Golf Course Maintenance Standards

First Draft of First Revision

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Introduction and Mission Statement

The primary goal of this document is to express in written format the maintenance goals of the Green Committee and align these expectations with the resources provided to the maintenance staff. This document should not place the maintenance staff within confiding restrictions, but rather establish targets and goals that will serve as guiding principals which ensure that the development of maintenance practices continually reflect the course conditions desired by the Green Committee. Furthermore, this document provides a means by which the needed resources of the maintenance staff can be identified, and the Committee's desires, staff's needs, and the Club's means to provide resources can be brought into alignment. The standards described in this document are to be held as the goals for course conditioning, knowing that appropriate adjustments will be made by the Superintendent in accordance to weather and turf health considerations. The primary goals for course maintenance are and will be great greens, great bunkers, and great general aesthetics of the golf course.

La Gorce Country Club's golf course consists of TifEagle bermudagrass putting greens, TifGrand bermudagrass collars, and Celebration bermudagrass tees, fairways, and rough. The Croquet Court and Practice Range Targets are also TifGrand bermudagrass. During "summer hours" (April 1st through Thanksgiving) the golf course and practice range will be closed on Mondays. During "winter hours" (Thanksgiving through March 31st) the golf course and practice range will be open everyday, with a late opening on Tuesdays to allow for maintenance (practice range opens at 9:00am, first tee at 11:00am). Any other special course closures will be scheduled by the Superintendent ahead of time (for special fertilizer or pesticide applications) with approval of Green Committee and Golf Committee Chairs.

Golf Course Architect David Savic used the following to describe his vision in creating La Gorce's current golf course: The golf course is to have an antique feel resulting from the history of the club and the tremendously desirable location of the property. The golf course is to play as firm and fast as possible. Contours in the fairways and green surrounds should cause the ball to roll across and down slopes, impacting the strategy golfers must employ in playing the course. The combination of an antique setting with firm and fast playing characteristics is the foundation for the designer's vision that there should be some variation in the coloring of the golf course. The greens were designed to have various areas of subtle movement, and slopes that force the golfer to consider where they should not miss an approach shot. The putting greens should be firm and fast to display the strategy intended for approach shots, chips, and putts. The bunkers have a natural aesthetic appearance, intended to have a 2-4" vertical lip on all edges. In summary, the most important component to scoring well at La Gorce is not simply hitting fairways and greens, it is placing the ball in the correct position to set up the next shot. When shots are played to the correct areas the course should feel very accommodating and fun, however the challenge is displayed when shots miss the intended target.

Putting Greens

Putting greens are the most important area on the golf course. Because of this the most attention, effort, and resources should be dedicated to these areas. The foremost priority of La Gorce putting greens is to maintain healthy turf twelve months of the year, displaying uniform density and aesthetically pleasing color. For the course to play as designed, green speeds are recommended to be consistently between eleven and twelve feet on the Stimp meter. Firmness levels should be maintained so that a well-struck, mid-trajectory mid iron will hold on the putting surface. Ball roll should be smooth, and the affect of surface grain should be minimal.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Mow greens everyday the course is open (currently double cut multiple times per week)
- Weekly or Bi-weekly verticutting (currently bi-weekly)
- Spray applications of premium fertilizers weekly
- Spray applications of premium fungicides monthly to weekly depending on season's disease pressure
- Granular fertilizer applications two to four times per month
- Topdress weekly to bi-weekly (walk spreading sand through the winter months)
- Roll greens daily (currently 5 days per week)
- Edge greens and collars weekly
- Hydroject, needle tine, or other forms of venting greens Bi-weekly (currently monthly, winter time weekly to bi-weekly)
- Deep verticut greens four times through the summer months
- Dryject greens at least twice each summer
- Core aeration with 5/8" tines at least twice each summer
- Hose water greens as needed to minimize saturation in low areas while maintaining health in dryer areas.

