

Solar Hills Reserve Study for the Irrigation System 2019



Prepared for: Solar Hills Board of Directors

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SOLAR HILLS RANCH SUBDIVISION

RESERVE STUDY

Introduction

Solar Hills Ranch should have two major accounts: the operating fund and the reserve fund. The reserve fund is essentially a savings account. It is where the our HOA saves money for more costly repairs and replacements. Unfortunately, as research indicates, many HOAs have underfunded reserves. They don't have enough money put back to cover estimated expenses in the future. I was directed by our Solar Hills Ranch Board of Directors to work on developing a reserve study due to new state regulations regarding subdivisions with H.O.A's. In consultation with other subdivisions, it was recommended, that we have a **professional** reserve study done in the future.

A reserve study evaluates the condition of major assets and amenities, estimates when they will need to be repaired or replaced, and how much that will cost. What I am submitting today is my attempt at determining what those assets are and making a best estimate of what we should have in reserve to cover those expenses. I believe this is a good starting point and that this document is updated yearly.

Ideally, the HOA wants to have a 100% funded reserve meaning that it has enough money to cover all anticipated costs. However, having at least 70% is a good start. Less than that and our HOA runs the risk of having to implement special assessments or raise association fees to cover costs. This can be a burden on our homeowners who must come up with this money on short notice.

Here are a few things we need to keep in mind when it comes to the HOA's reserve funds:

All the literature on conducting a reserve study, suggests that we hire a professional to conduct the reserve study. They know exactly what they are looking for and can guide the HOA in determining how much to save. If our funding is coming up short we can look for ways to readjust our budget and allocate a higher percentage of association fees to the reserve fund. Typically between 25% and 40% of fees should be put toward the reserve fund.

I believe it is important for us to be transparent with our homeowners about the status of the reserve fund and options for improving funding. This may require a larger increase in dues upfront, or smaller increases each year. It is crucial with our irrigation system that we stay on top of any preventive maintenance to keep our assets in good working condition and prolong their lifespan. Repairs and replacement are inevitable, but proper maintenance can help protect against unexpected damages.

Our irrigation committee will continue to monitor the wear and tear on assets and amenities to anticipate repairs or replacements and be better able to plan for them when possible.

History

The Solar Hills Subdivision's irrigation system was installed in 1983. The system consists of a large 2 acre pond for water storage. We have irrigation water rights through the Uncompahgre Water Association. We own as a subdivision 57.60 shares of water. Water is delivered through underground pipes from the South Canal. Water is delivered to the subdivision from mid-April through the end of Oct. We pay an annual amount each year. We paid \$1949.00 in 2018. The amount of water to our subdivision is controlled by our ditch rider and the amount can be cut back depending on drought condition. Historically in a drought year we have been cut back as much as 60%.

SOLAR HILLS RANCH SUBDIVISION

During the lifespan of our irrigation system, we have conducted a number of repairs and upgrades . This has included repairs to broken lines, leaking valves, repairing air-vacs and adding an additional out flow line and drain valves.

Description of Our System

We have a closed line system with underground PVC pipe with glued joints. The system as a series of air-vacs to release trapped air in our lines. The system is charged first by opening two main valves. The first is a 10 watermen screw valve on the dock and the other is an 8 inch with an in-ground valve. The valves are cracked open, slowly filling the lines and trapped air is slowly bled out of the lines through the air vac. Once the system is charged the valves at the dock and along the shore are opened fully.

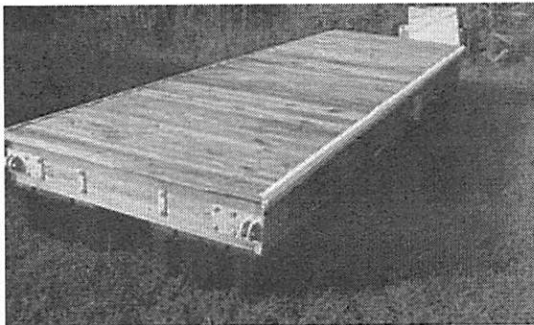
Each lot in our subdivision is allowed one 2 inch line tap. Each owner is responsible to maintain their tap and are responsible for any repairs to the system that is caused by their tap or landscaping that interferes with our main supply lines.

Dock

The irrigation system requires access to the dock control the 12 inch main line. This dock has been repaired a number of times and at this time is in need of repaired.

The dock has 6 wood pylons that support the main deck structure. The dock is 10' x 40'. The existing substructure support beams have failed. An assessment needs to be done to determine how to best fix the dock.

A floating dock that is attached to the pylons might be a better solution and would be easy to repair in the future.



The floating dock system has plastic flotation containers that can support a deck frame. Each unit is 4 feet by 10 feet. Our dock would require 10 individual sections.

