

## **GOLF IRRIGATION SYSTEM HERE AT CLAREMONT** REVISED 8.12.2019

If board members could read this prior to the Thursday board meeting you'll be able to be better informed, ask better questions and shorten the meeting time.

### **Start date 6/23/2019**

**6/23** – Paul DeBast and I played golf this date and it seemed to him that there were more irrigation leaks on the golf course than ever. He was concerned there would be a catastrophic event. I volunteered to investigate the irrigation issues on the golf course; we only have one person handling those problems at this time ... Dennis Cook. I'll investigate the history of our irrigation system, current issues, thoughts on what should be done with a system that is fast approaching being 30 years old. There is a "rumor" that the original installer did not do a great job.

**6/24-** The golf course irrigation system was placed in the ground around 1989/90; it is nearly 30 years old.

Bob Shook called me and advised he had some information (3 ring binder 1" thick filled with history & data) regarding the current working well placement and the line that runs from that property (off our campus; located on Thompson Road) and dumps into the pond between hole #6 & #7. He also gave me some history that he had heard: In late 1999, George Thurston (at that time president of the Claremont Golf Club, Inc.) along with 360 households purchased the golf course for \$1,200,000. Claremont Golf Club, Inc. hooked up with Billy Mack & Mr. McGill (surveyor & engineer) in 2003 as the latter two knew of water on Thompson road owned by Mr. Preble. Claremont Golf Club, Inc. paid \$12,000 for two 99-year leases to take water (pump rate of ~ 300 gpm) from that site. Quality tests of that water showed a chloride level of just 46 ppm compared to drinking water which allows 300 ppm (the original well on hole #6 by the current bathrooms is capped was producing 1200 to 1500 ppm of chloride and killing trees, shrubs, etc.) so this well has better water than TVWD. It takes 7.5 hours to pump 191,000 gallons of water for daily irrigation of the golf course. For two summer months Claremont mixed water from the well on #6 with TVWD water at a cost of \$12,000; our well pays for itself. We would not have a golf course if not for the well.

Fred Barden and Ron Nutting went to the Oregon State Water Master and the Water Master said, hey, Claremont is on our radar as you never did fill out the correct paper- work and the state still thinks we are using water from the well on #6. It will cost us about \$25,000 to get the proper certification of Conformity & Compliance. That is being worked on but not completed; nearly but not yet. Dick Harris thought there should be a Well pump on the "shelf" just in case; that idea was shelved because, According to Nick at Hillsboro Pump Services (HPS), a well pump

can be ordered and placed within few days; don't really need one on hand. Our Irrigation Specialist on site here at Claremont is Dennis Cook.

Prior to Juan (current "superintendent" of golf at Claremont) and Kendall Schaffer, there was a guy named Jesse running the golf crew and before that was Jesse's father, George. Jesse was here when I moved in ~2011. Jesse finally just decided to quit. He is now working for the Rock Creek Golf & Country Club along with Rob Waters (another Claremont golf "super") who is the "Super" at Rock Creek.

**6/26 @ 1 pm.** Met with Juan and Dennis upstairs at the barn to discuss irrigation issues and possibly what to do. Clearly it is Dennis who understands the issues regarding the irrigation system. The line from the well, off--of Thompson Road, dumps into the pond between hole #6 & #7. Over by the tee box on #7 there is a round culvert that the water dumps into and by gravity it flows into the pond between #1 & #9. Juan states there is "erosion" around the culvert, and it needs to be fixed; when they get time. The pump station (distribution pump) at the end of #1/9 circulates the water to the golf course.

Several wells were dug to find water on our property; the first two failed to locate water. A well was dug just south of the white tees on #2; it failed to produce enough water and was also capped off. The well that produced enough water but was too salty has been capped off by the bathrooms at hole #6.

Four to five years ago bids were made to upgrade the whole system; the course would have to be shut down and the cost was 1.5 million? I can find no records of this report; somebody knows. Juan confirms that no such study was done to his knowledge; I don't know how the rumor got started. This cost? has led the golf committee to throw ~\$25,000 per year at the leaking system thinking that eventually all repairs would be made. Since all pipe is 20' long and there are 10 holes, that is a lot of pipe to repair. It is known by some that any line larger than 2" in diameter should not be glued. The joints at Claremont are glued; The pressure is "very" ramped to protect the lines from pressure surge.

