Heritage Fund be recognized for partnering with us on this project.

Do you have any supporting documents, such as maps or letters of support that you would like to provide? If so, please provide them in a single file.

**Supporting Documents\*:** Yes

**If Yes, Please Provide Copies in a Single File:** [OUR PROJECT IN PICTURES.pdf](#)

Awarding of Grants - Review the appropriate sample contract for your organization. [Sample Contract](#)

**Can You Meet All the Provisions of the Sample Contract?\*** Yes

If there are provisions in that contract that your organization is unable to meet, please indicate below what those provisions would be:

**Provisions Unable to Meet:**

## Tasks

**Tasks**

Task	Start Date	Completion Date
Contractor work on dam embankment & overflow.	10/01/2022	11/01/2022
Landowner install electric fence.	11/01/2022	11/15/2022
Landowner remove easy concrete from dam embankment.	09/15/1922	09/30/2022
Neighbor trench in pipe extension to second Spring tank.	10/01/2022	11/01/2022

**Description of Tasks**

**Please Describe Tasks:**

Landowner will remove what concrete we can from dam embankment; then a contractor will complete the earthwork and riprap. A separate contractor will trench in water line to a new cattle tank. Landowner will fence cattle off "Lake Julius" to allow shoreline recovery and to enhance wildlife use. With decades of experience in such projects, we know a backup timeline sometimes is needed. If, due to delays in contractor availability, a backup completion date of 06/30/2023 is our target.

## Deliverables

**Deliverables**

Deliverable	Quantity	Unit of Measurement, if applicable
Four ponds treated with Sparklear bioremediaiton product. Applicant will submit before-and-after photos of each pond.	1	
New livestock tank installed in 200 acre pasture. Applicant will submit photos of spring water running at new tank.	1	
One pasture dam embankment renewed with proper riprap, and rock armor on overflow crossing. Applicant will document with photos.	1	
Two acres fenced off from cattle. Applicant will submit photos of finished electric fence around Lake Julius.	1	

## Certification

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***Certification***

**Certification:** Yes

**Name:** James Kilzer Kilzer  
First Name Last Name

**Title:** Assistant Business Manager  
Title

**Date:** 08/31/2022

***Internal Application Number***

**#ID: 21-01**

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Edward H. Schwartz Construction

PO Box 160  
103 S. Main St.  
New England, ND 58647

701-579-4204  
[jodi@earthking.net](mailto:jodi@earthking.net)

**ESTIMATE**

**Name:** \_\_\_\_\_ Richardton - Abby Lake Small Dam \_\_\_\_\_

**Attention:** \_\_\_\_\_ Father Kilzer \_\_\_\_\_

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Total</b>
1	Concrete Removal	LS	1.00	\$ 7,466.67	\$ 7,466.67
2	Grade Dam/Face Top	LS	1.00	\$ 3,877.78	\$ 3,877.78
3	Geosynthetic RR	SY	220.00	\$ 4.44	\$ 976.80
4	RipRap Dam	LS	1.00	\$ 11,753.33	\$ 11,753.33
5	Over Flowing Crossing	LS	1.00	\$ 7,711.11	\$ 7,711.11
6	Mobilization	LS	1.00	\$ 3,531.11	\$ 3,531.11
					\$ -
					\$ -
					<b>\$ 35,316.80</b>

Notes:

X \_\_\_\_\_ Date: 6.2.22  
Title Jodi (J) Sencoski  
Sec of Corp



PUMP SYSTEMS LLC  
 530 25TH AVE E  
 PO BOX 1940  
 DICKINSON ND 58601  
 701-225-4494

Customer: 11290  
 ASSUMPTION ABBEY  
 PO BOX A  
 RICHARDTON ND 586520000  
 US

Phone: 7019743315

Estimate	Terms	Quote Date	Exp Date	Sls person	Cust Currency	Page
e001690	Net 30 Days	08/30/22	09/29/22		US\$ Dollars	1

