Golden Age Lessons for a Twenty-First Century Golf Course: Applying the Lessons of the Masters of Golf Course Architecture to a Present Day Course

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Golden Age Lessons for a Twenty-First Century Golf Course
Applying the Lessons of the Masters of Golf Course Architecture to a Present Day Course

A Project Presented

By

Alexander H. “Sparky” Von Plinsky IV

Submitted to the Graduate School of the University of Massachusetts Amherst in partial fulfilment of the requirements for the degree of

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Department of Landscape Architecture and Regional Planning
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Dedication

I remember sitting inside on a Sunday afternoon with my father. It was 1986, we were living in Hawaii and Sunday afternoons were for anything but sitting inside, yet there we were. We were watching a golf tournament on TV and this eight year old kid didn’t consider that an optimal use of a Sunday afternoon; but spending time with my Dad was. I would learn later that it wasn’t just any golf tournament we were watching, it was the Masters; and it wasn’t just any Masters it was Jack’s Masters. To me though it was just time spent with my Dad, and that was enough. I didn’t even play golf then (I wouldn’t pick up a stick for another five years). I knew about the game and I knew that my Dad loved it; but I didn’t know that the game would grow to shape my life and my relationship with my Dad. We spent countless hours playing some pretty awful golf and then over time we started to spend countless more hours playing some pretty decent golf. Entire family get-togethers were planned around some time on the links and it wasn’t about the little white ball.

The little white ball was the game but the point was the time. It wasn’t all great, I remember breaking my Dad’s four iron in the cold in Kansas (he wasn’t all that pleased), I remember my Dad yelling at this Greek guy who hit into our group in Athens (that was out of character to say the least) but the balance of our time on the golf course was quietly memorable. On the course my Dad, my brothers and I played countless holes dreaming of the day when we would own our own golf course (Dad always said he’d be happy just coming by in the morning to cut the fairways). Now that time is near, I will soon have my own course and the only person I want to share that news with is gone.

My Dad passed away while I was in grad school. After battling a terrifying illness he slipped away from us one horrible day a few Octobers ago and now the only man whose opinion of me ever mattered is gone and I can’t tell him that our dream has come true. I can’t tell him to come by and cut the greens tomorrow morning. I can’t tell him anything anymore. But I’ll always have the 1986 Masters and those countless holes of mediocre to good golf. I’ll always have my memories, but all I want is one more day, nine more holes, one more talk. I love you Dad, this project and this dream are as much yours as they are mine.
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First I would like to thank my committee. Mike, I appreciate your efforts, your guidance and your patience with this passion of mine. Tim, thank you for your insights and ideas, they have proven invaluable.

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I would like to thank my extended family. Whether your last name is Von Plinsky, Cannon, Mirabella, Renfro, Wehner etc. etc. I love you all and I look forward to sharing my passion with each and everyone of you.

I would like to thank my Mom and brothers for making me the man I am today. I am really and truly happy today and I wish the same for all four of you.

Most of all I would like to thank my daughters Abi and Meghan and my wife Brenda. I am thankful for the love you have given me and the patience you have shown with me. Abi and Meghan, I want you two to know that if you work hard your dreams will come true (even if you don’t yet know what those dreams are) and I am excited to the point of bursting that I get to live my dream with the two best kids in the whole world. Ngm, thank you for believing in this crazy idea and for supporting us through this long and difficult process. I can think of no other person I would rather spend the rest of my life with than you, my Ngm.
Abstract

The design process behind a golf course is unlike other landscape architecture design processes. The interaction of a golfer with the course is much more engaging and active than a park goer’s interaction with a city park. For this reason this project has delved into the tenets behind the golf course design process, using as guides the great designers of the Golden Age of Golf Course Design. The results indicate that there are five primary design tenets that form the framework of a successful golf course design project. Similar to the circular system design process found elsewhere, the five tenets of golf course design function as a repeating loop that funnels toward a final design.

First among these tenets is the idea of rhythm. Rhythm guides a golf course designer both across the land and through a round. Rhythm can be both natural and constructed depending on the situation. The second step in the design process involves the twin tenets of strategy and balance. Strategic design ensures interest over repeated play through the mandating of decision making. A strategic course requires a player to think his way around a golf course as much as play his way around it. The second twin is balance. Balance seeks to shape strategy so that the decisions a player faces allow the consequences, rewards and difficulty of those choices to function in tune with one another. Finally, the process reaches the fine tuning stage. Here the ideals of scale and fairness are applied. Proper scaling of a design allows an architect to, at a minimum, fit a course to the land but it can also help an architect improve interest in the game through subtle acts of deception. Fairness acts as a final check on a design concept. It is vital to note that fairness in golf course design has its own definition. A fair design allows every player who steps off the first tee to enjoy a challenging and interesting round of golf, regardless of their skill.

A golf course is not finished (at least not finished well) until the process has been run through and repeated numerous times. To properly test the concepts identified in the research portion of this project, the tenets were applied to a two phase design of Pine Grove Springs Country Club in Spofford, New Hampshire. The project identified areas where the course could be improved and applied the tenets of design to make these improvements in such a way as to improve the playing experience of Pine Grove Springs’ members.
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1. Introduction

As I sit at my desk and stare out at the snow beyond my window I try to figure out how one goes about designing a golf course. A New England winter is not exactly a conducive climate for such thoughts and so my mind drifts. I begin thinking about courses I’ve seen and played and the processes behind their designs. I try to imagine the land before the fairways and greens crisscrossed and dotted the landscape. More often than not this is an easy task, however I do recall visiting a few courses that seemed to have been forever a part of the site; as if the almighty had ordained that land as “Golf Land” and any other use was a waste of valuable resources.

As my thoughts drift to one such stretch of “Golf Land” that I have had the privilege of visiting on numerous occasions, I imagine the meeting of the minds that gave rise to the Augusta National Golf Club. I place myself as a silent observer, eavesdropping on a conversation between Bobby Jones and Alister Mackenzie during the early 1930s. The sweltering summer day seems not to bother these two gentlemen as they wander across the not so subtle slopes of Prosper Berckmans’ nursery along Washington Road in Augusta, Georgia. Jones, the greatest golfer of his era (and perhaps of all time) stands just in front of Mackenzie, arguably the greatest member of the fraternity of Golf Course Architects, playing a niblick (roughly a 9 iron today) across Rae’s Creek to an as yet unbuilt green. The two discuss the shot briefly and then move a few paces down the hill to repeat the process. While words may be at a premium when these two are together there was an understanding between them that created a truly wonderful golfing experience.

After a long morning spent wandering the grounds and a lengthy walk up the hill from the corner of the property that would decades later come to be known as Amen Corner, the pair sits down on the porch of the Berckmans’ home and enjoys some barbecue and iced tea. The discussion, which is primarily focused on the afternoon’s work at the short par three, third hole (now the twelfth) soon turns to a wonderful dialogue about the fundamentals of Golf Course Design. As my observation of this dialogue...
is fantasy it would be presumptuous of me to relay my thoughts as theirs, however having researched the two men and their contemporaries extensively I hope that I am not being too bold when I attempt to boil down what might have been said to a just a sentence or two.

I believe both men would agree with me when I say that a great golf course is the product of an architect who understands the history of the game, the profession and the site; derives from that understanding the primary fundamentals of design, and then uses the tools and land at his disposal to apply those ideals across all three scales of golf course architecture. This thesis will be used as the guiding framework for this project in its entirety.

The end result of this project will be the application of the above thesis to an existing layout, in this case the course at Pine Grove Springs Country Club in Spofford, New Hampshire. The intent is not to redesign the course as if Jones and Mackenzie had been the designers but rather to redesign and reshape the course in such a way that the two men (and their contemporaries) would appreciate a strategic design that is at once playable for the lesser player, challenging for the better player and interesting for every player.
1.1 Project Structure

The goal of this project is to divine the fundamental principles of golf course design through careful study of the work of the profession's greatest minds and then apply these principles to the redesign of Pine Grove Springs Country Club in Spofford, New Hampshire. This will be done with an eye toward improving both the profession of Golf Course Architecture and the casual player's understanding of the game that they play as well as the playing experience for Pine Grove Springs' golfers. For this reason this project is written for an audience that is at a bare minimum familiar with the game of golf and its basic rules and characteristics.

With this lofty ambition in mind, I will move forward with the following structure providing the framework for my project:

- **Background**
  - “Far and Sure” a brief overview of the history of the game of golf
  - “Walking with Tom” an overview of the history of the profession of Golf Course Architecture

- **Fundamentals of Design**
  - The Scales of Golf Course Design
  - The Golf Course Architect’s Toolbox
  - The Tenets of Design

- **Case Studies**
  - Cypress Point Golf Club, Monterey, CA
  - Cherry Hill Golf Course, Amherst, MA
  - Pacific Dunes Golf Resort, Bandon, OR

- **Site Analysis**
  - Landscape Architecture
  - Golf Course Architecture
  - Overall Site Assessment

- **Design**

- **Conclusions**

One final note regarding the purpose and scope of this project is this: This project is not about social equity nor is it meant to make a statement about the financial inequities of good golf design. Having said that, there no doubt exists a discrepancy between the quality of strategic golf available at a premium price and the quality of golf available to the general golfing public. With this in mind I will not disregard the obvious fiscal differences between Pine Grove Springs and many of the courses mentioned in this project but rather I will attempt to find ways to apply the lessons from the more expensive courses to the more financially constrained clubs in general and Pine Grove Springs, specifically.
2. **Background**

In order to understand the current state of the game of golf and the profession of Golf Course Architecture it is necessary to look to the past. The following examinations will provide brief glimpses into the shared but different histories of golf and golf course architecture.

2.1 **“Far and Sure”- A Brief History of Golf**

While some continental Europeans may argue the point, the game of golf, as we know it today, evolved on the linksland of Scotland during the first half of the second millennium A.D. Probably emerging as Scottish shepherds batted rocks around the common grazing land, golf gradually grew to become the worldwide pastime that it is today. This did not happen by design. The courses on which the shepherds and other Scots walked were not laid out by an architect or even a gardener, they were more or less

---

1 The history of golf, being as it is more than 700 years in length, is far too deep a subject for anything more than a brief discussion within the scope of this project. Further research can be done by reading into numerous texts, to include Geoffrey Cornish’s *The Golf Course*. 

---

*Figure 2: Early Golf Tournament for Professional Players Leith, Scotland 1867*
less revealed by the wind, rain, wildlife and, over time, repeated play. The concept of design by revelation must be central to any attempt at understanding the fundamentals of golf and its history.

As the game revealed itself, it did so as a game of the commoner as much as of the gentleman. While this may stand in contrast to the perception of many today, the game was played, not behind the gates of private clubs (though private clubs not only existed but were instrumental in golf’s spread beyond Scotland) but rather on ground held in common ownership by the villagers of many Scottish towns. This is not meant to imply here that there was no class distinction within the game (there was) or that all players were seen as equals once they stepped off the first tee (they weren't) only that golf was a game that was played and enjoyed by all. At least all who knew of the game.

The 1840s dawned on a game that was as yet isolated from the world. The world south of Hadrian’s Wall knew little of Scotland’s game, though this would soon change. The convergence of the Industrial Revolution, its emerging leisure class (not to mention its locomotive) and golf’s egalitarian roots produced a period of change unlike any in the sport’s history. Golf’s popularity was exploding. Even the links at St. Andrews were forced to adapt to golf’s newfound fame. At various times throughout the mid nineteenth century holes were added, eliminated, widened or otherwise changed. This included the introduction of the club’s now famous double greens. Put simply the game was becoming so popular that even the “Home of Golf” was forced to make changes to accommodate the influx of players.²

These new players were, for the most part, amateur, leisure players who played the game for the joy of it and for the occasional gentleman’s trophy at the seasonal club championship (not to mention the ever present wagers). There was however a second class of golfer, the professional, who grew up alongside, if in the shadows of, these gentlemen. The emergence of the professional golfer was seen by many as an affront to the game’s genteel roots; an easy position to take for those who did not rely on the game for a living. These professionals were a far cry from today’s multimillionaire world travelers. They were usually caddies, ball makers, club makers or greens keepers who would play the game when they could. As these players grew to be more talented than their amateur employers a rather lucrative income could be had for the best of them. Men like Allan Robertson, Old Tom Morris and Willie Park would act as surrogates for wagers amongst their gentlemen of competing clubs. Under the auspices of playing for their towns or their

courses a few of these men would go on to make a very fine living in such matches. From these humble beginnings emerged the first professional golfers, men who were able to do amazing things with a set of wooden clubs and a leather bag of feathers. These men would be the true drivers of golf’s popularity engine from the 1840s onward.

