IRRIGATION BUDGETS

Introduction… Hydrogold's Quality Chain Provides the Framework for Budgeting

The budget set at the planning phase is critical to the success of the project. It is fine-tuned during the design phase. Product choices impact on the budget. During the installation phase, there may be on-site decisions (additions, deletions, modifications) that will result in variations to the budget. The maintenance phase of the project is when we see the impact of our budget choices: the effectiveness of the system, the efficiency of the system, the cost of operation, the cost of maintenance, and the life of the system (number of years before it needs replacement). The initial budget is the most critical and difficult to set. It is good to have an experienced Independent Irrigation Consultant to advise on this and the many configurations that an irrigation system can have.

Shangri-La Hambantota Golf Resort - Golf Course Architect: Rodney Wright
Hydrogold designed a low-cost, manual irrigation system for this project.
IN PICTURES

Irrigation budgets can range from the high end...

...to the low end... (Photo by Ronald Fream)
THERE IS ALWAYS A CHEAPER WAY

Many people are familiar with Robert Burton's quote...

Robert Burton - b. 1577 - d. 1640
English/Oxford Scholar
"Penny wise, pound foolish."

and Benjamin Franklin's counter quote...

Benjamin Franklin - b. 1706 - d. 1790
A founding father of the United States of America
"Watch the pennies and the dollars will take care of themselves."

We need a balanced approach...
3 IRRIGATION SYSTEM COSTS

3.1 Base Cost of an Irrigation System

The base cost of an irrigation system is determined by the Basic Irrigation Parameters:

- **Area of Coverage (sprinkler coverage)**
  
  *Area of Coverage* has the single-largest impact on budget. It also has the single-largest impact on the look of the golf course in a dry period (*lush green turf or droughty yellow turf*). It is also the hardest to get around. Stretching the sprinkler spacing will give you a lower budget as well as non-uniform irrigation (dry/wet spots); poorer quality turf, more hand-watering; higher water consumption, and higher power consumption.

- **Peak Application (depth of water applied)**
  
  The larger the Peak Application, the more lush (green) the turf is. Too little, and the turf will be droughty (yellow).

- **Watering Window (hours available for irrigation)**
  
  A longer Watering Window will reduce the size of the pumps, and the mainline. However it may interfere with the golf course operations, and golfers.

For more information on the Basic Irrigation Parameters, refer to HydroBull Nos. 1, 2, and 3.

3.2 Design Costs

The cheapest design is a *"free design"*. However, you never know what the cost of a *"free design"* is from Contractors, Distributors, or Manufacturers since the design cost is built into their margins.

With an Independent Irrigation Consultant, the real cost of designs have dropped over the years, primarily through efficiency gains from technology. An Independent Irrigation Consultant will look after their Client's interests; not those of the Manufacturers, Distributors or Contractors. You will get the system you need at the best price. You will have an *"Apples to Apples"* comparison of the Contractor's prices to determine your best value.

3.3 Manual Irrigation Systems

Manual irrigation systems? Hmm. I thought we would be past that one but it still remains an outside option.

- Day-time watering of golfers
- Double the size of pumps
- Double the size of mainline (no flow management)
- Unregulated pressure (non-uniform irrigation in the extreme)
- Uncontrollable manual operation of the sprinklers in terms of run-time;
- Etc.

Manual irrigation should have died with the dinosaurs but it has a low up-front cost so sometimes it is attractive.
3.4 Material Costs
As a Consultant, I believe our role is to provide a system that will work. Our gold standard for products is that we have seen them working in the ground for 20+ years. We do not experiment with products without our Client's knowledge, understanding, and consent.

Saving 20% on cheap irrigation material is foolish when you halve, or worse, the life of the irrigation system. This just about doubles the Total Cost of Ownership). Refer to Hydroview No 1.

Continuous product development has introduced higher quality and lower-cost products.

*The Air Release Valve is an example of improved, lower-cost product*

| Old Cast Iron Air Release Valves | Modern Plastic Air Release Valves - Cheaper, smaller, lighter, more corrosion resistant, and longer lasting |

Thousand Island Lake Golf Course, Zhejiang, China

Golf Course Architect: Golfplan - Kevin Ramsey - Irrigation Design by Hydrgold
3.5 Installation Costs

Competition from more installers has made installation cheaper. As the industry has evolved, installers are better trained and more experienced.

A good Installer and good supervision of the Installer by the Owner is essential for a successful project. **Like Doctors, Contractors bury their mistakes. Unlike Doctors, Contractor's mistakes sometime rise up from the ground.**

Choose your Contractor carefully and then supervise them. They typically have only a 12-month Defects Liability Period. The Owner needs to look after the system for (hopefully) 20+ years.
3.6 Buying Based on Price

Most Owners do not fully understand irrigation. When you do not understand irrigation (or anything else for that matter), then your judgment is based solely on the price. There is no other product differentiation.