Quantity	Item	Unit Price	Ext. Price
3.000	PI15PLSDR11-200/1000	1,207.33894	3,622.02
EA	11/2 SDR11 200 PSI 1000' ROLLS FUSION		
1.000	75-312666	52.13376	52.13
EA	TEE 11/2" IPS HARCO		
2.000	75-30866	33.51670	67.03
EA	COUPLING 11/2 IPS HARCO		
1.000	75-33264	42.69187	42.69
EA	FEMALE ADAPTOR 11/2" X 1" FPT		
5.000	75-33066	19.42838	97.14
EA	MALE ADAPTOR 11/2 X COMP HARCO		
2.000	VA15BRGA	26.91950	53.84
EA	VALVE 1.5" BR. GATE 6 per box		
1.000	NI10BR40	17.82500	17.83
EA	40105 NIP 1 X4 BRASS		
1.000	6005-1	199.94440	199.94
EA	CURB STOP/DRAIN BV		
1.000	AD10BI	17.07469	17.07
EA	RBMANL100 ADPT 1" BRAS		
2.000	EL10BI07	13.92479	27.85
EA	RBHENL100 ELB 1X.75 BR		
1.000	75-31764	59.67160	59.67
EA	REDUCER COUPLING 11/2"X1" IPS HARCO		

PUMP SYSTEMS LLC  
 530 25TH AVE E  
 PO BOX 1940  
 DICKINSON ND 58601  
 701-225-4494

Customer: 11290  
 ASSUMPTION ABBEY  
 PO BOX A  
 RICHARDTON ND 586520000  
 US

Phone: 7019743315

Estimate	Terms	Quote Date	Exp Date	Sls person	Cust Currency	Page
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e001690	Net 30 Days	08/30/22	09/29/22		US\$ Dollars	2

	Quantity	Item	Unit Price	Ext. Price
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	2.000	CO10BR	15.86750	31.74
		EA 44415 CPLG 1 BRASS		
	1.000	R400-3/4	41.92505	41.93
		EA VALVE .75 ROBERTS		
	2.000	R1310-10-304	13.30266	26.61
		EA ROD 1/4 X 10" THD T304 SS 50 PER		
	2.000	PF-6	10.75215	21.50
		EA FLOAT BALL		
	10.000	SC16SS	1.34011	13.40
		EA M67167 CLAMP SS 500 PER BOX		

Sale Amount:	4,392.39
Sales Tax:	300.70
Misc:	233.85
<b>Total Amount:</b>	<b>4,926.94</b>

WARRANTY IS LIMITED TO THAT OF THE MANUFACTURER, NO LIABILITY EXISTS FOR CONSEQUENTIAL DAMAGES. A LATE CHARGE OF 1.75% PER MONTH APPLIES. FRT TERMS ARE FOB SHIPPING POINT



30



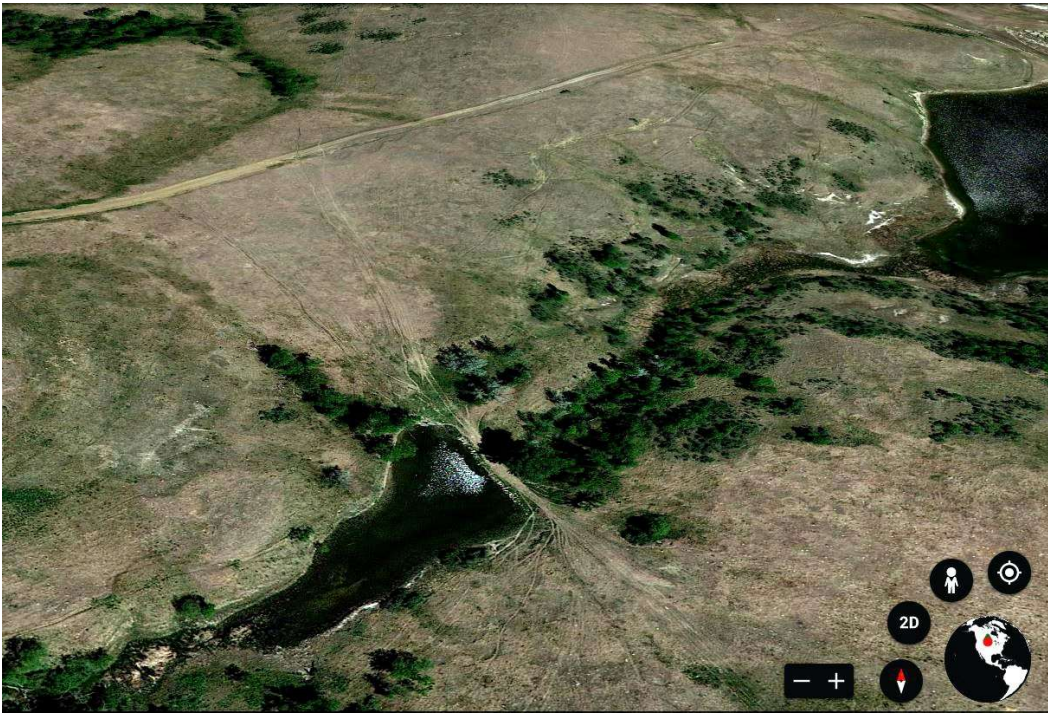
# “OUR PROJECT..IN PICTURES”