There is a main line running down #1 & #2 which is a 6" line; all other main lines are 4" lines. The pumps (distribution pump) at the end of #1/9 (in the shed) are in good shape. These are inspected by Hillsboro Pump on an annual basis; HPS serviced these on June 16<sup>th</sup>, 2019. (We have no record of this claim as per Nick at HPS; they have no record of ever servicing the distribution pump or pumps) 8/7/2019: I saw the pumps today and I believe Dennis, they have been serviced (there was a brand new part placed; you can tell it was new). He doesn't use anyone other than HPS; he is stopping by their store today to see what he can find ... we have no invoice.

It is thought that we could hire someone to replace the main lines and then the golf course could hire two guys to work hooking the "laterals" to the main line, shutting the course down a hole at a time. The other thought is to move the main lines off to one side to reduce possible injury when repairing issues in the future? The other thought is to just replace the whole thing.

Hole #1 is a “hub” for a power line running to #2 & #8; the power to hole #3 is broken and needs to be repaired. Conduit needs to be laid and wire pulled through.

Street Crossings: (there are seven street crossings) another would need to be done from #5 to the barn.

#1 to #2 crosses Claremont

#1 to #8 crosses St. Andrews

#2 to #3 crosses Canterwood

#3 to #4 crosses Canterwood

#5 to #6 crosses Claremont\* nasty, long and goes under houses.

#7 to #9 crosses St. Andrews

#9 to #10 crosses Country Club Drive ... under Croquet court

Note: From #6 to #7 the line runs under the homes at the North end of the #6/7 pond; that would be re-routed.

### **Tentative Plan:**

I went to Right Angle and had extra maps made of the current system and the map of the well to pond #6/7. Dennis will draw out what he thinks would be a good location to place “NEW” main lines. The golf course then may hire two guys (theoretical) to make the lateral connections under Dennis’s guidance.

- a. Dennis will decide on main line location
- b. Depth
- c. Street crossings

- a. At #5 to #6 a “connection box” may be placed and just use the line running under the homes and street to another “connection box” at #6.

Dennis will draw on the NEW map the location he feels would work best for main lines (subject to input from contractors). He also provides a list of materials that it would take to put things back to working order. We then can have contractors out to walk the site, give them a copy of the “map” and have them come up with bids.

We’d then have them present their bids and present that to the board for approval.

RESOURCES:

<https://www.usga.org/content/usga/home-page/course-care/water-resource-center/water-management-plans.html>

**7/23/2019**

1. I met with Dennis Cook and Mark Willcut (503-798-7203) with RainBird sprinkler systems. We met at the barn and he asked Dennis a lot of questions about our irrigation system. Dennis was able to field all questions with appropriate answers; Mark is smart and knows

irrigation. He would be willing to speak to the board or community if needed. Some bottom-line points (that which I understood)

- a. The system is being ramped up as gently as possible to put as little strain on the system as possible.
  - b. Because of the distances between areas to water it is basically an all or none system: it does put pressure on glued joints and pipes are moving a lot as water courses through the lines. This movement eventually causes failures at those joints; the pipe is in 20' sections. There are a lot of joints; nothing over 2" in diameter should be glued.
  - c. Today, pipe over 2" is slid together with a "gasket" system much like sewer piping but the walls are thicker. At intersections of pipe there is a "reinforcement" system that goes back from the joint several feet to ensure the joints stay together.
  - d. There is also stress being placed on the pump as it ramps up and down trying to meet demands in various places. A new system will keep the pressure stable; water will flow so the system stays balanced.
  - e. It would be virtually impossible to have one person adjust each head to meet the needs of the turf in every area of the course; you'd have to physically adjust each head. Ours is called a "block" system and is no longer being built. A new system is (Valve & Head) computer controlled and adjusts itself according to weather and soil conditions. Each head is electronically controlled for water volume; disbursement at each head is controlled by the computer. Much less stressful to the system, takes less maintenance and conserves water use.
2. I called Troy Mears of Mears Design Group here in Beaverton (503-601-4516); he is an Irrigation Consultant; a list of consultants was given to me by Mark Willcut. He is the one who would come over, look at our system, discuss current issues, look at source of irrigation, ponds, and drainage issues. From the pump station (if it is adequate and by all estimations it is) he would design a "wall to wall" system (you tell him what areas you want to be "brown"). Recently he did a 9-hole course and the **planning through getting bids** his charge was ~\$7 to \$10,000. It could take 30 days. Basically, he develops a base plan: using GPS locating each hole, tee boxes, greens, ponds, sand, etc. He uses Geo references (Picture of the earth that are entered into the National Coordinate System; each point on the image has a coordinate and then can be compared, analyzed and integrated with other spatial data sources.) to make plans; noting accurate distances, contours, elevation changes, etc. From this information, input from Dennis (what he would like to see and perhaps what some on the "golf committee" feels is important) and his own expertise, he'll then lay out the main lines, laterals, head locations, shut offs, wiring, drip systems if needed and all the other stuff that goes with a golf course irrigation system. At this point Troy should have a good approximate cost to build and install the irrigation system. Then if approved by the golf committee and the board, he takes it out for bids.
- a. He also is willing to speak before committees, boards or the community. He seems down to earth ... I have yet to meet him.