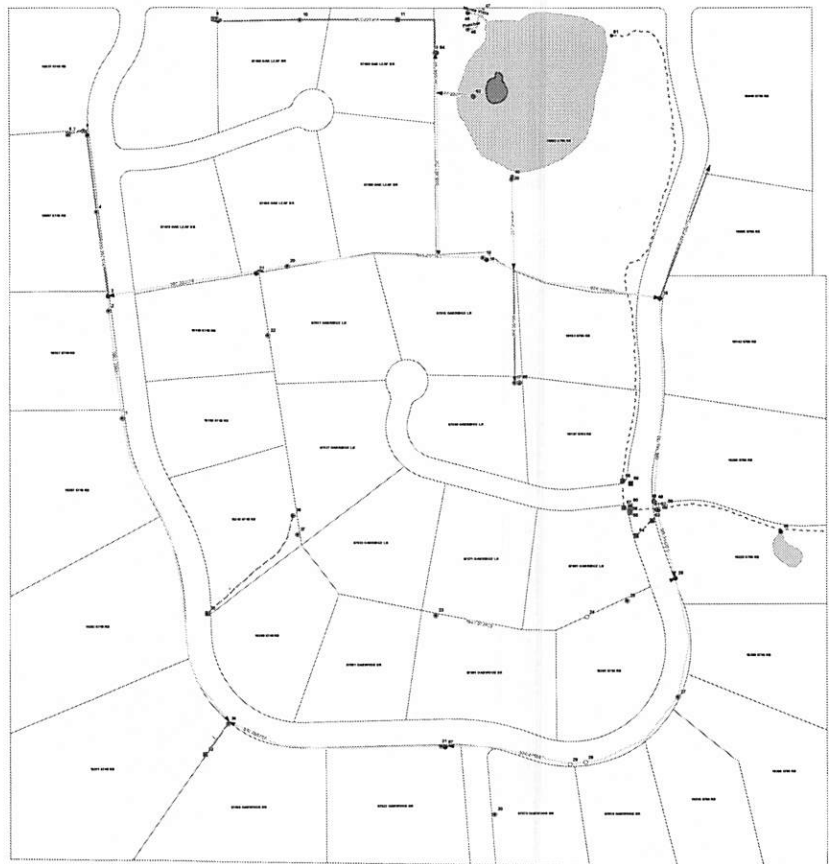
Over Flow Drain for Erosion Control

In 2013, we installed drain pipe and control drain box to control seepage and to control overflow and for erosion control between lots 14 and 42.