Approaches, Fairways, and Tees (aka "Shortgrass")

Given that the golf course was designed for the ball to roll freely on shortgrass areas, these areas should be maintained as short as turf health will allow. This will provide the design intended ball roll. Firmness is equally important to provide firm footing on the tees, roll-out on the fairways, and approach shots that land on the approach and release onto the green. The amount of soil moisture will provide just enough water for healthy and green plants, but additionally provide the firmest, fastest playability possible.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Mow shortgrass three times per week (this is appropriate for approximately 10 months of the year, in the winter months one or two cuts per week are sufficient and additional cuts only increase wear on the turf)
- Bi-weekly spray applications of fertilizer and growth regulators (growth regulators reduced in winter)
- Consistent topdressing (frequencies vary based upon amount applied, heavy applications in the summer satisfy most or all of the requirements)
- Deep verticutting multiple times in the summer
- Core aeration multiple times in the summer
- Fertigation- constant light application of fertilizer applied through irrigation water
- Granular fertilizer applications a minimum of 90 day intervals with pre-emergent herbicides
- Post-emergent herbicides applied as needed
- High traffic areas require more fertilizer and consistent aeration to combat the compaction resulting from heavy traffic.

Rough

The golf course was not designed to have rough so penal that it would slow the pace of play (by loosing golf balls, or delays when searching for golf balls). The tallest recommended height for Celebration bermudagrass is 1.25 inches. Taller heights of cut commonly produce a “broccoli” finish where the surface has numerous depressions. The height of 1.25 inches penalizes shots by covering some of the golf ball, and forces the golfer to hover the club to make contact on the sweet spot of the club face.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Mow weekly (Normally twice a month during winter, and twice a week in the summer is appropriate)
- Bi-weekly spray applications of fertilizer and growth regulators (growth regulators reduced in winter)
- Fertigation- constant light application of fertilizer applied through irrigation water
- Granular fertilizer applications a minimum of 90 day intervals with pre-emergent herbicides
- Supplementary applications of granular fertilizer to promote growth in weak or high traffic areas
- Post-emergent herbicides applied as needed

- Aeration a minimum of twice in the summer time
- Scalping (rapidly lowering height of cut) twice each summer

Bunkers

Bunkers are a widely discussed feature, with various preferences desired. In order to promote consistency, the Green Committee has determined the desired playability characteristics to be as follows. The faces should be firm and smooth allowing the golf ball to roll to the flat area of the bunker. The flat areas should have a loose surface with firmness underneath, this allows the club to side under the ball without burying itself. The desired finish of the flat area is as smooth as possible. When the bunkers are dry the maintenance staff will smooth the flat areas of the bunkers, when they are wet the maintenance staff will lightly rake to provide the described conditions. There should not be deep or inconsistent furrows in the bunkers. The faces and transition areas should have a consistent depth of 3”, and the flat areas should be a minimum of 4” deep. Many of the bunkers have been excessively wet, to address this many flat areas have been made deeper, and where possible the irrigation system has been adjusted to not apply additional water to the bunkers. Leaving the faces unraked promotes the growth of algae. If algae begins to grow in the bunkers the maintenance staff must rake the faces to stop algae development. The front and green side lips should be closely mown to allow balls to roll into the bunkers freely.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Full-rake every other day.
- Weekly Mowing
- Bi-weekly depth checking
- Mechanical packing of bunker faces
- Bi-weekly edging

	Use machine to rake bunkers	Full Rake Every Day
La Gorce	Yes	No
Riviera	Yes	Yes *
Indian Creek	Yes	No
Doral	Yes	No
Merion East	No	Yes
Merion West	No *	No
East Lake	Yes	No
Ocean Reef	Yes	No
Pine Tree	Yes	No

Golf Course Set Up

Setup of the golf course should display competency through fairness and by offering the full variety of playability options designed by the architect. A Golf Staff Professional will predetermine all pin locations and any special tee locations. Unless specifically designated the tees will be rotated left, right, and center; front, middle, and back. A fair pin is to be determined as approachable from three sides of the hole. If a ball cannot be stopped close to the hole from one side, this playability characteristic is in accordance with the strategic design element intended. Golf course setup will be changed daily. Course setup should additionally reflect extremes in weather conditions, example: significant wind and rain.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Golf staff to set pin and tee locations and provide maintenance employee with pin sheet daily.
- Capable maintenance employee to place cups and tees accordingly
- Senior Assistant Superintendent to instruct employee to adjust setup due to extreme weather.