(In lieu of a PowerPoint presentation by applicant.)



Assumption Abbey “home section” of pastureland, with fences indicated in red. The red X marks approximate location of intended new spring-fed tank to serve some 200 acres of pasture.





Lake Julius in context. Downstream is our much larger (35 acre) lake. But Lake Julius is the chief livestock water source for 200 acres of pasture. Note the evident cattle trails to and across Lake Julius embankment.

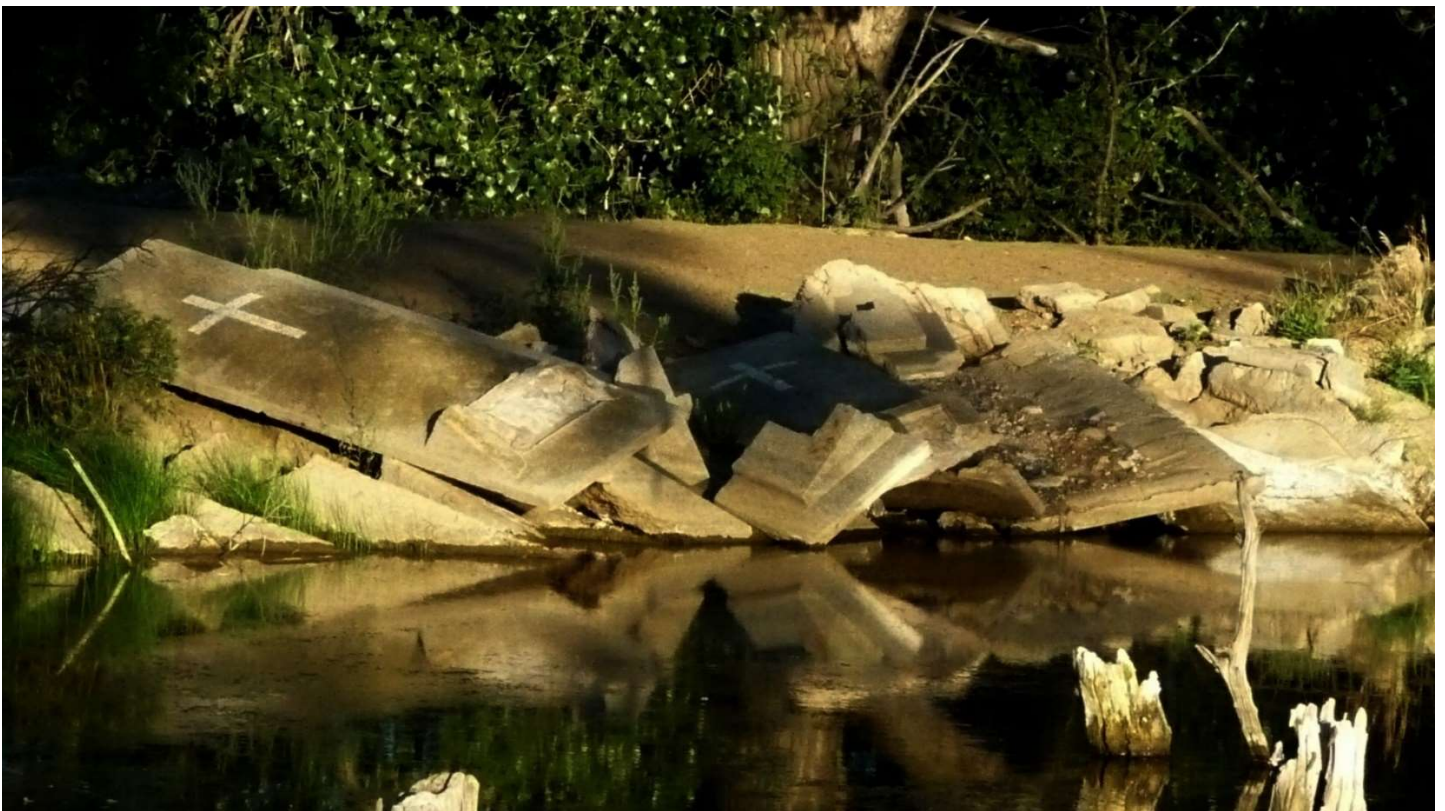


Google Maps aerial view of Lake Julius, with cattle trails. Riprap is miscellaneous concrete junk and tires. Shoreline, as seen in subsequent photos, is badly damaged by cattle. Excess nutrients make for poor water quality.





