

Legend at Bristlecone: Project Update

Josh LePine, CGCS

It is exciting times at the Legend at Bristlecone. Membership is growing, the club will be private September 1st, and many improvements are underway. You may have noticed the flurry of construction activity near the practice green. I would like to share some information and photos with you about the project. Prior to any work, club ownership and staff discussed our goals for the project. They were the following.

- Provide the membership with an appropriately sized practice putting green free from the invasive turf *poa annua* by next season.
- Eliminate the dangerous blind corner near the first tee and practice green.
- Open the view from the pro shop window to improve visibility of the driving range, 1st tee, 10th tee and ninth green.
- Increase the size of the Black tee on hole 10, reconstruct a more maintenance friendly Gold tee on #10.
- Re-grass our south range tee to a more durable “Low-Mow Bluegrass” turf and develop a range management plan that will equal the wear on the north and south range tees.

Practice Green

The practice green at Bristlecone was too small and full of *poa annua*. *Poa annua* is a non-intended turf species that can travel from course to course by way of seeds stuck in golf shoes. This is much like fish eggs traveling from pond to pond on ducks feet! The club decided to increase the size of the practice green, strip and fumigate the old practice green section and take advantage of the proper time to seed a new green, which is late August.

The first step was to remove the Box Elder trees and some of the Arborvitae that shaded the practice green and restricted air flow which aided in the poa invasion in the first place. Bentgrass greens, above all, need air movement and sunlight. Our initial polling of members resulted in an overwhelming response to a larger putting green vs. some less than desirable trees. Once the trees were removed and stumps ground out, we started excavating the cavity for the green.



Removal of trees and start of cavity excavation.



View from South Range to practice green area.

One challenge with this project was matching up the layers or profile of an existing USGA green with the new expansion. Most USGA greens include a +/- 16 inch cavity in the ground with underlying drainage pipe. The drainage trenches contain the pipe bedded in pea gravel. The entire green cavity is then filled with four inches of pea gravel. The final step is adding the 12 inches of greens mix, in this case an 85/15 construction mix. (85% sand, 15% peat) Many variations exist as some greens are constructed with flat drain tile vs. round or straight sand vs. a construction mix. Our goal was to build a new green that matched the specs. of the existing green we were enlarging. We chose to rip ¼ inch flexible paneling to use as support to stabilize the old green, keeping the sand and gravel layers in tact without collapsing and contamination.

Once the paneling was in and the existing green profile was stabilized, we prepared the sub grade or cavity for drainage installation. Ideally, for the green to properly drain, the sub grade should be pitched or have the same sloping characteristics as the surface of the green.

When the cavity was set we trenched in the drainage which consists of 4 inch perforated drain tile. One main drain line is run with other lateral lines tying into it. The start of the main drain line exits the surface just outside the green and serves as a 'cleanout'. We have the ability to stick a hose down this drain and flush the drainage system.



The drainage system for the expansion green was connected with the exit drainage pipe for the existing green and both drain into the channel in front of the black tee on hole 10.





Designing drainage system



Laying out drain tile



Trenching process for drain tile installation



Trench prior to pipe and gravel bed install



Herring bone style drainage pipe installed



Four inch pea gravel layer installed.

Using grade stakes marked with our final elevations, we started to add the 85/15 construction mix. This mix was added to a depth of 12 inches. The term “floating” a green during construction is used to describe the installation, compaction and leveling process of the construction mix. We used a combination of rolling equipment, wetting the sand and tire compaction from the bunker machine to float the expansion area.



Plywood used to prevent crushing buried drain tile.



Once the layers of the existing green and the new expansion were matched, the boards were removed and used on the outer edge.

The next step was to strip the sod and undesirable organic layering off of the existing practice green. Once the sod was removed we added two inches of construction mix to the top of the old practice green and tilled it into the profile blending the old and new areas together. Using a bunker machine, the green surface was compacted and prepared for the fumigation process.



Sod cutting of old practice green



Topdressing new mix over existing practice green



Rolling of greens mix, multiple directions for proper compaction



Dragging weighted ladder to float green.



Raking in mix, blending existing and expanded areas.



Floating green to distribute mix.



Green ready for fumigation process.



Fencing installation prior to fumigation process.

We contracted Hendricks and Dail, a licensed fumigation company, to sterilize our green prior to seeding. This process kills any dormant weed (poa annua) seeds that are either in the buried old practice green mix or the purchased mix for the new expansion.

The fumigation process begins with having sod rolls placed all around the perimeter of the fumigation area. These rolls are used to create a seal on the plastic after the fumigation area, in this case the entire new green, is covered. Plastic tubing is laid out at five foot spacing and staked into the ground to keep the porous side up. Once the tubing is laid out, the green is covered with plastic using a glue gun to seal any joints. After the plastic is down, the sod is placed around the perimeter to seal the edges.



Currently, the green has been fumigated and plastic removed. We need to wait 7 days before we can seed the green to Penn Links II, which is the original cultivar and what exists on all other greens at Bristlecone. During this time we will work on top soiling the perimeter areas, installing irrigation and working on a few of the other goals for the project.

Blind Corner

We have removed some of the Arborvitae near the first tee. The main concern here was safety. After working for the past two weeks pretty much solely in this area, I have witnessed many near misses with carts and even pedestrians accessing the club or pool area. An added benefit will be the pro shop can better manage the first tee by having it visible. We can look forward to Charlie designing an even larger flower bed there for next season.

South Range Tee

Most courses that have a double sided range end up with the same result. The end closest to the clubhouse is pummeled and the one further away is hardly used. We are no exception. After September 1st, we will not have a need for a “members only” tee. We plan to develop a range use plan that will equalize the wear on both sides with the goal of have good turf and teeing area on both ends.

This process will start this week as we close and renovate the south range tee. We plan to convert the south range tee over to a “low mow Bluegrass” variety. It can be maintained at bentgrass height but it takes much more of a beating with quicker recovery time. The result will be a south range tee that can hold up for an entire season.

We ask all members to please use the north end of the range for the remainder of this season. The benefit will be a pure, 100% stand of a more durable turf on the south end next spring. Next season we may look to alternate range tees as well to keep both areas in good shape by balancing usage.

10 Tees

Also this fall we plan to rebuild the Gold tee and expand the Black tee on hole 10. The Gold tee will be moved forward a bit and lowered to allow better turf equipment and player access to the tee. The perimeter banks will be graded to allow for normal mowing operations. The Black tee will be expanded towards the channel as its smaller size has led to excess traffic and poa annua infestation as well.

I hope everyone is enjoying the course this season. Please feel free to follow up with any questions. From the above list, I should be easy to find! Thanks for your understanding as we attempt to improve the facility.

Sincerely,

Josh J.M. LePine, CGCS
Legend at Bristlecone