The 1840s and 50s represent the infancy of professional golf and with it the infancy of golf beyond its Scottish homeland. By this time it had become obvious that the wealthy amateur gentlemen of the golf clubs that had popped up throughout Scotland (and were starting to emerge around Scotland’s neighbor to the south) were in no way capable of competing with the caddies who carried their clubs. Such was the state of the game when the biggest events on the golf calendar were not the seasonal medal competitions among gentlemen golfers but rather impromptu events such as a late 1840s competition between St. Andrews’ Allan Robertson and Tom Morris and the Dunn twins, Willie and Jamie, from Musselburgh. The match, a closely fought contest won by the men from St. Andrews, saw the exchange of more than 400 pounds in bets and was far and away the golf event of the decade.

The game continued like this with an odd dichotomy of prestige and talent for nearly two decades. As the 1860s neared the desire to determine the greatest golfer of them all was too great and an Open Championship was begun. The aim of the British Open as Americans would come to refer to it, was to identify the champion golfer of the year. In actuality what the Open accomplished was much greater than that. From its humble roots, only eight men competed in the first Open in 1860, the tournament would grow to become the single biggest event on the golfing calendar. More importantly though it would grow to become the greatest propaganda engine in the game’s centuries long history.

The early, one day championships played on twelve holes that Old Tom Morris designed in Prestwick, Scotland would, over time, give way to huge four day events. These Championships would culminate with the presentation of the Claret Jug, the oldest and most respected trophy in golf. As the Championship
grew, so too did the status of those who played in it. While not yet seen as equals to the gentlemen of the great golf clubs, professionals were no longer third class citizens in the game they played so well. This development would soon pay great dividends for the sport as it began to make its presence felt beyond the British Isles. ³

The elevation of such professionals as *The Great Triumvirate* of Harry Vardon, John Henry Taylor and James Braid during the decades surrounding the turn of the century, from working class roots to world wide fame would be just the ticket for golf to take off in a land that has upward mobility woven into its DNA. The game’s humble roots were mirrored on the western side of the Atlantic as the game stumbled out of the gates in America. Poorly designed courses that were laid out across land that was unsuited for the purpose made golf a game much more ridiculed than revered. This would change when men such as Charles Blair MacDonald, Donald Ross and Alister Mackenzie, among a few others, would parlay their deep knowledge of golf’s roots into a run of golf course design unequaled anywhere before or since.

While the importance of the work of these pioneers cannot be overstated, it was not the courses that drove the game’s fame in America but rather those who played them. The early decades of golf’s first century in America were marked by an odd assortment of characters a few of whom essentially picked the game up and carried it kicking and screaming to the forefront of American sporting life. By the 1910s the game’s transition from an amateur sport to one dominated by professionals was not yet complete and

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³ Tommy’s Honor, K. Cook, Chapter 1 (2007)
professionals from both sides of the Atlantic competed with noted amateurs such as Francis Ouimet and Bobby Jones for the early US Open Championships. The US Open, like its older brother, has risen from humble beginnings to become among the premier events in world sport.

The final push toward equality between the game on either side of the ocean occurred in the 1920s. By this time, many very good courses had been built in America (though admittedly they were somewhat outnumbered by dull penal courses that made up the majority of American courses) and there were American players to match. The best of these men was a young southerner who would go on to become the game’s greatest ambassador. Bobby Jones was the last great amateur to play the game at a level matching (and in fact exceeding) that of the professional player.

His run of success during the 1920s is nearly beyond belief. He won a total of 13 British and US Opens and Amateur Championships (then the major tournaments), culminating with his “Grand Slam” in 1930.

Winning each of the major championships in succession during the same calendar year was a preposterous challenge. When Jones accomplished just that the establishment of the game in America was complete. Upon his return to New York following his conquests in the British Open and Amateur Championships, Jones received a ticker tape parade through the streets of Manhattan. The idea of a golfer receiving that type of adulation may not seem far beyond the 21st century’s norms of hero worship but for a game that had only been in the Western Hemisphere for a few decades it was a crowning achievement.4

As it often does, life gets in the way of a good story. In this case the Great Depression and then especially World War II put golf, and all sport for that matter, on society’s back burner. The game wasn’t completely gone. For example Jones and Mackenzie’s Augusta National emerged during and survived through the Depression’s depths. Additionally, a number of truly great players played some tremendous

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golf in the years following Jones’ exit from the golf scene. Among these men was the new generation’s version of the great triumvirate: Byron Nelson, Ben Hogan and Sam Snead. Three men, born a mere seven months apart, who would take the game and nurture it through the 1930s and 40s and deliver it on the other side poised for a surge that few could imagine.

The advent and mainstreaming of the television, as well as the emerging middle class, that followed the war created a culture that could for the first time see its heroes at work without living in the same town. At such an important time as this golf needed a hero who was more than a great player, they needed a charismatic champion who could take the game of golf to another level of popularity. They needed Arnold Palmer. Palmer and later his chief foils, Jack Nicklaus and Gary Player were just the men take golf into the nation’s living rooms. With the three of them winning championships with an almost unfair

Figure 6: Ben Hogan, Byron Nelson, a young Arnold Palmer and Sam Snead

Figure 7: Jack Nicklaus and Tom Watson at the 1977 British Open
frequency, and advertising everything from golf clubs to shaving cream, they became golf’s first truly household names; but they were more than that. Because of the miracle of television, no longer were fans forced to read about their heroes in the sports pages, they could watch them and importantly, emulate them. This desire to play the game like Arnie and Jack was the driving force behind the meteoric rise of the game during the 50s, 60s and 70s. Golf courses were springing up everywhere (though with quantity increasing quality did suffer). Golf had become a game for the masses.

This popularity was, of course, not universal but the game had become sufficiently entrenched in American culture that more and more golfers were becoming household names. Players from the states and around the world carried the game through the next few decades, laying the groundwork for the globalization of the game. Players such as Australian great Greg Norman, Spanish phenom Seve Ballesteros, Nick Faldo of the United Kingdom, and the incomparable American Tom Watson were winning championships in outstanding fashion and often with great regularity. Golf of the 70s, 80s and 90s was growing steadily with its epicenter being the United States PGA Tour. This expansion would soon become an explosion with the arrival of Eldrick “Tiger” Woods.

Not only was Tiger a player nonpareil but importantly for the game’s future he was both a minority and photogenic. His arrival on the scene opened doors for the game to expand to places on the map and in society that could not have been dreamed of only years earlier. While he was not the only player on tour doing amazing things with a golf ball, he was the most successful. His success drove the exposure of

Figure 8: Tiger Woods and Rory McIlroy on Chinese Billboard
the game through the roof. Now the game is not only played on every continent with turf; it is played by nearly every race or class of human on the planet. The game is very nearly a universal sport.

Along with the expansion of golf has come an explosion in the number of Golf Courses. Golf courses can now be found in locales unknown to the game’s early practitioners. Citizens of nations such as China, Bolivia, and Angola and many others can now call themselves golfers. While this fact can most certainly be attributed to the procession of events described above, there is an element not yet discussed that is at least as relevant to the success of golf on the world stage; the golf course and by extension Golf Course Architecture. A field unnecessary in golf’s early history, Golf Course Architecture is now vital to the continued enjoyment of the game around the world.
2.2 “Walking with Tom” - A Review of Golf Course Architecture

In spite of the fact that the game of golf is centuries old, the golf course architecture profession is really only now reaching maturity. While there is little doubt that artificial changes were made to golfing land before the advent of Golf Course Architecture, the profession’s first true practitioners emerged only in the middle part of the nineteenth century. Prior to Allan Robertson and his apprentice “Old” Tom Morris, golf was a small enough pastime that there was little need for the hand of an architect. Each course had a keeper of the green who would ensure that the course was in as good condition as he and his bestial assistants (rabbits and sheep primarily) could make it. Whenever small changes were necessary, usually due to wear from repeated play, the keeper of the greens would be charged with the task. However, his work was usually minor in nature, technology and cost demanded as much, and was guided more by necessity than strategy. An example of this is the transformation of four short holes from the as yet undesignated “Old Course” at St Andrews to two longer ones, during the eighteenth century. The primary effect of this change was the eventual standardization of a round of golf as being played over eighteen holes.6

The increase in popularity that welcomed the game to the mid nineteenth century also very quietly ushered in the age of the golf course architect. Allan Robertson, keeper of the green at St Andrews and the town’s all around go to guy for all things golf probably best represents the first of the breed. His work was necessitated by an increase in play and the uniquely (by today’s standards) narrow out and back routing of the St Andrews course which measured a scant 40 yards in width. A difficult width for one hole. A dangerous width for two. Over the middle decades of the nineteenth century Robertson and the club at St Andrews

Figure 9: Allan Robertson

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5 An in depth review of the Golf Course Architecture profession’s birth, growth and spread around the world would be too great an undertaking for a project such as this. As such I have chosen to follow the profession’s growth along a single line from Scotland to the United States. This in no way implies that vital contributions to the field have not been made elsewhere by architects not identified here only that those contributions are, for the most part, beyond the scope of this project. Too research this topic in greater depth please review such works as Geoffrey Cornish’s *The Architects of Golf.*
made a series of changes to the old course which would have profound affects on the game and the yet untitled profession.

The first minor step, which took place before Robertson’s tenure had begun, saw the cutting of two holes on each the course’s greens in 1832 which until that time had seen both out and back traffic played to the same hole location. This change made play safer for a while but would later be joined by much larger changes to the layout. During the late 1840s both the fairways and the greens at St Andrews were widened considerably. The result was magnificent. As Cornish points out, a player was no longer compelled to play over every hazard. A prudent player could opt to tack around hazards in such a way that he would perhaps lose strokes but remain safe from egregious errors.

Robertson and his assistants, Tom Morris among them, had inadvertently given birth to the concept of strategy on a golf course.

This idea of strategic golf course design would slowly wend its way across Scotland and eventually the rest of the British Isles. The earliest driver of this change was Tom Morris. Following a dispute with Robertson in 1851 over the use of the newly developed gutta percha golf ball (Robertson rightly saw the “guttie” as a strong competitor to the “Feathery” that was his livelihood) Morris found employment as the keeper of the greens at Prestwick on Scotland’s west coast. Here Morris finalized the club’s twelve hole layout which would soon host the first British Open. Morris would stay on at Prestwick until his return home to St Andrews in 1865.

Over the coming decades Morris, while maintaining his duties at St Andrews, would go on to layout a number of truly magnificent golf courses. Among these are Royal County Down and Lahinch across the Irish Sea; Westward Ho! In England; and Carnoustie and perhaps the most overshadowed

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golf course on the planet, The New Course at St Andrews, in Scotland. If these designs, and his four British Open victories had been the sum total of Old Tom’s contributions to the game of golf his place in its history would be secure. However, it was his influence on the second generation of golf architects that would make Old Tom golf’s undisputed patriarch.