From south shore to east embankment. Note cemetery grave cover slabs, marked with crosses. It looks like a cemetery washed downstream and piled up on the dam. Ugh.



Closeup of embankment with junk concrete for riprap. Cattle still find paths through this riprap to drink at dam face, seeking out cleaner water.





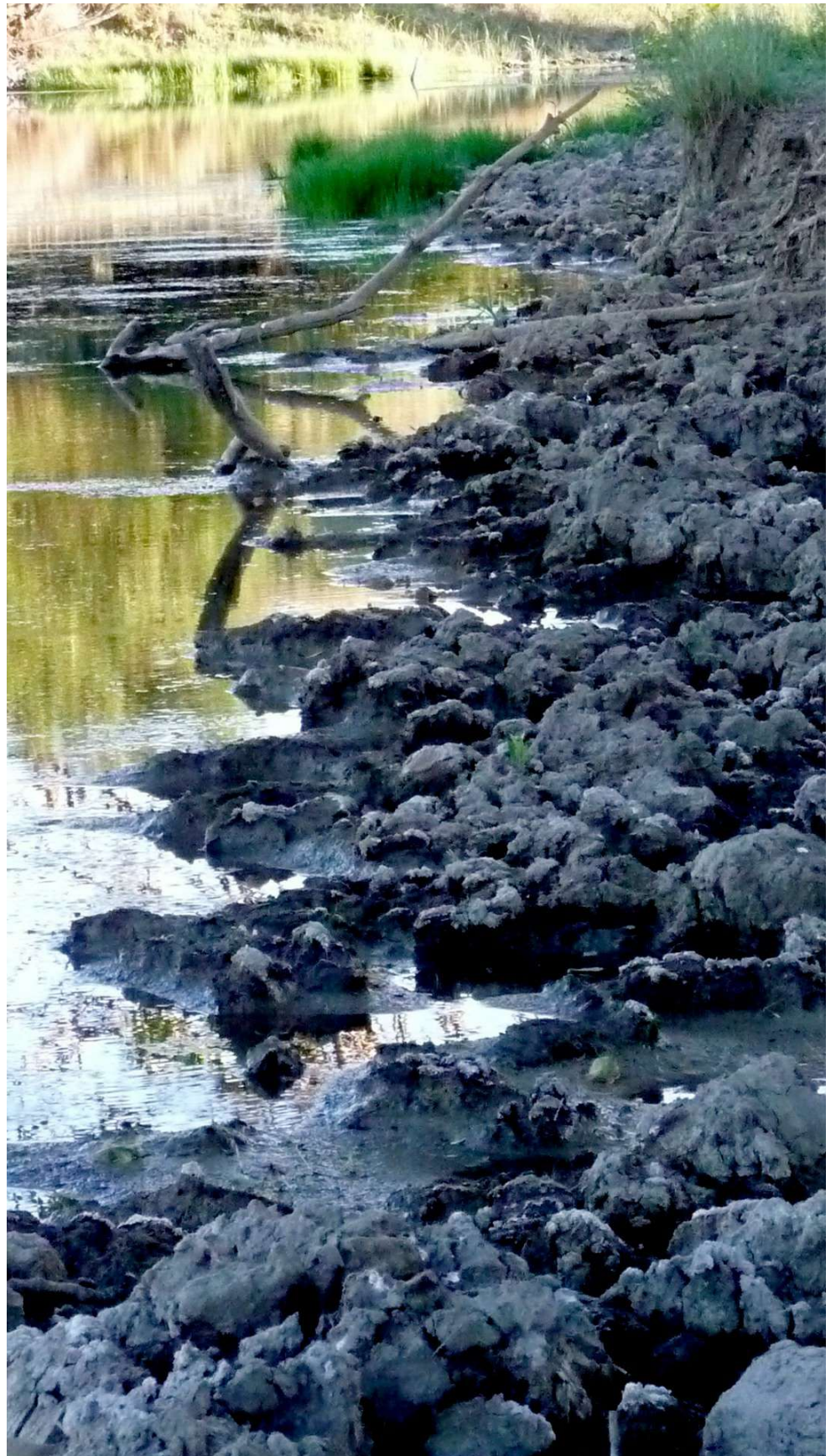
Evening light over a potentially much more beautiful pond. White item at far shore is a wood duck house, unused in its first year. A second wood duck house on this pond raised a clutch of five American Kestrels in summer 2022.