- b. In my opinion “we” should not look at doing a little of this or a little of that because no one here has the expertise to do so or say that “it will work”; including Dennis Cook. If Troy Mears says that would be a good solution, then we could have at it; along as we follow his “plans”.

**7/26/2019 –**

1. Mark Willcut is not available to speak on the 9<sup>th</sup> of August at the Golf Committee meeting in the Garden Room of the Club House at 9:00 AM (about 9:10 AM).
2. I spent time with Fred Barden looking at the information he a Ron Nutting have collected to satisfy the needs of the State of Oregon Water Master. It is good data.
  - a. We have ~70 acres to irrigate here at Claremont
  - b. There are usually 10 to 12 irrigation heads used / acre at a cost of \$800 to \$1,000/head; this a “**rough estimate way**” of trying to figure the cost of a system according to Mark Willcut of RainBird.
    - i. 10 heads / acre = \$560,000 to \$700,000
    - ii. 12 heads/acre = \$672,000 to \$840,000
3. I contacted Troy Mears an “irrigation consultant” here in Beaverton. I was given a list of consultants that Rain Bird uses (Mark Willcut). They are located at Eagle, Idaho., Littleton, CO., and Wake Forest, NC. So, we are lucky to have him so close. The name of his company is Mears Design Group, 5075 SW Griffith Dr. Suite 150, Beaverton, OR 503-601-4516.
  - a. Troy can speak to our group on the 9<sup>th</sup> of Aug. I will meet with he, Mark Willcut and Dennis on the 7<sup>th</sup> to bring him up to speed about our course; he has at least played the golf course.
    - i. I will share the information from Fred Barden and Ron Nutting.
    - ii. I want him to see and have data regarding our well and pump.
    - iii. The pump station at the end of #1/9. The condition of the ponds at #6/7 and #1/9.
    - iv. A tour of the golf course, the Croquet court and hole #10.
4. If after the meeting on the 9<sup>th</sup> the Golf Committee agrees that Troy’s firm should be hired it will have to be presented to the Board of directors here at Claremont for their approval. Once done we’d be on our way to gaining an Up-to-Date state of the Art Golf Course Irrigation System. The next meeting of the board is August 15<sup>th</sup> from 1 to 4:30 PM.

**8/6/2019**

1. In gathering information to try and make this report, speaking with Michelle @ CCA, Juan and Dennis it is apparent that “paperwork”, takes a back seat to doing “stuff” to and on the course; which is understandable. As a result, you have frustrated people working here: hard to assign payments if you’re not sure what you are paying for. It is important to set up

a naming system for the “stuff” we have serviced. For example: Distribution pump or pumps at pond #1/9 would tell you exactly what is being worked on. To refine it further add the serial # of the pump being serviced. This could be written on a 5” X 7” card fastened to the back of the pump house door; then the service tech could write that info in on his billing ticket. Just something to identify things more specifically. OR You could just send HPS a list of items they service with how we want them identified. Trying to look something up at the “barn” is an issue; a system needs to be set up so Dennis can easily access the paper- work regarding irrigation.