While Tom and a few other designers grew to understand strategic golf design, the same could not be said for most of those who were charged with laying out the ever increasing number of courses demanded by the game’s growth. This period of the late nineteenth and very early twentieth centuries was dubbed the dark ages of golf course design by noted architect Tom Simpson. Numerous courses were laid out with geometric elements such as perfectly circular greens, rectangular bunkers and alarmingly unnatural mounds all of which were designed with no respect for the land on which they were sited. Even those courses which were less obviously artificial were less than interesting designs. Thankfully Old Tom would pass on his knowledge to a number of very talented apprentices, two of whom would go on to help usher in Golf Course Architecture’s Golden Age.

The Golden Age of Golf Course Architecture was born, not so much as a movement but rather as a confluence of greatness. As Architect Tom Doak put it: “… more outstanding golf architects were in practice during the period from 1900-1930 than in any period before or since, if not more than in the rest of history combined.” The men who practiced during this period created most of the greatest courses ever designed. Among these architects were two who were directly influenced by Tom Morris and would go on to be instrumental in the game’s American expansion, Charles Blair MacDonald and Donald Ross.

It was 1872 when a young sixteen year old Charles Blair “C. B.” MacDonald set out from Chicago to visit his grandfather in Scotland and to attend the University of Saint Andrews. MacDonald writes in the opening of Scotland’s Gift: Golf that he remembers his first impressions of golf on that trip, and they were not positive. “It seemed to me a form of tiddle-de-winks, stupid and silly…” is how MacDonald recalls his first thoughts on the game. Thankfully, he would grow to change his mind. During MacDonald’s stay in Scotland he would quickly become a very good golfer and a friend of both Old and Young Tom.
Morris. What the three spoke about MacDonald only hints at, but if his later passion for the game is any indication the Morrices and the other golfers of St Andrews successfully passed on their love of the game to the young American.\textsuperscript{14}

When MacDonald returned to the States he found the country as he'd left it, completely devoid of Scotland’s game. Over the next decade and a half MacDonald would become a successful stockbroker while playing very little golf aside from the odd trip to an empty field to hit toward sticks planted in the ground. During the last decade of the nineteenth century the game was starting to pick up steam in the states with a few rudimentary layouts opening up on the East coast. These included the first true golf club in America, the modest club with the not so modest name, St Andrews club of New York. With the game establishing itself ever so slowly in America MacDonald decided that it needed real golfing ground on which to be played.

MacDonald, who would later come to be known as the Father of American Golf Architecture, laid out the first 18 hole course in America, The Chicago Golf Club which he founded in 1893. From this point on golf was MacDonald’s life. He would be instrumental in the creation of the United States Golf Association (USGA) as the sport’s governing body in America. Among his many accomplishments within the USGA was to help guide the creation of the U.S. Open and the U.S. Amateur Championships. MacDonald would go on to win the inaugural U.S. Amateur in 1895. Over the next decade MacDonald would use his powerful personality and influence to keep the game on what he believed to be its true course, namely that the game remain as he remembered it to be at St Andrews.

This passion would eventually lead Macdonald to his greatest accomplishment. In 1909 MacDonald completed what was to be his masterpiece. The National Golf Links of America on Long Island is among the greatest courses ever designed, it is 18 holes of genius. Part of the genius behind the course is its stated

\textsuperscript{14} Scotland’s Gift: Golf, C.B. MacDonald p. 1 (1928)
purpose. MacDonald wanted to give the United States a taste of what golf was really like in its homeland. To this end MacDonald made several lengthy trips to Europe before work began and made extensive notes and drawings to gain as much insight as possible into great golf course design. What he came up with was that a few holes in Britain that were so nearly perfect as to warrant near copies at the National. Among these holes are the Road and Eden Holes from St Andrews (holes 7 & 13 respectively at the National), Royal St George’s Sahara (the second), The Alps from Prestwick (the third), and the National’s fourth hole, the world famous Redan which was closely modeled after the hole of the same name at North Berwick.

The National however, is more than just a copycat course; the holes outlined above blend seamlessly with the remaining original MacDonald holes to form a top notch golf course that truly has no let up. Over the years the course has been lengthened somewhat but it is still essentially the course MacDonald designed. As such it is more than a golf course it is his thesis on design, his attempt at the ideal golf course. The course very clearly states that MacDonald believed that golf should be a difficult but enjoyable game that could be enjoyed by every player from the worst member to the best professional, and that it should be interesting regardless of whether it is being played for the first time or the one thousand and first time.  

As MacDonald was busy researching, building and tweaking his masterpiece, another Morris protégé was just beginning to make his mark on the field and the game. Donald Ross was a young carpenter from the Scottish Highlands who was sent to apprentice under Old Tom at St Andrews in order to fill a void at the local course in Dornoch. Not much is known of his time at St Andrews but it is certain that the lessons he would learn as a club maker, greenskeeper and player during his two years away would serve him well as

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15 Scotland's Gift: Golf, C.B. MacDonald, p. 161 (1928)
he matured from a local club pro to become a founding member of the American Society of Golf Course Architects. As most great stories require, Ross needed to take a risk in order to fulfill his potential.

After spending a few years back home in Dornoch, young Ross would leave his comfortable life in Scotland for the chance of a lifetime in America. In 1898 he would scrape together every shilling he had to book passage to the States where he would be the professional at Oakley Country Club outside of Boston. His time there was brief but he did make the Oakley course his first design commission before being offered a position he could not turn down. The next year Ross was offered the professional’s job at Pinehurst Resort in North Carolina. It would be his home for the better part of the next half century.¹⁶

From his base at Pinehurst Ross would eventually come to oversee as many as 3,000 men working on what would end up totaling more than 400 course designs across America. Among his greatest designs are a pair of courses which are routine members of the “best course around” conversation. First among these is Oakland Hills, a private course outside of Detroit. Built in the early 1920s and host of nine professional major golf tournaments, the Ross design enjoys a reputation of being a monster. Having been dubbed exactly that by Ben Hogan after shooting a final round 67 to win the course’s third U.S. Open in 1951. Though the course has seen some major revisions over the years, including a major redesign by Robert Trent Jones right before the ’51 Open, the course still reflects certain Ross design concepts.

A second course from Ross’ portfolio that must be addressed in any discussion of his work is Seminole Golf Club in Juno Beach, Florida. Due to the club’s private nature and tight confines, the course has never hosted a major tournament; a fact that is both a blessing and a curse. The blessing lies in the fact that the course has seen few of the changes that invariably come with “improving” the course before a major tournament. The curse is that very few outside the club’s membership know anything at all about the wonderful layout.

The course was something of a pet project for Ross and it reflects many of his design ideas. Among the most strategically interesting of Ross’s design features at Seminole is the course’s propensity to punish approaches that miss the green long. Seminole demands that a player be able to land an approach

short and run it back to rear hole locations or at the very least have the restraint to aim for the middle of the green and take his par. The course is difficult but will reveal its secrets to those who take the time to look for them.\textsuperscript{17}

If Seminole was a pet project for Ross, Pinehurst was his mistress. Ross designed or remodeled four courses at the Pinehurst resort during his nearly fifty years there but the one that really stole his heart was the famed Number 2 course. Ross spent the better part of his life reshaping the course that would become his legacy. For most of the first four decades of its existence Pinehurst was forced to use oiled sand greens in place of turf due to the particularly harsh soil conditions of the site. When in 1935 the resort was able to completely replace the dull, flat sand greens with specialized bermudagrass greens Ross was able to transform the course into his true vision of golf.
“Bearing in mind that golf should be a pleasure and not a penance, it has always been my thought to present a test of the player’s game; the severity of the test to be in direct ration with his ability as a player. I carried out this thought in the changes made on Number Two.”

There are many ways Ross seeks to test every aspect of a golfer’s game at Pinehurst and nobody explains this better than Ross himself when he explains that a course should “…call for long and accurate tee shots, accurate iron play, precise handling of the short game and finally consistent putting. These abilities should be called for in a proportion that will not permit excellence in any one department of the game to largely offset deficiencies in another.” The course’s stature within the game’s hierarchy is proof enough that Ross achieved his goals.

There is a final theme of Pinehurst Number Two’s design which is particularly instructive to those studying Golf Course Architecture. This would be the way that the course deals with penalty. Ross explains that any good course and Pinehurst in particular should ensure “…penalties be provided to exact a toll from those who make mistakes and yet, those penalties should not be unduly severe nor of a nature that would prohibit a full recovery by the execution of an unusually well played shot.” It is in the way that Ross designs penalties that makes Pinehurst the great course that it is both to play and to study.

At around the same time that Ross was designing courses all across the country another Scotsman with a somewhat unusual background was staking a claim to Ross’ crown as best of the best. Dr. Alister Mackenzie while not approaching Ross’s design quantity is one of the few men who one could argue surpassed his design quality. The good doctor was a Scotsman raised in England who would follow in his father’s footsteps and become...
trained in medicine at Cambridge. His status as a physician would lead, rather circuitously, to some of his best golf course design ideas.

Figure 16: The sixth Hole at Royal Melbourne. Melbourne, Australia

Serving in the army as a surgeon during the Boer War, Mackenzie witnessed first hand the great advantages the outnumbered Boers took when facing their British opponents. Their knowledge of the land and more importantly (to later golfers) their uncanny knowledge of camouflage techniques would allow them to repel forces much larger than their own. Of more relevance to Mackenzie’s career path, these camouflage techniques would strike a cord within Mackenzie that would resonate first in his work consulting the army on camouflage methods during World War I and later in his unparalleled golf course design work.21

In the latter portion of the first decade of the 1900s Mackenzie was an active member of Alwoodley Golf Club in Leeds, UK and worked closely with noted golf course architect Harry Colt on the design there. He would go on to design the course at nearby Moortown. In 1914 Mackenzie would win a design contest sponsored by Country Life Magazine for a two shot hole (par 4) to be designed at Lido Golf Club in Long Island. The doctor’s design was chosen by a pair of judges that included C.B. MacDonald for its wonderful array of options. The Lido contest hinted at great things to come. However, before his new

hobby could turn into a career, war would intervene. After the dust had settled following the first world war it became obvious that Mackenzie’s passion was neither medicine nor camouflage, it was golf.

Following a successful partnership with Colt and Charles Alison, Mackenzie would set out on a world tour of sorts that would eventually land him permanently in America. The most famous stop on his world tour was his magnificent routing of Royal Melbourne in Australia. The West course as it would come to be known was a wonderful collaboration with Australian golfer Alex Russell, who would go on to design the club’s east course, among many other great routings down under. For Mackenzie his brief time in Australia was just a stop on his trip to greener pastures in California.

In the late 1920s Mackenzie found himself outside of Monterey, California looking at golf land that he would describe as “…unsurpassed, having awaited for centuries only to have the architect’s molding hand to sculpture a course without peer.”\(^{22}\) Mackenzie was here describing the portion of the Monterey coast that would become Cypress Point Golf Club. Brought in after the untimely passing of Seth Raynor Mackenzie would succeed wonderfully in his sculpture at Cypress Point.

At Cypress Point Mackenzie would design a course that would surpass nearly all others in beauty, strategy, routing and nearly every other criteria with which one can judge a golf course.\(^{23}\) The course wends its way from the open dunes of the Monterey Peninsula through the forest and back out again before finishing with a crescendo by the sea. The run of the fifteenth, sixteenth and seventeenth holes have had so much praise heaped upon them that the greatness of the rest of the holes is sometimes lost. This is understandable but unfortunate. Though Mackenzie did not spend the time here that MacDonald spent at the National or that Ross spent at Pinehurst it can safely be said that Cypress represents the Mackenzie legacy. It is a course worthy of study as Mackenzie’s thesis on design. The irony is that Cypress Point is only Mackenzie’s second most revered course.

In 1929 the U.S. Amateur Championship was staged at Pebble Beach Golf Links, just down the road from Cypress Point. Bobby Jones who won the tournament in 1928 and again in 1930 was eliminated in the first round. He would take advantage of this sad circumstance to visit the Cypress Point course that

\(^{22}\) Alister Mackenzie’s Cypress Point Club, Geoff Shackelford, p. 171 (2000)
\(^{23}\) The Anatomy of a Golf Course, Tom Doak p. 37 (1992)
he had heard so much about. The visit made such an impression on Jones that when he set out to build Augusta National he sought out the doctor to help him.