Degraded north shoreline near embankment. In the hot summer of 2022, cattle wore all the grass off under several trees here. Note the lightning scar on this old tree trunk. Roots are



exposed to abrasion, heat and cold, by cattle traffic on the shore. Landowner will restore topsoil coverage after cattle are fenced off this area.





North shore, from underneath that old lightning-scarred tree, looking to the west. The worst damage is at this corner of the pond, but as cattle tore up the shore here, they moved further along, until virtually the entire shoreline was cow-pocked in 2022.





North shore, a little further west. A small knob of weeds and sunflower, and some clumps of grasses holding out against the damaging cattle traffic.



South shoreline. Here too, shoreline grasses are in danger of losing their battle for life.





South shoreline looking east toward embankment. Note severe damage to shoreline. Landowner will bring in some topsoil to hasten recovery of shoreline areas.





West end shallows. These two photos were taken August 30<sup>th</sup> 2022. Nutrient excess makes for mucky water. Bioremediation with SparKlear will be tested as a remedy: trace minerals, enzymes, and bacteria to naturally break down excess organic nutrient load, making for cleaner water.



SparKlear, a mix of minerals, enzymes and bacteria to clean up pond water.

**SparKlear®**

★★★★★ [Read Product Reviews Below](#)  
[Login to write a review](#)

*Reduce the nutrients in your pond or small lake.*

**Options:**

- SparKlear - 1 pound (covers 5,000 sq. ft.) \$25.00
- SparKlear - 1 pound (covers 5,000 sq. ft.) \$25.00
- SparKlear - 5 pounds (covers up to 1/2 acres) \$75.00
- SparKlear - 10 pounds (covers 1 acre) \$123.00
- SparKlear - 20 pounds (two 10 pound bags - \$92.25 each) \$184.50
- SparKlear - 30 pounds (three 10 pound bags - \$89.00 each) \$267.00
- SparKlear - 40 pounds (four 10 pound bags - \$88.75 each) \$355.00
- SparKlear Liquid 1 Pint - covers up to 2,500 sq ft \$23.50
- SparKlear Liquid 1 Quart - covers up to 5,000 sq ft \$37.25
- SparKlear Liquid 1/2 Gallon (covers up to 10,000 sq ft) \$55.99
- SparKlear Liquid 1 Gallon - (covers up to 1/2 acre) \$83.00

Ten pounds would treat Lake Julius two times (within the same summer).

Thirty pounds would do this for all four of our smaller pasture dams. This would be a good proof-of-concept testing of the product. Our ag sector friends seem not to have heard of such a tactic.