Irrigation / Drainage

The foremost objective in use of the irrigation system usage is to provide a healthy, aesthetically pleasing golf course. The secondary objective is to only provide the amount of water needed for the former so that the course can maintain it's firm and fast design. The drainage system includes many sump pumps which provide the opportunity to "turn on and off" the drainage system. Turning the sumps off will to some extent cause moisture to build up in the soils, and could reduce the irrigation requirement of the golf course. This equilibration in the soil requires weeks so the drainage system should only be turned on or off seasonally and not on a daily or weekly basis.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Daily logging of irrigation water usage, communication weekly to Superintendent and Bi-weekly to General Manger and Finance department.
- Daily programming of irrigation computer- using data taken from daily "checkpoints"
- Continual audit of moisture levels- adjusting irrigation computer and assigning hoses accordingly
- Regular audits of drainage system for proper functionality, flush outs as needed
- Monitoring and application of fertigation products
- Application of water to specific dry areas by trained employees to all areas of the golf course

Landscapes

The Club House landscapes should reflect the standards of a fine hotel or restaurant. Healthy, crisp, beautiful, and intentional describe the objectives of the areas. The landscape architect Tom Lucido designed the perimeter landscapes to be “low maintenance”. The plant varieties selected can be maintained by automated irrigation, and pruning can be done deeply and infrequently. The primary objectives for the perimeter landscapes is to maintain beautiful plants, minimal amounts of debris, and minimal amounts of weeds.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Landscape manager with basic knowledge of Florida plants and pests. Also displays ability to properly apply pesticides, prune all types of plants, and manage a team.
- Consistent pre-emergent and post-emergent herbicide applications (monthly to bi-weekly)
- Seasonal fertilizer applications

Trees

The trees at La Gorce Country Club provide both aesthetic and strategic value to the property. All palm trees should be given a “hurricane cut” during August and September. An additional trimming in January will ensure acceptable aesthetics throughout the prime golfing season. Hardwood trees should be pruned as needed annually in the summer time. Because trees have a negative impact on turf quality, the Superintendent in addition to the landscape architect should approve all tree types, locations, and removals.

Required resources to produce standards, all will vary based upon weather and outside agencies:

- Capital purchases: lift, chipper, small chainsaw
- Capable Landscape Manger and crew

Water Retention Areas

The water retention areas were designed, permitted, and built to retain water during a significant rain event. During the drier months (November through April), these retention areas hold very little to no water and have firm bottoms. In October (provided the water levels have subsided) the retention areas will be topped with a recycled concrete product that resembles sand. This topping will

provide a clean appearance to the surfaces. Weeds will be kept to a minimum, and the native grasses inside will only be minimally trimmed as they serve purpose to limit visibility throughout the retention areas. As they are, members should expect the retention areas to hold water once the rains arrive in May, until they subside in the fall.

Required resources to produce standards, all will vary based upon weather and outside agencies:
- Topping in October
- Regular weed spray (one to two times per month)
- Minimal trimming of native grasses

Ponds

Ponds will be treated every other week by a contractor. In seasons when algae blooms are more intense, additional weekly treatments will be performed. The existing injection wells provide only minimal flow rate. This is consistent with the age of the existing wells. The new wells will provide the golf maintenance department the ability to lower high lake levels after heavy rains, and if needed during king tide seasons.

Required resources to produce standards, all will vary based upon weather and outside agencies:
- Minimum every other week treatments by contractor.
- Injection wells should be turned on when pond levels exceed reasonable height (example: multiple inches of rain)
- Periodic applications of water-safe herbicides to remove aquatic weeds

Details

During the busiest golfing times of the year golf cart traffic stakes should be rotated multiple times each week to best relieve wear patterns. Sprinkler heads should be edged so that the yardage numbers are visible. Cart paths should also be edged to provide a crisp appearance. Annual maintenance is required and will be performed for brick paver paths. TifGrand must be edged (inside and outside) weekly in warm temperatures, and as needed in cool temperatures.