Due to its status as the Home of the Masters Golf Tournament no course in the world has hosted as many Golf Majors. For this reason it is perhaps the most well known course on the planet, a well deserved distinction. When Jones and Mackenzie set about designing Augusta they did so from a mutual understanding that all lessons in golf course architecture begin at St Andrews. This understanding is ever present (yet very subtle) at Augusta. Each hole at Augusta has a different character, thus living up to Mackenzie’s fifth principle of design. On that note it becomes obvious that the course lives up to nearly all of the design principles that Mackenzie laid out in his book *Golf Architecture.*

- The course, where possible, should be arranged in two loops of nine holes.
- There should be a large proportion of good two-shot holes, two or three drive and pitch holes and at least four one shot holes.
- There should be little walking between greens and tees, and the course should be arranged so that in the first instance there is always a slight walk forwards from the green to the next tee; then the holes are sufficiently elastic to be lengthened in the future if necessary.
- The greens and fairways should be sufficiently undulating, but there should be no hill climbing.
- Every hole should have a different character.
- There should be a minimum of blindness on approach shots.
- The course should have beautiful surroundings with all artificial features appearing natural so that a stranger is unable to distinguish them from nature itself.
- There should be a sufficient number of heroic carries from the tee, but with holes planned to provide alternate
routes for the weaker player who is content to lose a stroke or a portion of a stroke to avoid a hazard.

- An infinite variety in the strokes so that the use of every club is required.
- An absence of the need to look for lost balls.
- A course so interesting that both low and high handicappers are stimulated to improve their games by attempting shots they have hitherto been unable to play.
- A course arranged so that the high handicap player or even the beginner should enjoy his round regardless of his score.
- A course equally good over the entire playing season with the texture of greens, approaches and fairways perfect.  

Augusta National hits on nearly every one of these criteria. Sadly, there is one drawback to Augusta’s status as home of an annual major and that is that there are very few places where the course has been left unchanged from Mackenzie and Jones’s time. This fact is made more distressing because many of the changes, such as the relatively recent addition of a second cut of rough or the narrowing of many of the holes, were made in direct contradiction to Mackenzie’s thoughts laid out above. The opening of Augusta National and the holding of the first Masters Tournament (though it was then called the Augusta Invitational) in 1934 would occur a few months after the death of Alister Mackenzie and would mark the unofficial end to the Golden Age of Golf Course Design.

The Golden Age’s demise was made more abrupt by the onset of the Great Depression and the second World War. As America and the world emerged from the War in the 1950s there were few great golf course designers to take up the mantle left by MacDonald, Ross, Mackenzie and their contemporaries. Though in a way the game needed them more than ever. Such was the dearth of great design in the four decades following World War II that there is only one course from this period on Golf Magazine’s 2011 Top 50, Pete Dye’s Casa De Campo course in the Dominican Republic comes in at number 47. A debate could be had over the validity of such rankings but it is impossible to overlook the fact that the four decades preceding the war produced thirty courses (or major redesigns) that made the same list. There can be no doubt that a drop off in quality certainly accompanied the uptick in quantity of the modern era.

Architects such as Robert Trent Jones and his sons would make a name for themselves and even manage to design, or redesign, a few notable courses during the postwar period but they were largely unable to fill the shoes of their predecessors. To be fair, the fiscal challenges that faced Jones and others

24 Golf Architecture, Alister Mackenzie, 1920 (p.24)
25 Golf Digest 2011 Top 100 Courses
were great. Designs from this modern era were not, for the most part, for exclusive clubs that could offer the designer carte blanche but rather were aimed at the expanding middle class of the 1950s and 60s. The designers of this time were being asked to do more with less (less money, less time, and less suitable land); sometimes they succeeded, often they did not.

With all due respect to the Jones family, the one man who was able to make a serious charge at the Golden Age Pantheon of Architects was a young insurance salesman and amateur golfer from Ohio. Pete Dye, along with his wife Alice, were just breaking into the field when in 1963 they made a trip to Scotland to tour the great courses of golf’s homeland. Pete was struck by many of the more eccentric elements of the Scottish game such as the “...small greens, pot bunkers, undulating fairways and wooden bulkheads.”

Upon his return to the States, Dye and his growing family of golf course architects would begin incorporating these influences into their work. The chief criticism of Dye’s courses is that they are often contrived. While this may be a bit harsh, overall it is often fair. Dye however, like his golden age predecessors, never shied away from criticism, like them, probably seeing it as a mark of good design. As examples, one should look at two of Dye’s more controversial courses: Harbour Town Links and TPC Sawgrass, two courses that are criticized and loved in equal measure. Pete Dye can be said to be a bridge across the modern era between the design ideals of the Golden Age and the emerging minimalist designs of recent decades.

Before moving on to the exciting minimalist era of the present day, a word must be said about another effect the modern age had on design, the idea that harder is better. The advent of televised golf brought with it the desire to be like the course on TV. Architects were asked to design a “Championship Course” even when no championship would ever be in the cards for the course in question. The result of this trend often was long, difficult courses that were heavy on resource use and light on interest. The influences of renewed interest in Golden Age Design philosophies and push back against the “harder is

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26 Pete Dye’s Biography on the Company Website
“Walking with Tom” - A Review of Golf Course Architecture

better” train of thought led to the so called minimalist or neoclassical designs that would come about in the 1990s.

In Tom Doak’s *Minimalist Manifesto* he expounds on the importance of rule 13-1 in the rules of golf. The rule reads that “the ball must be played as it lies, except as otherwise provided in the rules.”²⁸ It is Doak’s view that the game has followed the letter of the rule by changing the lettering. The spirit of rule 13-1 or as the game’s early practitioners called it, the rule of golf, is that the game does not care about luck, good or bad; it cares about identifying the better player. Over the modern era of golf this ideal has changed to identifying the player who can best play within a vacuum. The highly manicured courses that represent the majority of courses designed in the twentieth century are essentially that, vacuums. They seek to remove any potential effect misfortune may have on a player. Fortunately, Doak and others are seeking to stem the tide of this line of thought and are instead advocating a return to the early ideals of golf and golf design. Essentially that the game should respond to the land, not the other way around.

In 1994, architects Bill Coore and Ben Crenshaw ushered in the era of minimalist design. When Coore and Crenshaw laid out the Sand Hills Golf Course in western Nebraska, they began a resurgence of design that closely echoed the ethos of the Golden Age a century before. The course is as much a links course as any of the great courses of Scotland, save for the missing sound of waves crashing nearby (the course is nearly 1,200 miles from the Pacific). At Sand Hills Coore and Crenshaw moved less earth, spent less money and made a much smaller impact on the land than even the average course, to say nothing of the high end courses in its price bracket, all while creating the greatest course of the last sixty years. Coore and Crenshaw’s course is as much a thesis on the zeitgeist of golf design as any course since perhaps St. Andrews.

Sand Hills may be the first, and perhaps best of the minimalist courses of the last two decades, but thankfully it is not the only one. The Bandon Dunes property on the Oregon Coast has several courses which would fit the category, most notably Tom Doak’s Pacific Dunes. Doak and his Renaissance Design Firm have laid out several other courses that epitomize...
Doak’s Manifesto on Minimalism. Among these are the beautiful courses at Cape Kidnappers in New Zealand, and Barnbougle Dunes along the Bass Strait in Tasmania. In addition to the mindset behind their design, the other characteristic shared by these courses is inaccessibility. None of them are what one would consider accessible, whether one’s definition of the word be financial or geographic (though the argument can be made that the great designs must find the great land). The primary criticism that can be levied against any of these designs is that for the common golfer they remain a fantasy round that can be played only at great expense. So while the minimalist design era has proven beyond doubt that great design is not dead, the question becomes can great, playable design also be accessible?

Figure 20: Cape Kidnappers, New Zealand. Designed by Tom Doak
3. **Fundamentals of Golf Course Design**

As this project has attempted to divine a set of fundamental guidelines for golf course design, frustration caused by a general lack of agreement amongst even the greatest of the profession has lurked at every turn. For instance, Donald Ross advocates long grass as an interesting hazard that can be placed “in patches through the fairway, where it will be of good service in stopping the run of topped balls.”\(^{29}\) Whereas Alister Mackenzie is very adamant to the contrary stating that “no hole can be considered perfect unless it can be played with a putter.”\(^{30}\) Where at first frustration was found when considering these contradictory points of view, eventually direction was revealed. In order to discover the truly fundamental elements of a well designed golf course it was obvious that first the base commonalities of the game should be determined and laid out. This did not take long.

There are very few standardizations within the rules of golf. The cup, or hole, must measure 4¼” in diameter and the ball can be no smaller than 1.68” and weigh no more than about an ounce and a half (1.62 ounces). Aside from these there are a couple of mundane and oft changed rules on club sizes or groove depth but the size of the ball and the size of the cup it is seeking to find the bottom of, are the only true consistencies across golf’s six continents. This leaves all of the other aspects of the game to local design. There is no depth or width requirement for greens, fairways, tees or hazards. There is no rule mandating that a course meet a certain par standard. No standard turf species or bunker sand particle size. There is not even a requirement on the number of holes that make up a regulation golf course.\(^{31}\)

After discovering that the rule book contains very few constraints on creativity the next step was to define exactly what the project sought to accomplish. The point was not the memorization and categorization of the work of the great architects. What good would that do anyway? No, an index of this famous hole and that remarkable course was a waste of time, the goal was a holistic knowledge of the thinking behind these great designs. In this way the task became at once easier and more difficult. It became easier because no longer was it necessary to rectify vastly different opinions held by long dead men. No, an understanding of the design process behind their work would be satisfactory.

\(^{29}\) **Golf has Never Failed Me**, Donald Ross p. 99 (1996)
\(^{31}\) **USGA Rule Book**
3.1 Scales of Design

In order to understand the motivations behind an Architect’s decisions, it is first mandatory that one define the scales at which the architect is working. In landscape architecture these can vary from a site a few feet across to one that measures hundreds of miles from end to end. Thankfully in Golf Course architecture scales are a bit more easily defined (and smaller). In fact, there are only three real scales of Golf Design they are the shot, the hole and the course.

The shot is an architect’s most basic building block. Defined simply, a shot, or stroke “is the forward movement of the club made with the intention of striking at and moving the ball…”  The shot is the game. A ball must be advanced from the teeing ground to the hole by way of a series of shots. It cannot be thrown, pushed or scooped it must be struck. The striking of the ball is the fundamental scale of design. How does one design a shot?

According to Ross a shot must be set up so that “…hazards and bunkers are placed to force a man to use judgment and to exercise mental control in making the correct shot.” Practically speaking what this means is that a shot, every shot, should be set up to make the golfer think. A player should be faced with both a variety of obstacles and a variety of potential solutions. This alone is not enough, however; if each obstacle is of similar magnitude and no solution is any better or worse than any other, then all that exists is the wasted opportunity of a choice amongst equals. In order to be truly great a shot must present not only a number of obstacles and solutions but actually a number of different obstacles and solutions.

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32 USGA Rule Book
33 Golf has Never Failed Me, Donald Ross p. 38 (1996)
A shot that accomplishes this will hold the interest of players no matter how often it is played and is thus a truly well designed fundamental element.

The second scale of Golf Course Design is the Hole. An interesting hole is not simply a collection of well designed shots, though that does help. An interesting hole takes maximum advantage of all available features of the landscape. A hole should be routed so that it provides the most interesting collection of shot choices for the widest variety of golfers. It should require as little work as possible to make it interesting and aesthetically pleasing. Though often a hole requires much work be done; in this case the land should be shaped such that “all artificial features should have so natural an appearance that a stranger is unable to distinguish them from nature itself.”