Intended electric fence “exclosure” to keep cattle off Lake Julius.

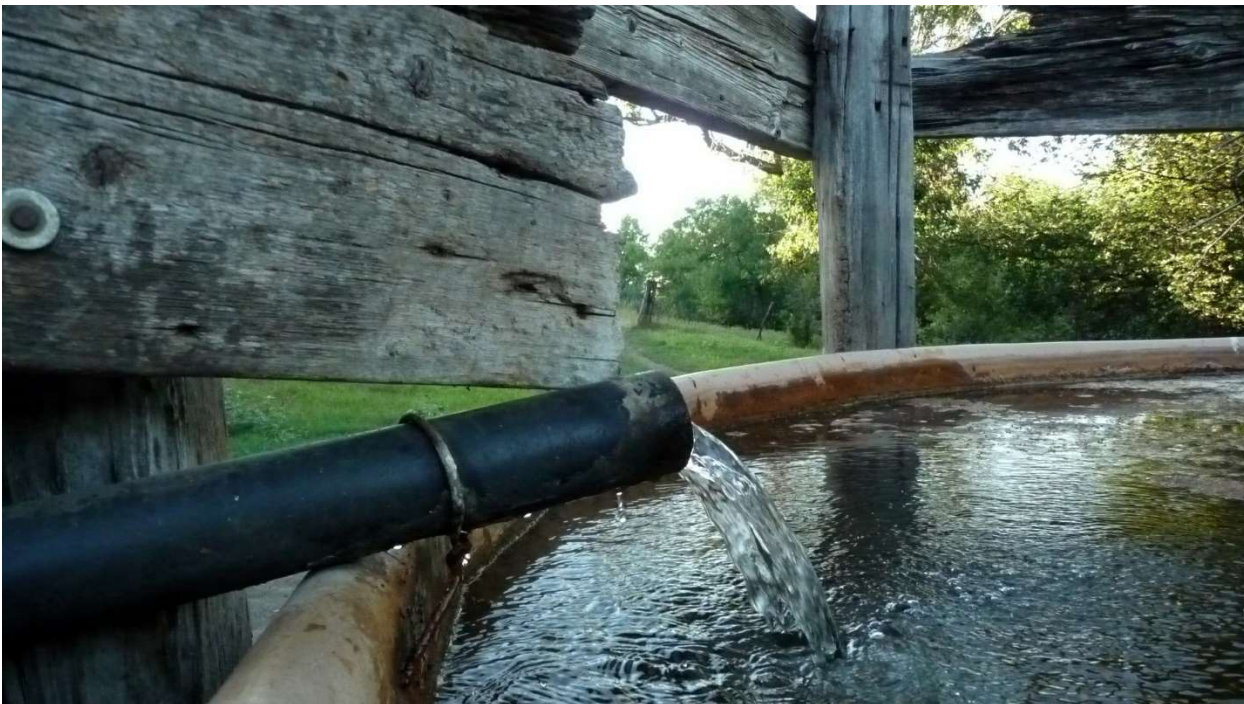