Required resources to produce standards, all will vary based upon weather and outside agencies:
- Adequate amount of crew members to complete the prescribed tasks.

Long-Range Plans

Summer of 2018:
Wicking Barrier Removal
Tif-Grand Collar Replacement
Greens' Vent Additions
Irrigation additions
Fix the cart paths: timeline depends on scope
Drainage additions (including #3 under large tree and right of #15 green

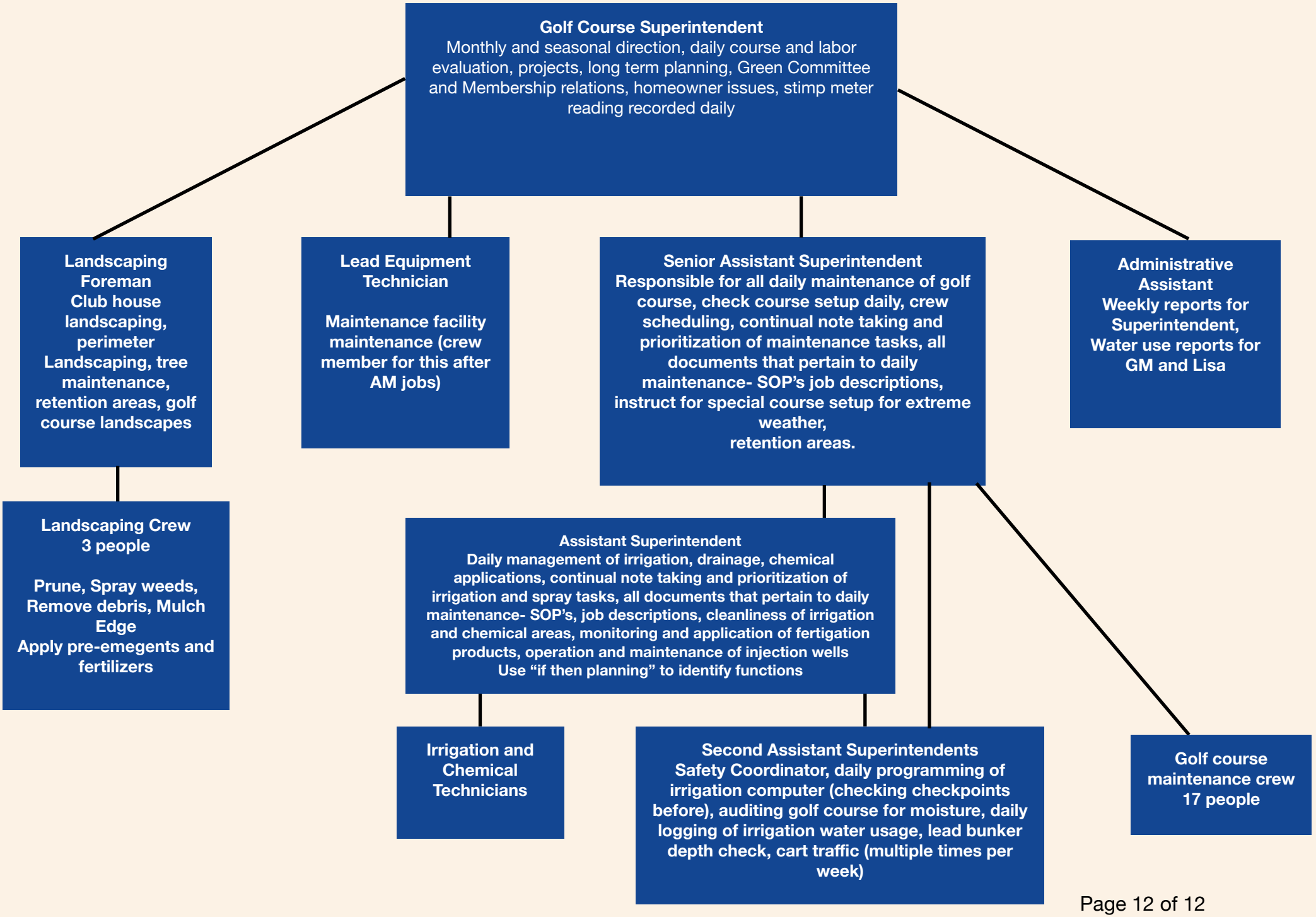
Summer of 2019:
Irrigation additions
Fix the cart paths: timeline depends on scope
Club house landscaping: (proposed by Superintendent summer 2019)
Golf Course Tweaks (adding bunkers, expanding #6 tee, etc.): Summer 2019?