A well designed hole can be identified rather simply, if a player is shown at least a pair of fundamentally different options off the tee and these options in turn present the player with at least a pair of further options on through completion of the hole, the hole can probably be deemed interesting and thus well designed. Admittedly this is an oversimplification, but it does serve to highlight that much thought should be put into how a hole is to be played not just where it is to begin and end.

Finally, the largest scale of golf course design is the course. A collection of usually nine or eighteen holes that combine to shape the golfing experience. Just as a hole is not simply a collection of good shots, a well designed course is not guaranteed to come from a collection of well designed holes. While there are many factors that determine whether a course is great or not, the key element of a good course is variety. A string of eighteen holes that all call for the same shot would be interminably dull no matter how entertaining that shot may be. Variety is, however, but one component among many that combine to form a truly memorable and interesting course.

In addition to variety of a well designed holes, a course should have a flow; it should dance across the landscape in such a way that there are no jarring transitions or monotonous sequences of holes. A course should take full advantage of it surroundings. While aesthetics are not the point of golf course design, no one ever walked off a course after a round complaining that the course and scenery were too pleasing. Another element of good course design which often goes hand-in-hand with a course’s flow is

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sequencing. Proper sequencing will prevent a monotonous run of holes that are similar in length, difficulty or requirement.

Though there are no magic formulas for a good course layout, a few good rules of thumb do exist, even a few that the great architects can agree on. For example, both Ross and Mackenzie agree that whenever possible an eighteen hole course should consist of two loops of nine holes that allow for golfers to return to the clubhouse at the turn. These two men agreed on this point just strongly enough for both of them to break it on numerous occasions. Does that mean that the goal of a double looped routing is not valid? No. What it means is that a design should have goals but a good routing should never be sacrificed for the sake of a predetermined, arbitrary objective.

Before delving deeper into the more ethereal elements of design it is first necessary to examine one further aspect of design: The Golf Course Architect’s Toolbox.

3.2 The Architect’s Toolbox

Like all designers, Golf Course Designers have a toolbox from which to extract the proper tool for a given job. There are a variety of tools present within this toolbox, some essentially mandatory and others that are best used sparingly. As a designer begins work on a particular shot, hole or course he must bear in mind all of the tools at his disposal. Among the more or less mandatory tools that a designer must use are the following:

**The Teeing Ground**, a relatively flat area from which the ball is initially put into play.

**The Green**, to include a hole measuring 4¼” in diameter. At its most basic the green is “… all of the ground of the hole being played that is specially prepared for putting …”. What the green is in actuality is the primary feature of every hole in existence. It is the target. The point. As such its design is paramount; the green should ask all the questions the shots used to reach it are attempting to answer.

**The Fairway** is an area of closely mown turf that provides a path from the teeing ground to the green. It is important to note that there is no requirement in the rules of golf that a fairway exist at all
The Rough is an optional element that is basically turf that has been allowed to grow taller and thicker than on the primary line of play (though it can be a separate variety altogether). Rough is often used as a penalty for a wayward shot.

The last available tool is really a collection of tools that have been dubbed Hazards. The term hazards covers all manner of interesting course elements. The most frequently thought of hazards are bunkers, areas of sand that make advancing the ball difficult. Others include water, woods, heath, heather, and artificial elements such as roads, walls and buildings.

At this point it is necessary to dig a little deeper into the toolbox, because simply defining the available tools without highlighting their usefulness misses the point.
3.2.1 The Teeing Ground

In the early days of the game a hole was begun right near the finish of the preceding hole. A simple pinch of sand was used to elevate the ball above the ground. Over time however, this simple method proved untenable. The damage caused by driving clubs used in close proximity to the hole left putting surfaces much the worse for wear. Additionally, the effect on pace of play and safety, once the game's popularity took off, made the progression to a separate teeing ground a common sense move.

Tee boxes, as they came to be known, are now the starting point for every golf hole in existence. They allow a designer to shape the experience of a hole. They also play an important role in making the game both challenging and enjoyable for all players, regardless of skill, in that a hole may have as many as five or six separate teeing areas which may alter the length of a hole considerably, often by as much as 200 yards or more. Lengthening a hole is only one effect a tee box can have. It can also bring a far greater effect by adjusting the angle of play. Angle adjustment is perhaps an underutilized, but extremely powerful design purpose for tee boxes.

3.2.2 The Green or Putting Surface

If the tee box is the starting gate of a golf hole, then the green (or more specifically the hole) is the finish line. The putting surface has evolved over time from a clearing with a rabbit hole in the middle of it to perhaps the single most highly maintained area of turf in sports. Physically speaking the green is an area of turf that is closely mown so that a player may, using a putter, roll the golf ball some distance into the hole. This turf is usually mown to a height of less than a quarter of an inch. Strategically speaking, greens define the strategy of a hole. The green and the rest of the hole should work in concert. A green need not be extraordinary to be perfect, it simply must

Figure 23: The Tee Box at Cypress Point’s Second Hole

Figure 24: The Green at Cypress Point’s Seventeenth Hole
fit the hole for which it is designed. The green should influence, and eventually answer, all the questions the hole asks.

The green is the center of an area often termed the “green complex.” This area of the hole includes the green and the land out to about 30 yards or so. This surrounding area includes any of the undulations, bunkers, water or other hazards that serve to make the green strategically interesting. Greens can range from small (1400 ft² in the case of the 8th at Troon) to massive (nearly 40,000 ft² at the double 5th/13th at St. Andrews) while most greens in the US average around 7,000 ft². A well designed green complex should be molded to fit the landscape in such a way that its edges are not easily discernable. Also, a green should have a variety of pin positions which serve to make the hole play differently from one day to the next while at the same time protecting the turf from wear related injury.

3.2.3 The Fairway

The ground along the desired line of play connecting the teeing ground and the green has been dubbed the fairway. An area of closely mown turf which, if found, will allow a player the best possible lie from which to attack the green. The fairway as a design element should not be looked at as a limited access highway, but rather as a collection of country roads where everyone has their own “best way” of getting from point A to point B. The fairway may be narrow to encourage restraint, or deceptively wide to encourage bravado; in either case a well designed fairway should not reveal all of its secrets in the first play or even, perhaps the first dozen plays.

3.2.4 The Rough

Often the area bordering the fairway is made up of longer grass which serves as a minor (or often major) penalty for a wayward shot. In addition to shortening the distance of the offending shot, the rough also serves to penalize in other ways. A ball struck from the rough will lack the spin that a ball hit from the fairway will have, this lack of spin makes it more
difficult to hold the green. Another potential penalty of the rough is that distance control is very difficult, meaning that a player must play more conservatively in his approach. All in all the rough is a fair penalty and a decent design element, if used in moderation. Though Alister Mackenzie’s thoughts on the subject are made clear in his tenth element of the ideal golf course: “There should be a complete absence of the annoyance and irritation caused by the necessity of searching for lost balls.”

3.2.5 Hazards

In golf a hazard is any obstacle which must be avoided or negotiated in the process of reaching the hole. This definition is vague, and with good reason. Hazards may be large or small; animate or inanimate; solid or fluid; natural or artificial, in fact, there is no limit to what may be termed a hazard in golf. Below are a few of the more common examples.

3.2.5.1 Bunkers or sand traps

The most commonly thought of hazard, bunkers have evolved from sheep burrows to become today’s large swaths of often pristine sand. There are endless examples of what constitutes a bunker. At St Andrews there are pot bunkers in which a six foot tall man can disappear. At Cypress Point there are bunkers that seamlessly meld with the surrounding dunes. At Augusta the bunkers are so perfectly maintained that were it not for the surroundings it might seem comical. At lesser courses bunkers often come complete with weeds and rocks. Whatever the constitution, the point of all bunkers is the same, to cause a golfer to contemplate his strategy in order to avoid the penalty of finding himself in the sand. The penalty may vary by degrees from the nearly beneficial bunker that protects golfers on the 18th at Pebble Beach from the Pacific Ocean to the one, two or often three shot penalty that comes with finding the Road Hole Bunker at Saint Andrews.

3.2.5.2 Water

The most dramatic hazard has to be water. However, with its nearly automatic one stroke penalty, it is also often the least interesting. Why? Because the penalty is so severe and usually allows no chance for escape or recovery; water is very difficult to balance strategically. This does not mean that there is no place

36 Golf Architecture, Alister Mackenzie, 1920 (p. 24)
for a water hazard on a golf course. What it means is that in order to be an interesting hazard water must be well thought out.

The seventeenth at the Tournament Players Course at Sawgrass is a popular, if contrived, example of water as a dramatic hazard. Strategically however, its merits are dubious. A better example of a balanced water hazard is Rae’s Creek running in front of the thirteenth at Augusta. This is because the penalty of the hazard is balanced well with the opportunity for a short eagle putt. Additionally, the shallow nature of Rae’s Creek at this point allows at least the possibility of a heroic recovery shot. Water is a wonderful hazard if it is balanced well and used sparingly.

3.2.5.3 Woods, Heath, Dunes and Heather

The game evolved along the sea and as such has never fully warmed to the idea of playing through the woods. Having said that, a sizable portion of today’s golf courses run through forests or at least have significant amounts of trees guarding par from the reprehensible errant shot. Trees, and to a lesser extent shrubs, heath and heather, have an interesting love/hate relationship with golf course design. On the one hand, a course in a wooded area that has had all of its tree cover removed will, in all likelihood, appear unnatural at best and contrived at worst. On the other hand, a course hugged by trees tends to fall into the long out of favor penal school of golf course design. An errant shot, rather than encouraging decisions and creativity is simply cursed at and re-teed (with a couple of strokes added to the scorecard of course). Where is the fun in that? Much like water, trees and shrubs should be used enough to allow a course to fit in with its surroundings, but not so much that they absorb all of the fun from the round. It is worth mentioning that some of the penal nature of trees can be
mitigated if the understory along a hole is cleared (see Augusta National). This allows for the trees to act
on the strategy of the hole without destroying the creativity necessary to make the game enjoyable.

3.2.5.4 Artificial Hazards (Walls, roads, buildings, Out of Bounds etc.)

Though the game is often seen as a walk in the park, no
park is completely devoid of human impact. In golf these impacts
are found in the form of walls, roads, buildings, or any number of
other obstacles. Most of the time the attempt is made to mitigate
the effects these obstacles will have on a golfer’s round. However,
if used creatively and sparingly these objects can become hazards
that are second to none. The Hotel, wall and road at the appropriately named Road Hole at St. Andrews
are perfect examples. Rather than being a sore thumb on the wonderfully natural hand that is the Old
Course; the hole is a lovely ring, bringing memories and interest to a course already well stocked with both.

As for Out of Bounds (OB), a word of caution is necessary when discussing the little white sticks
that mark areas that are out of bounds along a golf hole. While completely valid and necessary somewhere
on just about every golf course in existence (usually due to property line issues), Out of Bounds areas
should, whenever possible, be placed such that a golfer is given a wide berth. The reason for this is that like
water the penalty is absolute. No amount of creativity or even luck will rescue a ball that been grasped in
the clutches of the OB. It has its place but it must, whenever possible, be properly balanced.

3.2.5.5 Topography

Though not, strictly speaking a hazard, the land itself often serves as such, especially on courses
that are not perfectly flat. Hills can be used to hide targets or deceive players, and hollows can conceal all
manner of trouble from the eye of the golfer. It is important to not however, that changes in topography
can, and often do, help the golfer as much as hurting him. A slope can make a long hole much shorter or
provide a better view of the target.

Now that the concrete scales and tools at an architect’s disposal have been discussed it is time to
move the discussion to the more abstract.
3.3 Tenets of Design

In nearly every design field, there are vague, one word themes that seem to exist only to baffle the uninitiated. In Golf Course Design these terms include fairness, strategy, balance, rhythm and scale among a few others. While these concepts may seem better suited to a metaphysical exploration workshop than a discussion such as this one, in actuality these abstract themes are the central tenets of design and their importance to the field warrants them concrete definitions.

