Managing the Older Irrigation Pump System: *When Is It Time to Replace?*







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After 35 years of building pump systems, the right time is to replace them?

There are no magic gauges on any mechanical equipment that predict the imminent or certain end of the road. But we do know that there are a number of measurable signs that point to the right time for replacement!

Not Too Soon... Maximize the life of the equipment and your initial investment with routine maintenance and proper usage.

Not Too Late... Don't waste too much money on large repairs that don't last. Avoid catastrophic failure and crisis decision making.

Be prepared to know how and when to prepare for this large financial investment through Good Planning and Annual Monitoring.

the number one question we get asked about existing pump systems is how to know when



Good Planning and Monitoring Pump System Performance

The efficient application of water is playing an increasingly important role as communities are focused more than ever on conserving water resources and protecting water quality.

The pump system is the heart of the irrigation system. Good planning ensures that irrigated areas receive reliable replacement equipment in a timely manner within budgeted allocations. If an organization waits too long to replace an aging pump system, the irrigation system incurs damages, and out-of-pocket costs skyrocket as both the irrigation and pump systems cost more to operate and repair.

It is certain that all mechanical systems, such as the irrigation pump system, irrigation sprinklers, pipes, fittings, valves, and controllers eventually reach the end of their service life. Deciding to replace the irrigation pump system is a significant decision that deserves adequate time and systematic effort. Choosing the most suitable model replacement pump system ensures that it will provide adequate water at all times and operate reliably to provide a long term return on investment.

Evaluating the Status of the Current System

The assessment of the condition of the existing irrigation pump system is more complicated than evaluating simpler components such as sprinkler heads or other irrigation system parts.

Malfunctioning, inefficient pumps adversely affect irrigation coverage and eventually damage the irrigation mainline, piping and fittings. Increasing irrigation piping breaks and underground leaks cause pumps to start and stop in an attempt to maintain pressure in the irrigation piping. (See more specifics on page 5, *Further Info for Nerds Like Me*)

Warning Signs: Know When It's Time to Replace the Irrigation Pump System

The items listed below are based on feedback of pump system manufacturers, design engineering and irrigation professional associations, irrigation and irrigation pump system designers and professionals.

1. Was there a Need for Major System Repairs in the last two years?

Pump systems are like cars. As they age, you can replace one part and soon replace another part. doesn't take long to spend \$1,000's to keep the o pump system running. Like any mechanical equi ment, irrigation and pump systems incur the mo breakdowns in the last few years of their lives.

2. Is It Costing Too Much to Keep the Old System Running?

Unexpected pump system failures are expensive troubleshoot and identify the cause of the problems. One repair may be done only to have new problems occur within a short time. Performing repairs that do not renew the system to a maintainable state rarely make financial sense.

- 3. Wasting Money on Increased Electric Bills? Thousands of dollars per year can be lost when the irrigation pump system is cycling on and off t maintain pressure in irrigation piping. This is cor mon with older systems and may not be noticed unless electrical expenses are tracked or pump motors fail. The loss of efficiency causes increase electrical power and is increasingly worse if the pump system has not been properly maintained.
- 4. Extra Labor and Attention Needed to Keep Irrig tion Running?

When it is raining, failures of irrigation and pump systems are not apparent when the grass is green. Breakdowns are noticed only when irrigation is most needed during hot, dry weather. Irrigation managers may have to manually operate old irrigation equipment to keep it going. The extra time, manual labor and dedicated diligence is admirable, yet there is a risk that can turn upside down quickly if a critical person falls out, or cannot