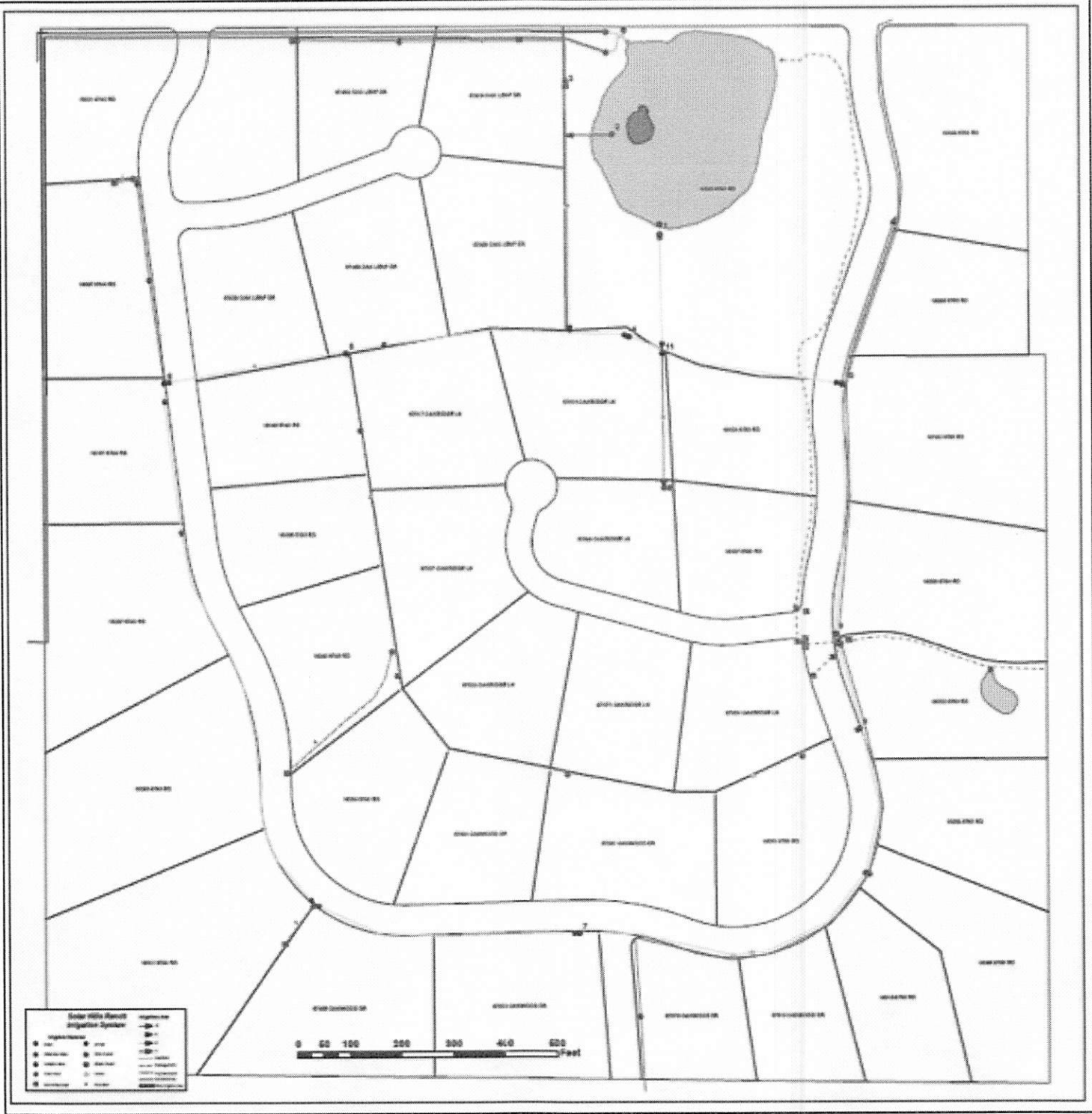
Irrigation Maintenance History

In 2011, we began an irrigation reserve fund. Each homeowner was assessed an amount and was collected along with our subdivision dues. This reserve fund was established to cover yearly maintenance costs rather than planning for replacement cost of the entire system.

In 2011 physical asset survey and later, we GPS'd all of the valves, lines, drains and air-vacs. We created a map of our system that included a list of all the parts and the actual length and diameter of all of the pipe. The image below is a snapshot of a document that is in our Solar Hills Irrigation folder.



SYSTEM MAP



Irrigation Pond Lot #18 (J. Willey)



Dock and waterman valve



Assets and Liabilities

Description	Linear Feet	Unit Price	Total Value
2 inch Sch 40 PVC	80	\$ 1	\$ 78
4 Inch 100 PSIP Pipe	1596	\$ 3	\$ 4,549
6 inch 100 PSIP Pipe	1641	\$ 2	\$ 3,184
8 inch 100 PSIP Pipe	4,588	\$4	\$ 17,159
10 inch 100 PSIP Pipe	785	\$5.36	\$4,207.60
	Quantity	Unit Price	Total Value
Air Vac	18	\$38.00	\$684.00
10 inch Tee	1	\$72.00	\$72.00
8 inch Tee	9	\$31.00	\$279.00
6 inch Tee	5	\$27.00	\$135.00
10 inch Gate Valve	2	\$1,500.00	\$3,000.00
8 inch Gate Valve	9	\$1,057.00	\$9,513.00
6 inch Gate Valve	1	\$663.00	\$663.00
4 inch Gate Valve	2	\$520.00	\$1,040.00
			\$ -
Drain Box	1	\$210.00	\$210.00
Dock Replacement (Estimate)	10	\$770.00	\$7,700.00
			\$ -
			\$ -
Trenching Labor	7905	\$25.00	\$197,625.00
Total	Total Liability		\$250,098.26

Physical Assets

Irrigation System Assets	Units	Condition	Comments
Isolation Water Valves			
8in	6	33 years old ½ life expectancy	
6in	2	33 years old ½ life expectancy	
4in	2	33 years old ½ life expectancy	1 new valve installed 1995
Waterman valve - 8in	1	28 years old	Installed 1990
Waterman valve - 10in	1	33 years old	Needs to be evaluated
Drain valves			
8in	1	Fair PCV sewer pipe	Installed 2001
6 inch	1	Fair PCV sewer pipe	Installed 2001
4in	2	Fair PCV sewer pipe	
2in	1	Fair PCV sewer pipe	
Drain box for East Ditch - 18in	1		Newly Installed 2011
Air vacs	16	Good Condition	Most of them have be repaired
Pipelines			
10 inch - pvc	90ft		Installed in1985
8inch - pvc	5600ft	includes drain lines	Installed in1985
6inch - pvc	1650ft		Installed in1985
4inch - pvc	1950ft	includes drain lines	Installed in1985
Pond weir		Fair	UVWA is responsible
Pond ditch exit gates		Good	Repaired and replace 2011
Dock - (currently 490 square feet)		Disrepair needs to be replaced	Floating Dock Modules

Summary Statement

As indicated earlier, it is standard practice with reserve funds to have about at least 70 percent of your replacement costs in reserve. To replace the entire system would cost about \$250,000 dollars. Most of this cost reflects the labor need to repair the irrigation pipe that is in the ground. We don't anticipate ever having catastrophic failure of our system. The actual hard assets in the ground is about \$52,375 dollars. We believe at this time, that we should look at having about \$36,000 dollars in our reserve fund. Presently, we have accrued \$16,500 in reserve which is about 45 percent. I would recommend that we continue assessing \$100.00 a year to our homeowners until we reach that funding level.