3.3.1 Fairness

Figure 31: The bunkering at St Andrews’ Fifth Hole could be deemed by some as unfair. It is doubtful that Alister Mackenzie would have agreed.

Alister Mackenzie speaks of luck and fairness in The Spirit of St Andrews when he relays an account of a discussion he had with a player more talented than himself. The man asked if it was fair for two players to hit essentially perfect drives and to have one left with a difficult lie while the other was standing on flat ground with a perfect lie from which to attack the hole. Mackenzie answered quickly that in fact it was perfectly fair and that such minor anomalies in the golfing equation nearly always work out in favor of
the better player. This anecdote is relayed here to point out that Mackenzie’s definition of fairness cannot
be boiled down to the statement, a well struck shot deserves a result commensurate with its execution.\textsuperscript{37}
To Mackenzie fairness was about allowing each player, regardless of handicap, to play a hole in a way that
suited his game and his mental approach. This would in no way impede the game of the better player and
would challenge the lesser player to improve both the physical and mental aspects of his game.\textsuperscript{38}

A common complaint heard from players of all skill levels (though particularly better players) is that
a hazard, especially a bunker, is misplaced. The term misplaced here is used to say, “it is right where I want
to land my ball” or “it punishes a good shot when it should punish a poor one.” This complaint cuts to
the heart of the question of fairness and in this case the great architects are essentially unanimous in their
response:

“… no bunker is unfair wherever it is placed.”\textsuperscript{39} - John L. Low

“… no hole is a good one unless it has one or more hazards in a direct line to the
hole.”\textsuperscript{40} - Alister Mackenzie

“There is no such thing as a misplaced bunker. Regardless of where a bunker may be,
it is the business of the player to avoid it.”\textsuperscript{41} - Donald Ross

The list of rebuttals to players crying foul goes on but the point here is as much one of interest as it
is of fairness. While lining an open fairway with bunkers or other hazards might match the penal school’s
definition of fair, “If you don’t hit a bad shot it won’t be punished,” it could never be rightly argued to
produce an interesting hole. This penal school of thought has had its day and it is for the most part best left
in the dustbin of history. A hole with hazards within the line of play is not only fair, “the bunker is there,
you know its there, don't hit your ball into it,” but it makes for a far more interesting experience than a penal highway of turf lined with patches of sand.

It seems that, at least to history’s great designers, fairness as it is usually defined has no place among the central tenets of design. However, if its definition is adjusted slightly, then its place among the great abstract themes of design is secure. Therefore this project defines fairness as follows:

“A well designed golf course is inherently fair if it allows all players an equal opportunity to enjoy it regardless of skill, and it encourages all players to improve the physical and mental aspects of their game.”

3.3.2 Strategy

In order to understand strategy as it relates to golf course design it is necessary to provide a little background into the three so called schools of design from Golf Course Architecture’s history.42 The first school of design is the penal. Penal design was en vogue during the later decades of the nineteenth century and its effects could still be felt well into the twentieth. The idea behind the penal school is best stated by William Fownes, son of Henry Fownes, the designer of Oakmont Country Club in Pennsylvania, a course widely considered among the toughest on the planet. Fownes stated that “a shot poorly played should be a shot irrevocably lost.”43 The thinking here is that if a player wishes to avoid trouble on a penal course (or hole) they should simply hit a good shot. The success of Oakmont and the equally treacherous Pine Valley in New Jersey would seem to indicate that the thinking behind the penal school is valid, and in a way it is. However, as most designers of the penal school came to find out, punishing the weaker player...
is no way to ensure the success of a golf course. How interesting can it be to play continuously from the sand? In the end, Oakmont and Pine Valley are exceptions that prove the rule.

Before moving on to the second school of golf course design it is necessary to temper the above synopsis of the penal school slightly. It is true that the penal design philosophy is best left to the past; in small doses the penal way of thinking can and does add variety and interest to a variety of different courses. A perfect example of this is the twelfth hole at Augusta. The short par three, often named as among the best, if not the best in the world is a penal island on a course that belongs almost entirely to the strategic school of design. There is absolutely no choice when standing on the tee, there is no bailout area, no playing to the fairway and running a shot into the green. No, the choices are simple, hit the green or risk adding a large number to your scorecard. In the end this penal element makes for an especially memorable and interesting stop on the ride that is the Augusta National.

The second school of design, which was briefly touched on above, is the strategic school. Swarmed to after the demise of the penal way of thinking, the strategic school of thought has been the dominant, if oft ignored, design philosophy since the profession's Golden Age. Doak compares strategic design thinking to billiards when he states "the expert player seeks not only to make progress with each shot, but to position his ball so that his subsequent shots will easily follow." Essentially the goal of strategic design is to set up a hole such that a player must use his head as much as his hands to make a good score. The tenth at George Thomas’ Riviera Course in California is as strategic as it gets. A short par four measuring 315 yards from the back tees, this hole has so many strategic options that the tee shot is really harder on the head than it is on the hands. The green is designed to reward a shot taken from the lefthand side of the expansive fairway; however, the temptation to play the shortest line (and possibly drive the green) make the righthand side of the fairway a very delightful

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44 The Anatomy of a Golf Course, Tom Doak p. 66 (1992)
target for most. An eagle is possible with an aggressive (potentially ill-advised) shot, but so is a double bogey. A play to the left off the tee usually gives a chance at birdie and at worst a par. The strategy here is perfect.45

The final school of design is really no more than an offshoot of the strategic school. The Heroic School is only distinguished from its strategic relative by the presence of heroic carries over hazards to achieve the strategically beneficial result found on the strategic hole. The sixth hole at Royal Melbourne’s Composite course is a good example of heroic design even if it came into existence before the term. From the tee the fairway is wide and there appears to be plenty of room to avoid the collection of bunkers at the turn of the dogleg (about 250 yards off the tee). However, playing a safe tee shot leaves the player with a partially obscured, very difficult approach to an elevated green that slopes from back to front. If a player is able to muster the gumption to carry his ball over the bunkers at the corner he is rewarded with a much better view of a green that is set up to receive shots from this angle. The smart player who is capable of executing a difficult shot is justly rewarded. Many Heroic holes are not so subtle as Royal Melbourne’s, often they are large water hazards or waste areas. This is not always necessary when designing a heroic carry. In the end, subtle trials, born of the site’s natural features, are

45 The Anatomy of a Golf Course, Tom Doak p. 80 (1992)
nearly always preferable to monstrous elements which seem to advertise their presence unnecessarily.

Having briefly examined the two and a half schools of golf course design it is time to attempt to craft a definition for strategy in golf. First of all it must be said that strategy is present at all three scales of design, though it is most evident at the shot and hole levels. The examples above demonstrate the shot and hole level choices that strategic design presents; at the course level strategy comes from determining when to be aggressive and when to ease off the accelerator a bit. If a course provides a variety of different hole types which reward different shot shapes then a golfer is best advised to be aggressive when the hole provides the best chance of success for his game. The idea then, should be to vary the shots required and allow the player to determine when it is best to be aggressive. Ideally the holes would be routed so that as the pressure of the round mounts so do the options provided. This would truly test the mental aspect of a player’s game in the tensest of moments.

![Preferred Shot Routing at Cypress Point Golf Club](Cypress_Point_Golf_Club.png)

**Figure 36:** A routing diagram of Cypress Point Golf Club. The colours represent the differing preferred shots available to a player at different times throughout the round. This diagram also serves to highlight how intertwined strategy (choosing when to make a charge) and balance (calling for a wide variety of shots) are at the course scale.

Secondly, a strategic design should respond to the surroundings so that options may appear more or less appealing depending on the circumstances or conditions. A hole that always plays directly into the wind will not benefit strategically if the hazards that exist to question the golfer are so distant that they always elicit the same response. Also, a hole that provides the aggressive player great reward at great risk is best placed within the round such that the player must seriously weigh the temptation. Whether the reasoning be bravado, for example after a run of easy holes which has a player feeling good about his
game or desperation near the end of a round when the player is forced to take a chance to earn a victory, where the hole sits in a round is vital. Finally, a balance must be struck between the benefits, difficulty and penalty of a strategic shot. If the shot is out of balance a good player will not be tempted.

“Strategy is the presentation of balanced options a player may choose from when discovering the preferred level of aggressiveness to play a hole in a given set of circumstances. These options are best presented in such a way as to test the mental aspect of a player’s game as much as the physical.”

3.3.3 Balance

Through seemingly endless research it has become apparent that well designed golf shots, holes and courses all seem to share one very important characteristic, they seem to be balanced. Now, determining that balance exists and defining what it means to be balanced are two vastly different undertakings. Having said this, of all of the tenets listed above, balance turns out to be among the easiest to pin a definition on. Of course this comes with a caveat, the term has slightly different definitions depending on the scale at which the architect is working.

At the smallest scale a shot should present the player with a balanced set of options. If, for example, a player is presented with a potential carry off the tee on a Par 5, then in order for that shot to be considered well designed the options must balance. What does this mean? Is the reward for completing the carry equal in magnitude to the difficulty of the carry and the penalty for failure? To take this example to the extreme, picture a par five that works itself halfway around a circular water hazard that measures 400 yards across. Is there a reward for completing a carry straight across the water? Of course, who wouldn’t like to say that they have driven a par five. Is that reward in balance with the difficulty of the shot? Yes, the number of people who can pull off a 400 yard carry and the number of people who have successfully driven a par five are probably about equal. Does that mean that the shot is well designed? No, but at the very least this aspect of the shot is in balance. Now to further illustrate the point the diameter of the water hazard will shrink to 200 yards while par and design remain the same. Is this a
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well designed shot? No. Is it in balance? No. The benefits of successfully pulling off the shot far outweigh the magnitude of the shot. While this may be an extreme example it does illustrate the point rather well.

At a larger scale, a well balanced hole is somewhat like the branches of a tree. A tee shot should present several shot options which, in turn will present several more options and depending on the length of the hole this may carry on to the third, fourth or even fifth shots; branching out until there are any number of ways to successfully complete the hole. There may have been no better example of this concept than Alister Mackenzie’s award winning design in the 1914 Country Life Magazine hole design contest. The contest was held to offer suggestions for the par four eighteenth at C.B. MacDonald’s Lido Golf Course. The hole was built (with slight modifications) but has sadly been lost to the annals of time.

In the Lido concept there are no fewer than five potential lines of play that may be chosen from the various tees. Each of these routes presents at least a pair of further options. These options were available to the players across the skill continuum and they make the

Figure 37: Diagrams illustrating the differences in balance between a par five with a 400 yard carry and a par five with a 200 yard carry.

Figure 38: Alister Mackenzie’s First Place design for a par four at Lido Golf Course - 1914
hole both physically and mentally interesting and challenging for players. The other benefit of these options is that they are available should conditions change from day to day thus making the course play differently depending on the weather. It really is a shame that MacDonald’s implementation of a Mackenzie design is lost.

A definition of Balance at the course scale is tougher to pin down, but it is easily felt. Even a course that consists primarily of well balanced holes can seem out of whack if those holes all call for the same decisions to be made over and over again. A well balanced course should consist of holes that call for draws and fades, power and finesse, bravado and discretion all in equal measure. The routing at Cypress Point is a wonderful example of the idea (See Figure 36). At Cypress the fifth and sixth holes call for draws (right to left ball flight) while the first and eighth holes are best played from left to right (fade). The second and fourteenth can be overpowered, or just as easily won by the more discrete player while holes number eight, sixteen and seventeen manage to perfectly balance bravado and discretion. The combination of these requirements ensures that a winner at Cypress Point is a player who is in command of all of his shots as well as his mental approach to the game.

The golf course design definition of balance is much more concrete than at first it seemed:

“Balance exists where challenge, reward and penalty are all of equal magnitude, and play requires of a player all of the shots in his bag and all of the tenacity in his head.”

