Date: August 1, 2018
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Project title: Golf Course Moisture Meters
Amount granted: $3,000
Amount spent: $2,947.50

I. Project Outcomes/Value

The project goal was to allow for the purchase of 2 moisture meters, and their accessories, to allow soil moisture levels to be monitored in the soil throughout the golf course. Utilizing trends in turf conditions, golf course managers are able to determine what moisture levels are most beneficial for the turfgrass. This prevents turf from being overwatered, and results in a decrease in water usage, while creating a healthier and more resilient golf course.

Project Timeline –

The moisture meters were purchased from Spectrum Technologies, and received in October 2017. The meters were put to use immediately, and have been used daily to monitor the moisture levels of the golf course. Their use will continue indefinitely.

Project Outcomes -

Handheld moisture meters have the benefit of being portable, while being able to provide instant feedback of moisture levels below the surface. Traditionally, this has been accomplished by looking and feeling the soil, which provides for a large amount of variability resulting in areas that are overwatered so that they do not dry out too much. The meters are primarily used on the golf course greens, which have the highest variability of moisture content, but can also be used to monitor the moisture across the additional 90 acres of turf at the golf course. The handheld moisture meters give a digital output of the percentage of moisture in the soil. Utilizing trends in turf conditions, we are able to determine what moisture levels are most beneficial for the turfgrass at different times of the year. This prevents turf from being overwatered, and results in a decrease in water usage, while creating a healthier and more resilient golf course.

Measured results can be based on the water savings that occur over a period years. Due to annual changes in the weather, we look at irrigation usage over multi-year periods to create averages. We are currently able to create an average irrigation use for 2013-2017, as well as averaging for specific areas of the golf course. To date, our water usage in 2018 has decreased. However, our rainfall amounts have been higher than previous years. We will continue to monitor our water usage into the future so that we can determine how our water usage has changed while using moisture meters.

An unexpected update to the moisture meters is that the meters will now monitor moisture, temperature, and soil salinity. The meter is also GPS and Bluetooth enabled, allowing the meter to

communicate with mobile devices and provide real time mapping of moisture levels.
Sustainability Improvements –

Through the use of moisture meters we are expecting to see a decrease in water usage on the golf course. As we are able to maintain proper moisture levels and create healthier grass on the golf course, we should also see a reduction in the usage of pesticides that would be used to prevent diseases from the grass being too wet. We will be able to notice these changes as we average our water and pesticide usage over the next 3 years.

Outreach –

Publicity for our moisture meters has taken place through social media accounts that reach approximately 5,000 users. In addition, we were able to host approximately 100 golf course superintendents for an educational event discussing our moisture management program. We have also done multiple on course demonstrations for patrons as they are often curious about what we are doing as we are performing maintenance practices.

Budget report

The proposed budget was for $3,000 in funding for moisture meters and signs and stickers. We spent $2,947.50 on moisture meters. Our in house marketing team was able to create and print signage and posters, in lieu of purchasing signage at a cost of $188.50.

Item Supplier Budgeted Amount Actual Amount Moisture Meters Spectrum Technologies $2,811.50 $2,947.50

Signs and Stickers $188.50 $0 Total $3,000 $2,947.50

II. Student and Community Impact

As a part of Campus Recreation and Intramurals, we are a large employer of students. Student employees are utilized as the primary labor source for the golf course, and students are primary users of the moisture meters as we manage our moisture levels on a daily basis.

The golf course is open to both students, and the general public. Because of this, any golfers that come to the property are able to see both the usage of the moisture meters, as well as the benefits of the usage of the moisture meters. Last year, we had approximately 23,000 golfers play the golf course, with approximately 50% of the play coming from students, and 50% of the play coming from the general public. Because of this, we were able to impact several thousand unique individuals.

Grant Leverage

The project was not used to leverage additional grants.

Project abstract

The use of moisture meters in the management of golf courses is becoming increasingly more popular. Handheld moisture meters have the benefit of being portable, while being able to provide instant feedback of moisture levels below the surface. By utilizing moisture meters, we are able to prevent overwatering the golf course. By creating thresholds for water usage on the golf course, we are able to create a healthier and more resilient golf course, while decreasing our water usage. The moisture meters are used by student staff, as well as management staff, to create a golf course that is enjoyed by the University and surrounding community.