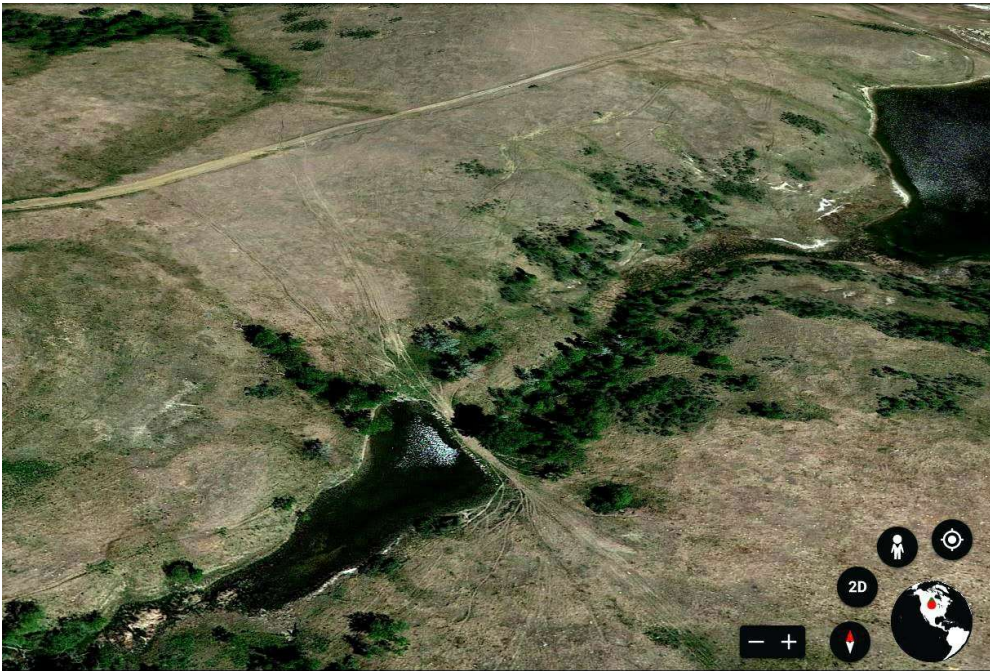
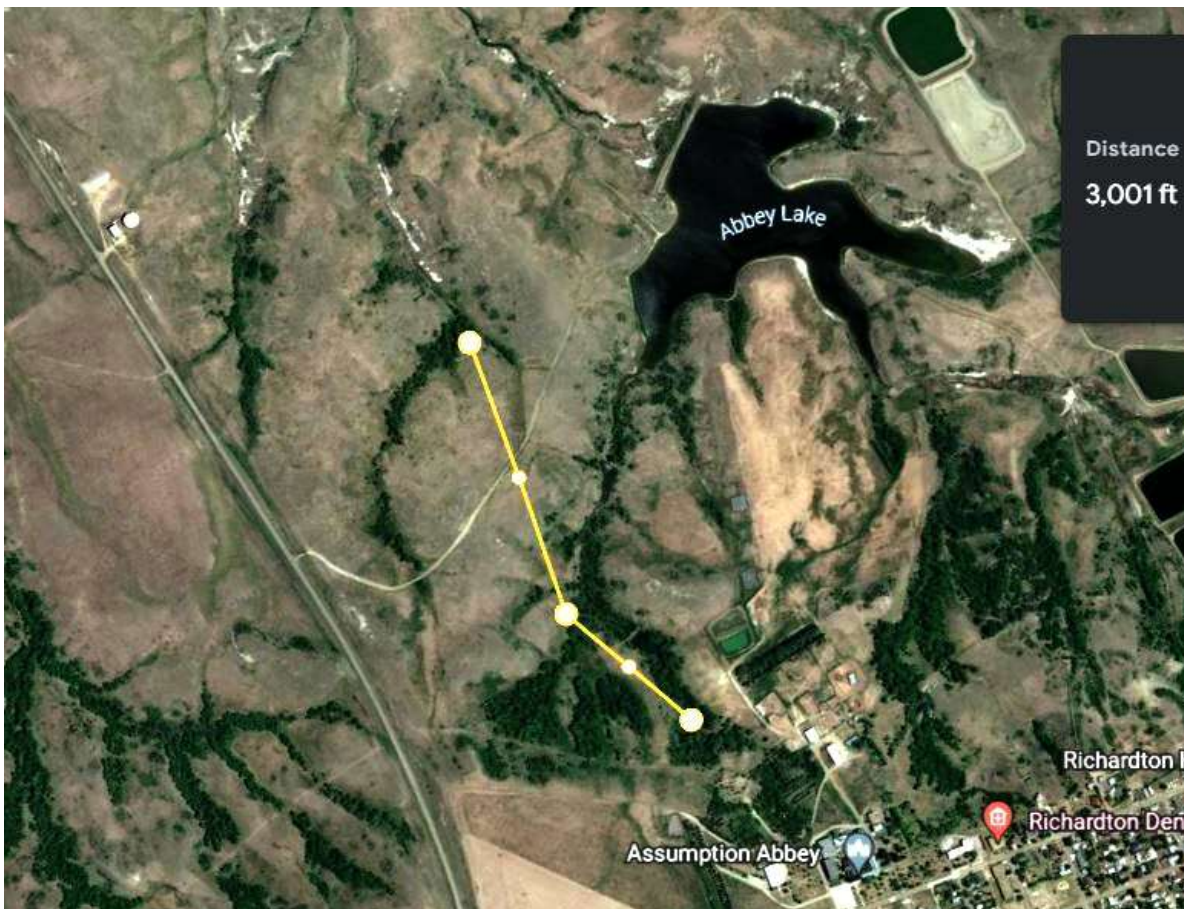