he		perform. The declining landscape that may occur in their absence may cost more to replace than
1		installing a reliable system.
lt	5	Irrigation Repairs Required More Frequently?
old ip- ost		Are Irrigation and Property Managers spending more time on irrigation problems? More frequent irrigation repairs are common as
to		the pump and irrigation systems approach the end of their useful life. When mainline breaks occur on a regular basis and other expensive components fail, it is throwing monoy away. If the situation
		cannot be improved to a maintainable state, repair
		expenses will continue.
	6.	Homeowner Complaints About Irrigation or Landscape Appearance?
		During hot dry weather, it is normal to experience minor losses of sod or annual plantings that may be located in less than ideal locations. If the topic
to m-		of irrigation problems or loss of grass is discussed by residents and included in the Agenda at Board meetings, it's an indication that its time to address
		the causes of the problems.
ed	7.	Is the Irrigation System Design Appropriate for
		Current Community Situation?
-		Developers often add pump stations as they build
ja-		out large communities. After development, it is
h		smart to evaluate whether the irrigation system
n		needs of homes and buildings. The locations and
		number of nume systems may be inefficient waste
		horsepower and require higher operating costs
		than is necessary. Many communities stand to gain
		significant financial savings by consolidating many
		pump systems into fewer systems of more appro-
e		priate size and placed in better locations.

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Evaluating the Costs to Manage & Maintain the Current Irrigation System

The best practice that leads to optimum timing for pump system replacement is to **track direct and related expenses** comparing year over year increases.

When expenses trend consistently upwards and frequent repairs are needed, it is a sign that the useful service life of the pump system is approaching its end.

Frequent pipe breaks not only leak water; they leak money for the cost of repair couplings and the labor required to install them. These costs and others should be tracked by the irrigation and property managers to get a clear picture of the total cost to manage the irrigation system.



Pump System Direct Expenses

- 1. Pump system routine maintenance and minor repairs (estimate annual 5% of the initial cost)
- 2. Energy/Electrical usage of the pump motors (if on a shared meter, costs may be calculate based on usage hours and the size of the pump
- 3. Pump system major repairs and component replacements (maintain equipment log of maintenance, warranties, amount of downtime, major repairs, dates and costs
- 4. Water Quality Costs: Water source treatment pump system discharge filtration, etc
- Water Usage: If costs apply, such as reclaimed water (add costs to address pressure & availability issues)

Audit the Efficiency of Your System

An annual review and analysis of the total costs compared to previous years will provide a clear window into the future: the time will come whe the cost to keep old equipment running no longe makes financial sense.

The capital reserve plan will include an estimated, conservative useful service life and an adequate, up to date replacement pump system budget including removal and installation costs

The integration of watching direct and related expenses combined with a sound capital reserve plan helps guide the decision to replace the system at the most favorable time for the community.

	Pu	mp System Related Expenses
-	1.	Irrigation maintenance and minor repairs (cost depends on size, age & configuration of system)
ed p)	2.	Irrigation major repairs (maintain equipment log listing warranties, major repairs, dates and costs)
	3.	Sod Replacement (look for rising trends)
	4.	Landscape Replacement (look for rising trends)
t,	د د	Inderground pipe and fitting leaks/breaks are common, causing irrigation systems to lose water.
t -	I ,4 g	Did You Know? A small underground leak will lose 1-2 MILLION gallons of water per year!

s r en	Expected Service Life of Irrigation System Components
r	 Irrigation system 10-20 years
	 Irrigation control system (controllers) 10-15 years
)	 Irrigation pump system 25 HP & smaller 10-15 years
	 Irrigation pump system 50 HP & larger 15-30 years
	PVC pipe (underground & under pressure) 10-40 years



Uncover A New Way to Save Energy

Many forward-thinking property managers have already optimized their lighting or upgraded to ENERGY STAR-rated equipment in an effort to cut consumption. But these projects are merely the tip of the iceberg in terms of energy savings.

Learn how much you could conserve by upgrading one of the biggest energy users in your building or community – pumps.

From the largest, most complex applications to the smallest, we utilize our in-depth pump knowledge and our unrivaled range of intelligent pumping systems. If you live in high rise or tower buildings, ask us about how you can benefit from our Booster Pump Systems!



Did you Know?

The purpose of Hoover's Customized Planned Maintenance program is to make sure that your pumps:

- Are running at maximum efficiency
- Reduces down time
- Reduces lifetime costs by extending the life of the equipment
- Ensures that your pump systems receive regular attention and operate as they were designed.