3.3.4 Rhythm

Rhythm is an integral part of any design project and golf is no exception; but what is it? Rhythm is most obviously defined in its musical context where it is described as “an ordered recurrent alternation of strong and weak elements in the flow of sound…” However, more appropriate definitions can be found further down the dictionary’s page. Rhythm is the “movement, fluctuation or variation marked by the regular recurrence or natural flow of related elements” or it is “the effect created by the elements in a
play, movie or novel that relate to the temporal development of the action.” Each of these definitions is surprisingly useful within the context of golf course design.

Unlike the other tenets of design, rhythm is found almost exclusively at the larger end of the scale continuum; over an entire course, or at least a collection of holes. Understanding that, it is best to start at the beginning. The first tee on a golf course is set against a backdrop of eternal optimism. From there anything is possible. A well designed course takes this feeling, nourishes it and builds on it. Like a play, or an opera, a round of golf has a warm up, a build up, a climax and a conclusion … if it is done right. It is important to note here that no course design can ensure good play, so the optimism of the first tee can be easily crushed by a few lousy shots. However, if designed in such a way as to use the land to create a beautiful, flowing experience a bad hole is easily forgotten (or at least pushed to the background) as the round builds toward its crescendo.

The analogy of golf and the theater is not without its limitations. While a playwright has what amounts to a blank canvas, a designer who responds to the land must take what is given to him. The desire to have a magnificent collection of holes late in the back nine must not outweigh the higher goal of good design (though the two ideas are certainly not mutually exclusive). Here the “flow of related elements” definition is most helpful. A course should wind its way across and over the land in such a way that there are no jarring changes of direction, unceasing runs of similar holes, or the ever so obvious hole that was made to fit for the sake of getting to eighteen. An examination of rhythmic golf makes clear the fact that a definition of rhythm in golf design must have two parts, the theatrical and the natural.

In search of examples of theatrically rhythmic golf courses, a pair of Mackenzie gems again jump to forefront (at least partially due to the author’s visits to the courses), Augusta National and Cypress Point. As the balance of Cypress Point was just examined, Augusta will serve as our guide to theatrical rhythm. Augusta National is without doubt among the most wonderful courses in the world and this is due in large part to the inescapable rhythm of a round there. The first few holes allow one to work the kinks out and perhaps, with good play on numbers two and three gain a few strokes on old man par. The course gets

46 It is important to note that simply changing directions is not a bad thing in and of itself; however, when such a change feels wrong it can really upset the rhythm of play.

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more difficult over the next half dozen holes, though each of the six holes leading into Amen Corner allow for a golfer to attack par if played well enough.

When golfers reach the lowest corner of the golf course, a place noted golf writer Herbert Warren Wind dubbed Amen Corner, the tempo of the round is taken up a notch or two. Over these three holes (11-13) a whole slew of strokes can be made or lost to par (or more importantly to the field), either earning or costing a player a shot at a green jacket. The excitement only grows as Amen Corner bleeds out into the middle holes of the back nine. Thirteen, Fifteen and Sixteen present the best opportunities for scoring on the entire course, with a difficult fourteenth mixed in to keep it interesting. The excitement at this climactic run of holes is almost too much to handle. In fact for many would be Masters Champions it is in fact too much to handle. The conclusion to the round (holes 17 and 18) seem almost anticlimactic in comparison, but their purpose is closer to genius than letdown. Seventeen and eighteen, both mid length par 4s call for a player to play relatively straightforward holes under the most extreme of competitive pressure. These holes call for a variety of shots that are fairly standard for a professional golfer, but can seem all but impossible on the second Sunday afternoon in April. The beauty of Augusta National is that all the emotions that apply to the professionals playing the course during Masters week also apply to those lucky few who get the opportunity to play there at other times of the year, because the rhythm of the place is unavoidable.
The theatrical rhythm of Augusta has few equals. The same can be said of the natural rhythm of St Andrews. The Old Course flows across the land in such a way as to make one think that it has always been there (in a manner of speaking this is true). When the course is walked it is as close as a course can come to being simply a walk through nature (with golf clubs). As these two courses are the two Grand ‘ole Dames of the Game it is only fitting that they epitomize the concept of Rhythm.

“A rhythmic golf course should appear to be a part of the landscape on which it sits and just as importantly the course should be routed so as to create an event that is as much theater as it is sport.”

3.3.5 Scale

The first mention of scale in this discussion centered on its hierarchical definition; now its relativistic meaning moves to the forefront. Like rhythm, scale is important to how a golf course feels. Unlike rhythm the concept of scale is a bit more tangible. If the course is small and intimate, then the hazards, greens and other elements should be as well. If however the course is expansive, its elements should also be or risk being swallowed up by the course. The usual example of a well scaled course is A.W. Tillinghast’s Bethpage Black Course located at Bethpage State Park in Long Island, New York. The course is challenging, massive and could rightly be called a beast; and its elements are built to match. However, as the author has as yet not had the privilege of visiting the course the discussion will return once again to MacKenzie’s Cypress Point.

In danger of being overshadowed by the grandest of natural elements, the Pacific Ocean, MacKenzie here made a decision with regard to scale that is at the same time obvious and genius. He chose not to compete with nature but rather to complement it. As obvious as this may seem there are a myriad of courses

\[\text{Figure 40: The Thirteenth Hole at Cypress Point responds well to the scalar challenges presented by its surroundings.}\]
that try and fail to outdo their surroundings and are much the worse for it. Cypress’ complementary design is best exemplified at the thirteenth. The gorgeous and relatively short par 4 is played directly toward the Pacific. Against such a backdrop the green was in danger of being lost in the scenery. In response to this concern Mackenzie surrounded the green with a collection of bunkers that were large enough to ensure that the green complex was the focal point but not so large as to be seen as competing with the Pacific. A battle sure to be lost.

Another example of Mackenzie’s mastery of scale comes a few holes earlier at the par 5 sixth. Here Mackenzie uses a trick of scale to make a short three shot hole seem much longer. Placing the small green against a dune and surrounding it with some of the smallest bunkers on the course Mackenzie is able to fool the player into thinking the hole is much longer than it is, a feat which makes the hole infinitely more interesting than it otherwise might have been. A proper understanding of scale will allow a design to seem at home on its site. A mastery of scale will make it a truly memorable experience.

“Proper scale in Golf Course Design can best be described as attempting to create an equation wherein the visual magnitude of the elements of design are equal to the magnitude of the site surrounding those elements.”
4. **Case Studies**

Case studies are vital tools for a design project. At their most basic, case studies provide a source of inspiration and idea generation. More than that though they are indispensable tools for the testing of methodology and research conclusions. For this project the following case studies will serve each of these purposes. These courses have been chosen for further study for a variety of reasons. Cypress Point was a natural choice, designed by Mackenzie and visited by the author, it is the best course by arguably the best architect.

The next two studies will be of courses which are more recent designs. Amherst’s Cherry Hill Golf Course was chosen due to the author’s knowledge of the course and its similarities in location, cost and size to the project course. Thirdly, Mackenzie disciple Tom Doak’s Pacific Dunes Course in Oregon seemed a wise choice due to its relevance to the term “State of the Art.” Opened in the mid nineties, Doak’s masterpiece is a poster child for the current minimalist school of design which proclaims many of the design tenets discussed in this project.

Whitensville Golf Club in Whitensville, Massachusetts takes the place as the final case study. An older course (designed by Donald Ross in 1925) the course is among the best nine hole tracts in the country and faces similar climate and age related stresses to Pine Grove Springs. These case studies represent a wonderful cross section of the current state of the game.

Note: For the purposes of these case studies the following driving distances and skill levels will be used to evaluate the playability and options presented to each of three level of player. Line A will represent a player who is usually able to drive the ball 250 yards with some measure of accuracy and plays to a scratch handicap. Line B uses a driving distance of 200 yards and a bogey player (roughly an eighteen handicap) and Line C calls for a roughly 150 yard drive and a double bogey (36) handicap. The distances are approximate and will vary depending on the terrain involved. An uphill hole will decrease the above distances while conversely a hole that plays downhill will increase it. In the interest of clarity each playing line will represent one possible route to the hole though other possibilities may be mentioned in the analysis. Finally, there are concentric arcs on the plans for each hole that represent distances, in fifty yard increments, from the center of the green.
Cypress Point

Designed by Alister Mackenzie in the late 1920s, Cypress Point is consistently ranked at or near the top of the golfing heap worldwide. That makes using Cypress Point a case study easy, what makes it hard is deciding where to begin. Oddly many begin near the end. Cypress Point’s fifteenth, sixteenth and seventeenth holes are probably the most beautiful and fundamentally sound holes in existence anywhere. The sixteenth and seventeenth can be found in any discussion of the best par threes and par fours, respectively, on the planet. The fame of this three hole stretch almost does a disservice to the remaining fifteen holes. The entire course is without let up (though some would argue that the eighteenth is a major disappointment) and as such it should be examined by anyone seeking to learn from Alister Mackenzie.

As a hole by hole examination of the course would be too time consuming, this evaluation will deal with a representative sample of the holes at Cypress Point. This review will look at the course through the lens of the five tenets and will focus on the balance, scalar and strategic aspects of the selected holes and the course’s overall rhythm and fairness. A lifetime could be dedicated to the nuances of Cypress Point, this case study will strive to hit the highlights in a few pages. In an attempt to cover a range of hole types the following holes will be examined before a final examination of the course as a whole. The aforementioned
sixteenth (par three) and seventeenth (par four) will be joined in examination by the fourth hole (par four) and the sixth hole (par five).

4.1.1 Number Four

The par four fourth hole plays 350 yards across fairly level land rising only a few feet from tee to green. Level in this case does not equate to flat. The undulations that dominate this hole are subtle but important. They are important at least as much for what they reveal as for what they hide. Each of the hazards along the fairway is presented to the player from the tee but if they are viewed from the green they all disappear from view. The fact that the player is aware of the hazards is as much a distraction as it is a benefit, however, as it tends to amplify their affects.

The play along the more difficult A line off the tee is directly over (or around) the large bunker on the left (though technology has brought the second set of bunkers more into play for this player. If this play is made, a straightforward wedge right down the line of the green is all that stands between the player and a birdie. However, the tee shot is, as Mackenzie intended, made to look more difficult than it really is.
The undulations that present the fairway bunker to the player also make the intended landing area seem very small when in fact it is much more forgiving than it appears.

For the more timid player playing along line B the hole plays in an almost opposite fashion. The tee shot along this line is rather easy, the fairway is wide and visible from the tee box. The resulting second shot from this line is much more difficult. A longer iron is required over the fairway bunkers 100 yards off the front edge of the green. To make the shot even more intimidating it must be played somewhat across

**Cypress Point #4**

*Figure 44: The Par Four Fourth at Cypress Point (plan)*

The undulations that present the fairway bunker to the player also make the intended landing area seem very small when in fact it is much more forgiving than it appears.
the line of play and therefore more likely brings into play the bunkers along the left side of the green or
the drop off along the right. It is worth noting here that Mackenzie challenges this lesser player to improve
his game by offering a reward for working the ball from right to left. If a shorter player is able to draw the
ball around the first bunker his line into the hole is greatly improved.

The beginning or elderly player for whom 150 yards is a good drive is offered an interesting but
accessible route to par. Playing along line C a player is able to layup short of the green leaving a very doable
fifty yard chip to attempt to get up and down for par. Like the player playing line B, the shorter hitting
player is challenged to improve his game while not penalizing him too strongly for the attempt. A slightly
more powerful drive off the tee will give even the weakest player a shot at the green and a smaller number
on the scorecard.

The fourth hole is a good example of a straight hole that enjoys a wide range of playable options. Its shots are well balanced, making sure that the benefits of a particular line of play are balanced with its
difficulty and penalty. It is also a beautiful example of Mackenzie’s use of scale to change the feel of a hole. If the hazards were constructed a little larger or smaller the perceptions from the hole would have been too
far out of whack with reality, thus making the hole less enjoyable upon repeated play. Finally, the hole is
certainly one on which players of different caliber can enjoy a spirited match.