TBD:
Closeout of the golf course renovation
Injection Wells: was summer of 2017 never got permitting, still no permitting. Glen Miller is lead on this
Reverse Osmosis Plant
Retention Areas
Driving range drainage (is there capital money for this?)
Weir (will it pass permitting? Really needs to be a vertically operated gate)

Labor Hour Report

Golf Course Labor Survey					
Monday, Wednesday, Friday	Number of people	Tuesday, Thursday	Number of people	Saturday, Sunday	
Managers and Administrators: Superintendent, Senior Assistant, First Assistant, Admin Assistant	4	Managers and Administrators: Superintendent, Senior Assistant, First Assistant, Lead Equipment Technician, Admin Assistant	4	Managers and Administrators: Superintendent, Senior Assistant, First Assistant, Lead Equipment Technician, Admin Assistant	2
Equipment Technicians	2	Equipment Technicians	2	Equipment Technicians	1
Golf course setup (cups and tees)	1	Golf course setup (cups and tees)	1	Golf course setup (cups and tees)	2*
Mow greens	5	Mow greens	5	Mow greens	6
Roll greens	2	Roll greens	2	Roll greens	2
Mow fairways	3	Mow “shortgrass” areas	1	Rake all bunkers	2
Bunkers: rake all	4	Bunkers: fix footprints	2	Landscaping	1
Landscaping	2	Landscaping	2	Mow tees	2**
Chemical applications	2	Chemical applications	2	Hand water greens	1
Irrigation and drainage	1	Irrigation and drainage	1		
Mow green surrounds	2	Mow rough	2		
Special projects	2	Mow tees	3		
		Special projects	3		
Total	30		30		15

Numbers include Second Assistant and Assistant in Training as their positions are labor based.
Special projects include tasks that cannot be completed in time allotted after morning course preparation. Tasks include: rotating cart traffic stakes, auditing course moisture, hydrojecting greens, hand watering dry areas, mowing the practice range, topdressing greens, etc
* Two people setting up golf course on weekends due to split tee start times
** Two people mowing tees on Saturday and Sunday, nines holes each day.


Golf Course Superintendent
Monthly and seasonal direction, daily course and labor evaluation, projects, long term planning, Green Committee and Membership relations, homeowner issues, stimp meter reading recorded daily
Landscaping Foreman
Club house landscaping, perimeter Landscaping, tree maintenance, retention areas, golf course landscapes
Lead Equipment Technician
Maintenance facility maintenance (crew member for this after AM jobs)
Senior Assistant Superintendent
Responsible for all daily maintenance of golf course, check course setup daily, crew scheduling, continual note taking and prioritization of maintenance tasks, all documents that pertain to daily maintenance- SOP's job descriptions, instruct for special course setup for extreme weather,
retention areas.
Administrative Assistant
Weekly reports for Superintendent,
Water use reports for GM and Lisa
Landscaping Crew
3 people
Prune, Spray weeds, Remove debris, Mulch Edge
Apply pre-emegents and fertilizers
Assistant Superintendent
Daily management of irrigation, drainage, chemical applications, continual note taking and prioritization of irrigation and spray tasks, all documents that pertain to daily maintenance- SOP's, job descriptions, cleanliness of irrigation and chemical areas, monitoring and application of fertigation products, operation and maintenance of injection wells
Use "if then planning" to identify functions
Irrigation and Chemical Technicians
Second Assistant Superintendents
Safety Coordinator, daily programming of irrigation computer (checking checkpoints before), auditing golf course for moisture, daily logging of irrigation water usage, lead bunker depth check, cart traffic (multiple times per week)
Golf course maintenance crew
17 people