When Pumps Damage the **Irrigation System**

As a pump system ages, there may be a loss of pressure control in a poorly maintained system. The irrigation system's many bends, joints and mainline fittings are under assault when pressure is uncontrolled. Water hammer occurs when pumps turn on and off, banging against the piping and fittings. Uncontrolled high pressure stresses piping and fittings, causing expensive, recurring mainline breaks.

As the Irrigation system ages, leaks and breaks are to be expected. PVC is elastic; it expands as water fills the piping, and contracts as water empties or leaks out of the pipes. Eventually, the PVC material will fail when fittings can no longer expand and contract normally. Controlling pump cycling is critical at this stage of the irrigation system's age and condition.

Hoover recommends a maintenance plan for every pump system to protect the financial investment, the pump system and the irrigation components. Over the long term, many costly repairs and breakdowns can be prevented, resulting in significant reduced cost of lifetime ownership.



Pump System Maintenance

A properly maintained pump system lasts significantly longer than a non-maintained unit of the same size operated under the same conditions. In ideal circumstances, pump systems can last for decades if they are used within their design limits and receive proper routine maintenance.

Maintenance of the majority of irrigation pump systems is often overlooked. This function is normally provided by the irrigation technician as part of the contract for Landscape Maintenance. The Landscape maintenance contractor is an expert in horticulture and landscaping. While some irrigation service pros are familiar with pumps, motors, and automated controls, the majority of irrigation technicians are experts in the irrigation system, but lack the adequate knowledge in pump systems. Qualified pump system maintenance services are best provided by experts in irrigation pump systems, electronics and automated controls.

Are You Unhappy with Your Current **Results & Ready to Evaluate Your Existing Pump System?**

The most successful pump station or control package begins with understanding your needs. The first step is for us to evaluate your unique situation. We gather facts and analyze alternatives before we recommend your solution.

We encourage our customers and future customers to talk with a Hoover representative about their concerns and objectives right along with other providers. We rely on our reputation, experience, knowledge and skill to educate our customers and win the work at a reasonable cost, instead of just focusing on the lowest price.

Our ultimate goal for every project is to create an efficient and dependable irrigation pump system that serves the specific needs of your property for many years into the future while conserving precious financial and water resources.

1.800.548.1548 info@hooverpumping.com



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Helping You Manage Your Water Responsibly

Hoover Pumping Systems is a single source for manufacturing, installation, startup, and future maintenance and repair service. We continually innovate and use technology to improve your ability to control irrigation and water that you need to use.

We promote a culture of new ideas that can grow into usable solutions. Hoover team members have diverse backgrounds and a variety of experience and knowledge. We share pride in our work and helping you beyond your expectations.

Any time you have a water problem of any kind, (volume, pressure, clogging, field breaks, etc.) and are spending repair dollars, call Hoover for the problem-solving solutions. *Our customer's biggest focus is making the smartest investment of their dollars. That* can only happen by focusing on long-term value, which no one else offers like Hoover.

Hoover's Sustainable Solutions

- Hoover Flowguard immediately starts saving you money by helping you manage your irrigation more effectively, reducing field labor costs, protecting the pump station and irrigation system from damages.
- Hoover Pumping Systems are engineered and designed specifically to operate efficiently and conserve energy/water in Florida's tough climate. None of our other competitors can honestly make this claim!
- Our **turn-key services** stretch from pump station design, manufacturing and installation through to continued service/maintenance - all by Hoover employees. No one else provides half of that!



- In-depth knowledge and experienced staff
- Largest pump service organization in Florida
- Industry leader in pump designs and water management

Get In Touch

We are fueled by a passion to engineer better pump systems and create easy-touse water management solutions that work reliably, give lasting value to our customers, and protect water and energy resources.

The Hoover family includes experienced irrigation, technology and production experts, skilled technicians and installation crews, manufacturing engineers, designers, horticultural experts, customer service specialists, fabricators and a strong and responsive support team.

1.800.548.1548 *info@hooverpumping.com*

2801 NORTH POWERLINE ROAD POMPANO BEACH, FL 33069

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