2. Dennis trying to go “on-line” quickly if needed means if shoes and clothes dirty he doesn’t feel he can go upstairs to the computer. It’d be nice if he had one downstairs at his “mini-office”.
3. Regarding the ponds on #10; they are not being taken care of by the golf course maintenance; I believe they are part of the Landscape Committee. In any event Juan is aware that weeds or noxious plants in those ponds are taking over. They are not being maintained.
4. All participants in tomorrow’s meeting have been notified.

**8/07/2019 – Meeting w/ Troy Mears of Mears Design Group, Mark Willcut w/ RainBird, Juan, Dennis and myself at the Barn and then around the course including the 10<sup>th</sup> hole. Juan had to leave before the tour.**

1. When I picked up Troy, but before I got to the barn, I asked him which product is better, RainBird or Toro. It’s seems both are good (I got the idea that he may “lean” to Toro) but stated service is critical and RainBird has much better service.
2. I gave an “irrigation map” of our golf course and the “well pump” map to Troy and pointed out various items on the map that I personally marked to help him get oriented. I had previously sent him a copy of the well performance information that goes to the State of Oregon. He knows the gallons/min flow rate (400 gpm), he knows we have 70 acres to irrigate and he knows the current size of our main lines (they are too small for the distance the water travels). He had a discussion with Dennis regarding current pressure the water is distributed under, how long it takes to water, how Dennis has the current system set up and understands why controlling the amount of water on the golf course in many areas is next to impossible. Our course is not flat, we don’t have individual head control, weather conditions vary, etc. Think of today’s current weather condition as compared to a day or two ago; current system you’d have to go out to each sprinkler head and adjust.
3. A new system will compute GPM that is available, limits amount it will water, is very efficient and saves labor, power and water. There is valve head and single head control; so, by computer you have control of up to 750 heads individually.
4. Usually watering stops by mid-October and starts in mid-May.
  - a. Given that wide a time frame to install would make any Installation Contractor happy.

- b. Contractors generally like to do 3 holes at a time; it would take 3 to 4 months. Golf could still be played on the other holes.
5. Road crossing could be the biggest problem. To resolve Troy suggested I call Washington County Development Services, which I did, and found my way to Adam Fitzpatrick (503-846-7647) and asked, "How do I go about getting a permit for boring or cutting under/through an existing roadway to replace an existing irrigation system here at Claremont?" He said, "it would be no problem to get permits."
    - a. We need a "general right-of-way permit". The road needs to be restored exactly as it was or better, we have to take care of "traffic control", if you cut the roadway then a deposit is needed that is held for one year (just to make sure it holds up); the money is then refunded. All crossings of roadways require that a "tracer wire" is placed also so that future work could locate existing obstacles.
  6. Well pipe crossing Bethany is not NEW pipe ... some existing pipe was used. I will need to contact Billy Mac to see what was done. There is a dashed line (rather than solid) on the "well map" that probably is the existing line Billy Mac used to get across Bethany?
  7. We then drove around the golf course and covered every hole including #10 and the Croquet court.

I was impressed with Troy's candor and his knowledge. This is a doable project for under 1 million. RainBird has financing if needed. Remember that number is not firm until after contractor bids.

8/09/2019

1. I called Billy Mac (McMonagle or Harris McMonagle Associates – 503-639-3453). He informed me that all of the pipe is Schedule D30-34 plastic 6" pipe good up to 600 lbs. of pressure. The pipe sections fit together with Rubber Joint Gaskets; from well to the pond at #6/7. They may have used an older culvert to go under Bethany Blvd. The water is pumped under low pressure and high volume; when it dumps out into the lake the pressure may be 15 to 18 lbs. This pipe could do up to 380 gals/min.
2. He went on to say that pipes breaking was probably due to poor installation, use of glue and poor cleaning of pipe prior to gluing. Water hammering could also be an issue and originally, they had problems with a "Clay Valve" not opening/closing properly; it was not opening gradually.
  - a. Another problem can be insufficient bedding: how pipe is supported and cemented to the main. Swing joint usually is where things break ... the saddle needs better support? He recommends not using glued pipe.
  - b. He gave me the name of a guy that does irrigation systems locally, has a 30-year reputation, is located here. They now only do golf courses and sports facilities. They are Darryl Bernhardt at 503-649-3535. Because of the work Billy Mac has done here in the past and the respect that many residents have in his name I gave his company a call. He will call me back.