Photo of existing spring-fed tank, from which we will extend a buried pipeline to a new tank north of Lake Julius.





The new spring-water tank will be in the upper left of this photo, better centered to serve 200 acres of pasture, and taking the cattle traffic off Lake Julius.



Route from existing spring-fed tank to a second (new) tank location. Gravity system with about 90 feet drop in 3000 feet of pipeline. Free water, once pipeline and tank are in place. Centrally positioned in 200 acres of pasture.



# **OUR PROJECT...**

## **CLOSING ARGUMENT.**



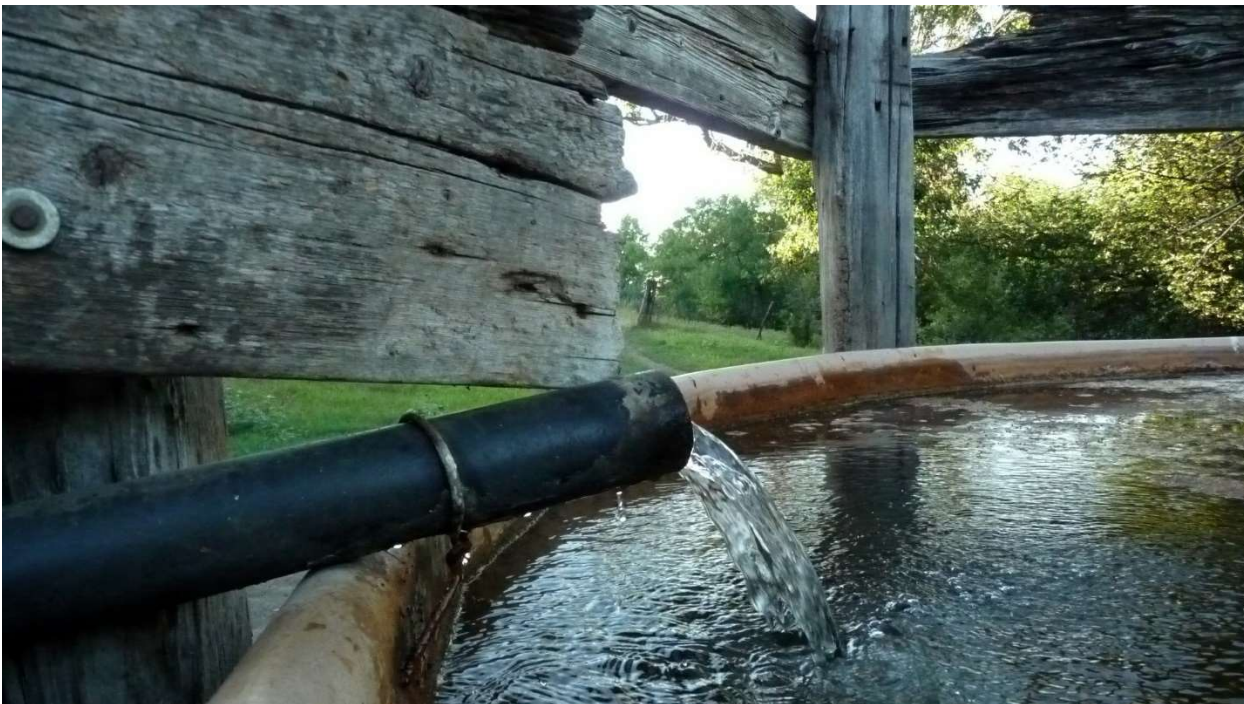
**From this...**



**... to this.**



**From this...**



**...to this.**





**From this...**



**...to this.**

**THE END**