"When I started playing squash, the shop had one racquet for $20, and another for $100. I bought the $20 racquet since I could not tell the difference. After playing with it for a few months, I went and bought the $100 racquet since I now understood its value."

So it is for the uninitiated Owners of irrigation systems. They will not know its value until they have had the experience with it. That is where an Independent Irrigation Consultant looking after your interests is really helpful.

4 TOTAL COST OF OWNERSHIP

Total Cost of Ownership ($ per Year) = \( \frac{\text{Capital Cost} + \text{Running Costs}}{\text{Life of System (in years)}} \)

Lowering the Total Cost of Ownership is nearly always the basis of our design. Capital Costs are upfront like Design, Supply, and Installation. Running Costs are downstream like Labour, Maintenance, Electricity, Water… Life of the System is the number of years before it needs replace.

Saving 20% on the Capital Cost (supply, and installation) is not worth it when the Life of the System is reduced from 20 to 10 years (50%) and Running Costs increased 20% over 20 years.

Unfortunately, often the focus is on reducing the (upfront) Capital Costs. This leads to higher (downstream) Running Costs, and a shorter Life of the System. That is, it leads to a higher Total Cost of Ownership.

Developers are often more focussed on lowering the Capital Cost which comes out of their pocket. Running Costs, which come out of someone else’s pocket are not so important. They will not be around to worry about the Life of the System. However, even Developers may suffer sales and reputation loss when the purchaser perceives the quality is low.

5 BAD NEWS TRAVELS SLOWLY

The old saying, "bad news travels fast", does not apply here.

I have worked on 300+ golf courses over 30+ years. I have an extensive network of contacts. Being so involved in the industry, I hear about the failures. As an Owner or Developer, the failures you are likely to hear are dubious claims by a Salesperson about their competitor's failures.

And don't expect other Owners to confess their failures with you.

As an Independent Irrigation Consultant, I will be honest with you. However, even there I am restricted by libel laws from putting many of them in writing.

My advice on this issue is only to use companies with people you can trust.
BARGAINING FOR SOMETHING THAT DOES NOT EXIST
How far can you stretch your dollar?

BUYING A TAILOR-MADE SUIT
Fred saw his Friend in a new, smart-looking suit. So Fred finds out the Tailor's name, and visits the Tailor.
Fred: "How much is a suit like my Friend's?"
Tailor: "$ 500"
Fred: "Can't you give me a lower price?"
Tailor: "Sure. How about $ 250"
Fred: "That is still over my budget. Can you give me your lowest price?"
Tailor: "Well, my lowest price is $ 150."
Fred accepts the Tailor's price, and is measured up. He pays his $ 75 deposit and leaves.
He returns a week later. The Tailor says he is running late and to return the following week.
Fred returns the following week and picks up his suit. It is a poor fit for him and made of cheap, uncomfortable fabric. It is poorly stitched, not by the Tailor, but by some low-paid seamstress down the street.
Fred: "I am angry. This is not like the quality of my Friend's suit."
Tailor: "Your Friend got the $ 500 suit. You got the $ 150 suit."

The Moral of the Story is…
You can bargain for something that exists. You know what you are buying. However, when you bargain for something that does not exist, the Contractor will provide what you have paid for.

And in the End…
Sure, Contractors complain about their margins being too small just like Farmers complain about too little rain. Contractors are in business to make money. If not, they will cut corners or go bankrupt, hopefully not on your project.

Aldo Gucci (Gucci Fashion House) - 1905-1990
"The sweetness of a low price is soon forgotten, but the bitterness of poor quality will remain."
7 IN SUMMARY

The most important budget is set during the planning phase of a project. It determines the viability of the project, and sets the ship sailing in the right direction at the start.

During the project, the budget needs to be carefully controlled to achieve a successful outcome. Having good advice from an Independent Irrigation Consultant will:

- Provide good information to Planners leading to downstream savings
- Design a system that meets your needs, budget, and will work
- Specify the right materials for a longer system life
- Eliminate Contractors adding contingencies for unclear documentation
- Specify good installation practices leading to a longer system life
- Promote price competition between Brands and Contractors during the Tender
- Deliver a longer system life with lower maintenance costs (i.e., lower Total Cost of Ownership).

Planning + Design + Product + Installation + Maintenance = SUCCESS!

For more information about "Hydrogold's Quality Chain" please refer to Hydroview No .1 available on our Education Centre: 
http://www.hydrogold.org/education.html#hydroview