I called Troy to ask what he knows about Darryl Bernhardt; he does know him and his father that started the business some 40 years ago. He mainly works with synthetic sports fields and if doing irrigation, he

farms it out to Cascadian Landscape Company. Troy and I will be at the Board Meeting on August 15<sup>th</sup> at 3 PM.

- a. He recommended Schneider Pump out of St. Paul, Oregon (Schneider Water Services, ph. 866-421-5042, 21881 River Rd. NE, St. Paul, OR 97137) to service our pumps just because that is who most golf courses use. He said Hillsboro Pump is also OK. He does recommend that our pumps be serviced at least yearly.
  - i. He also wants me to get a bid on adding a filtration system to each distribution pump at pond #1/9 as dirty water is an issue. He wants to know what they would recommend.
  - ii. I let him know that the golf committee had decided to go with him to come up with an irrigation plan.

8/12/2019

Troy asked that the distribution pumps at #1/9 be inspected and serviced. He also wanted to know what HPS would charge to place a filtration system on each pump at #1/9. I called Dennis and ask that he do this. Last week Dennis stopped by HPS and they had no record of servicing our distribution pumps; they should be checked/serviced once per year. Dennis should have called today.

These notes are now corrected (Larry Olson felt there were some comments in my first report that were inappropriate; I had to agree) and up to date.

Tom Walker

### **Result of board meeting on 8/15/2019**

The board decided to hire Troy Mears of Mears Consulting to lay out a plan for the Golf Course here at Claremont.

**8/16/2019**

I had keys made for the Distribution Pump House on #1/9 and at the Well, off Thompson Rd. I went to each location and tried the keys to make sure they worked and took pictures at the well site. I placed a sign in the Distribution Pump House so that contractors would know what we wanted our billing to reflect: Location of pump, pump #, what exactly was done and by whom. I returned the keys to Dennis and ask that he have a golf cart ready for Troy next week as his project will get started.

**8/18/2019**

Block party and I found out from Larry Reedy that he oversaw getting a new pump in 2010, took the roof off the pump house and dropped the pump in using a Crane. He thought Ewing pump did the work.

**8/19/2019**

I called Ewing and their records only go back to 2015. I called Michelle at Claremont and they through out their payment info after 7 years. I then called Precision Pump in Boise, Idaho and spoke with Liz.

*Liz Swan*

**Office: 208-323-5300**

**Cell: 208-391-0424**

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[www.gopps.us](http://www.gopps.us)

She knew all about our pump (she has pictures, etc.); they did sell it to Ewing and then they contracted it out to Al's Pump Services to install (Al's is no longer in business). I also asked about getting a filter for our pump (she did not understand why that wasn't done to begin with), she will check our "board" (electronic board) to make sure it can handle the stuff that goes with the filter. She said we could buy it "sort-of" directly through them. She will send me an email with information and will have someone contact me to discuss it.

**8/20/2019**

Today I got an email from a sales rep at Precision Pump.

"Good Morning Thomas,

I'm working with Liz to provide your filter pricing and had a couple of questions.

1. Do you want the filter to replace the Wye strainer and sit on the skid or will it go elsewhere?
  - a. If it is to go on the skid, what is the distance between the discharge end of the skid to the nearest wall?
2. What Micron of filtration do you need?
3. Is there a specific brand or best fit/pricing for the application?

Please feel free to call to discuss, once I have the above information, I should be able to quickly turn around a quote.

Thank you,

Rob Dickson

6497 Business Way, Boise ID 83716

Cell: 208-869-2848 – *Preferred*

Office: 208-323-5309

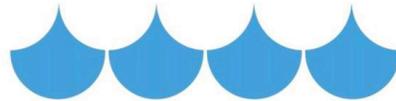
[www.gopas.us](http://www.gopas.us) "



I called Troy Mears and turned over Rob Dickson's email to him as Troy should be the one to decide on the filtration system needed. Troy will gather the information and then call Rob to see what he has to say. Then we'll bet a bid from PPS, Hillsboro Pump & Supply and Schneider Water Services (SWS). If we can buy that equipment directly it may not make HPS or SWS happy about just placing the equipment; he'll find out.

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8/22/2019

Troy started his project to lay out the New Irrigation System for Claremont; he spent the day mapping out our course.

Sincerely,  
Tom Walker