4.1.2 Number Six

Unlike some holes at Cypress Point, the sixth requires a well placed tee shot regardless of how far a
player can drive the ball. The sixth plays up and over a small hill and down to a valley that runs in front
of the green, which is set against a steep dune. The hole is designed from the outset to mess with a player’s
eyes and mind. As a par five one would expect the longer hitter to be at the advantage, and he is, but if the
scratch playing hare is not careful the lesser tortoise can catch him.

The player playing along line A is offered the best set of options, a high fade around the first bunker
will offer a long second, but one with a level stance and a good view. A bit riskier option would be to play
a soft draw which would use the contours to run the ball down closer to the second bunker. From here
the approach is much shorter, though more difficult, because it is off of a hook lie and partially obscured. Mackenzie's skill with scaling his hazards is rarely put on better display than here. Though the shot from near the second bunker is just over 200 yards it appears to be much further due to the somewhat smaller bunkers around the green, the steep dune behind and the corridor beyond it.

For the player playing line B the hole is almost certainly a three-shooter if they find the fairway off the tee. In a bit of a reversal from previous holes the sixth fairway is actually somewhat tighter than it appears off the tee for the shorter hitter. If however, one manages to find the fairway the rest of the hole is fairly straightforward. An easy layup to a wide fairway leaves a short pitch to a flag that appears ripe for the taking. The sixth can play drastically different from one day to the next, especially for players who play bogey golf.\footnote{A bogey golfer is one who generally plays holes in one over their par. Thus they are roughly 18 handicappers (all things being equal).} On days when the hole plays down wind it can be too tempting to try to get home in
two leading to potential disaster; and if the hole is playing upwind it can appear to be endless, testing a player’s patience.

For the shortest of hitters this hole is quite the test. If the player manages to find the tight landing area left of the first bunker a difficult layup over the second one is the reward. From there the hole asks the player if he has enough to reach the green. The answer is that he probably does not (unless the wind is helping) but the lure of a birdie opportunity may be too much to overcome leading to a chance at four or a chance at seven in equal measure.

Though not Mackenzie’s greatest par five, the sixth is instructional for several reasons. First, its demonstration of the power of properly scaled hazards is perfect. Second, when thought of in concert with the preceding hole, also a par five, it is interesting in that it asks completely different questions of the
golfer. Finally, perhaps its most valuable lesson may be that a hole does not need to be a monster, fiercely protecting par to be both enjoyable and dangerous.

4.1.3 Number Sixteen

The sixteenth at Cypress Point might be the most famous hole that no one has ever played. Fiercely private, Cypress Point is extremely difficult to get on, yet everyone knows about the sixteenth. Dreamed up by either Seth Raynor or Alister Mackenzie, it was actually a woman, Marion Hollins, who is responsible for its existence. The story goes that one day Mackenzie was lamenting the fact that the carry was just too much to require of a golfer and that it was a waste of an ideal spot. His companion that day was the bombastic Ms. Hollins who was both the promoter of the course’s development and an accomplished

Figure 47: The Par Three Sixteenth at Cypress Point (image)
The bold line is all about gumption and skill. 200 yards of carry over the Pacific Ocean. While technology has made this shot a bit easier it is still among the most intimidating shots in golf. Technology has made this hole much more mentally difficult for the bogey golfer. A perfect shot means a chance at glory and a two on the card. Anything less means spending the rest of the day thinking "I should have played to the left and taken my four." This is a par four for anyone forced by lack of distance to play line C. An intimidating carry is followed by a well presented but still difficult pitch with little margin for error.

Figure 48: The Par Three Sixteenth at Cypress Point (plan)

golfer. She promptly teed up and laced a drive right onto the present day green. From that day forward the only argument about the hole is whether or not it is the greatest par three on the planet.

For the strongest players technology has made the decision off the tee a bit easier. What used to be a full driver in the best of conditions can now be accomplished with a long iron or hybrid. Nevertheless the hole is certainly not easy and beautifully balances the shot values as Mackenzie intened. The wind off the ocean can make the direct line carry impossible even for a the best players. If a player does manage to carry to and hold the green (and its all carry, there is a retaining wall just a few feet short of the green rejecting anything short) he is rewarded with a fairly good chance at birdie. In case one wants to ensure that they make the carry and clubs up they must first know that the same big numbers that await those who are not able to make the carry await those who are a bit too bold as well. As Jimmy Demerit once
said about holding the green “There is no relief. The only place you can drop the ball over your shoulder is in Honolulu.”

For the bogey player this hole plays as it was designed. If a player is playing well and the wind allows it, a go at the green is possible. If not, the easier, but by no means easy, route to the left awaits. Playing left is not a simple “whack and walk,” care must be taken about the placement of the layup. A careless shot may still find the water or at least hidden behind the cypress in the fairway. There can be no worse feeling than taking a five or worse when playing the safe route. If the tee shot is adequate a fairly easy run up the left side chute to the green offers the skilled chipper the chance to get up and down for par. At worst the smart player should walk to the seventeenth with a four and a smile on his face.

For the lesser player this hole is no less memorable but it is quite difficult. This player’s lack of length makes the short carry to the left side of the fairway very intimidating and from there it is as much as a full short iron into the green. If there is any wind blowing at all this hole can feel downright impossible. While this hole falls short of Mackenzie’s challenge to be played by a putter it does offer an unparalleled, but accomplishable challenge to golfers of every ilk.

The sixteenth joins the thirteenth at Augusta and the seventeenth at the Old Course in a class of golf holes known as half pars. The meaning here is that the par on the card is not as meaningful as the hole on the ground. The sixteenth essentially plays as a par three and a half, meaning that while a four is technically a bogey, it is a bogey very few would complain about. The genius here is not the surroundings, Mackenzie had nothing to do with them, it is seeing the possibilities to design a hole that would challenge every golfer who stepped onto the tee, regardless of their skill. This should be the goal of every designer, every time.

4.1.4 Number Seventeen

Nearly as famous as its neighbor to the north, and just as difficult, the seventeenth is a remarkable hole. The strategic balance is so perfect that even if the ocean were replaced by a large sand trap the hole would suffer only aesthetically. The tee shot is beautifully set up and the second shot depends greatly on

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the quality of the first. A shorter route along the ocean or a longer route inland neither is easy but each will reward the well struck (and well considered) shot.

For the scratch player, playing seventeen is almost more of a mental exercise than a physical one. The drive is more about placement than brute force. The player must consider his distance as well as his line. The pitfalls here are not all as obvious as the huge body of water that must be carried off the tee. Getting stuck in the no mans land behind the Monterey Pines in the middle of the fairway leaves a player with a pair of irritating options. Lay up from only 150 yards, or play a blind shot over fifty foot trees with the ocean beyond and to the right of the green. This is a thinking player’s hole.

For the bogey golfer, the hole plays nearly exactly as Mackenzie designed it and offers an interesting commentary on fairness on a golf course. Is it fair to have a collection of trees and bunkers right in the middle of the fairway? Mackenzie seems to have answered that question in the affirmative. Additionally, this hole definitely succeeds in Mackenzie’s goal of constantly challenging the golfer regardless of his skill.
A bogey player especially, is challenged to improve his game by attempting risky plays such as fades off the tee or short iron shots over the water in search of a lower number.

The seventeenth is a weaker player’s delight. It is very easy to envision a 30 handicapper stealing this hole in a match with a much better player. If the weaker player plays the C line and executes the testy but by no means impossible shots asked of him, a par is possible, and no worse than a bogey should be written.
on the card. Often his better opponent will be forced to write down a much bigger number when his mind fails to live up to his talent.

The seventeenth at Cypress Point is useful for examining each of the golf’s design tenets. The island of trees and sand in the fairway make Mackenzie’s fairness argument. Strategically the merits of the hole are beyond reproach. Each of the options presented to the player, regardless of skill level, is well balanced. Rhythmically the hole’s location on the ocean plays off its natural rhythm and its position in the round is ideal given the wide range of scores possible on the hole. Finally, scaling a hole along the ocean can be difficult but Mackenzie struck the perfect balance between competing with the ocean (impossible) and giving in to its power (easy to do) and created a wonderfully scaled hole.

4.1.5 Routing and Wrap up

The final part of the study of Cypress Point is to examine the rhythm and feel of the course as a whole. This boils down to an examination of the routing. Cypress Point’s routing is celebrated around the world for the way Mackenzie brings the course from the dunes into the forest back to the dunes and finally to the seaside all while rarely asking the golfer for the same shot twice. This routing is made even more fantastic by the way that it not only rides the rhythm of the land but it creates its own rhythm at the same time. Using all of its resources in ways that are often quirky (back to back par 5s and back to back par 3s in the same round) a round at Cypress builds to a crescendo by the sea where matches are settled on the best and most dramatic stage possible.

Cypress Point is very much a course to emulate. The balance and strategy found on the individual shots at holes here are second to none. Nearly every shot a player might face on the course offers a series of options which in turn offer a further series of options. There are very few, if any, straightforward decisions on this course. While the rhythm, balance, and strategy at Cypress Point are beyond rebuke it is on the scale and fairness tenets that the course really shines. The tricks of scale here are fantastic (and they have to be to fit with the scenery) and make play very interesting. The other facet that makes play interesting is
that the course fits this project’s definition of fair to a T. Every player who tees off on number one has the chance, if they play as intelligently as possible, to beat nearly any other player. This is a fair course.

While not every course has the scenery to match that which is found in Monterey, and not every course has the resources that are at the disposal of this ultra-exclusive club, the dictates that Mackenzie laid down here can and should be used in any way possible. What Mackenzie says here is that a course can and should be playable in a variety of ways by players at a variety of skill levels. Should this not be taken a step further and applied such that a course of similar strategic caliber can be played by a variety of players regardless of income level?

4.2 Cherry Hill Golf Course

The second case study looks at a design from a drastically different world of esteem, finances and strategy. Located only an hour south of Pine Grove Springs, Cherry Hill Golf Course in Amherst,

Figure 51: The Par Four Second Hole at Cherry Hill (image)
Massachusetts, while definitely the ugly duckling of this bunch is a useful examination because its length, budget and terrain are very similar to Pine Grove Springs. The nine hole course, owned by the town of Amherst, was designed in the late 1960s and very much reflects the designs of the time. The course is very open and straight, only the two par fives dogleg at all and the first of these only slightly. There are three par threes on the course, all of which play at least partially blind and are of similar length and shotmaking value. The greens are unimaginative in the extreme, only two (numbers two and seven) are anything more than closely mown circles of turf. The hazards are few and all collected around the greens, there are no fairway hazards on the course save for the lines of trees separating the holes. The tees, placed as they are, do little to enhance strategy, varying play only by length, and then only slightly. The primary strategic bright spot is the course’s openness. It is possible to play most of the holes from a wide variety of different angles.

Before this critique is viewed as an unfair and overly harsh criticism it must be emphasized that this is a municipal course and has a budget infinitely more restrictive than any of the courses mentioned previously. As such it would be ludicrous to expect it to play as a course with a much higher maintenance budget would. Its study is useful nonetheless because playability and interest (the product of the tenets) should not be qualities of a golf course restricted to only those with the ability to pay dearly for them.

4.2.1 Number Two

The second hole at Cherry Hill is easily the most strategically interesting one of the bunch. A short par four, not playing more than 300 yards from the tips, the hole is anything but a pushover. As is true with most good holes number two has the green to thank for its interest. The large, nearly circular, green has several characteristics its sister greens lack. First, there is the green’s general slope from right to left, nearly all of the other greens are dreadfully flat; and second, the fairway is wide open but has certain areas which are better to play from than others. From the tee the fairway looks extremely inviting and many stronger players will be forced to fight the temptation to pull out driver but for those who have played the hole a few times the better way forward is obvious.

The player playing from the back tees along line A finds his view of the green obscured by the large trees some eighty yards off the tee. Somewhat blocked by these trees from the ideal path to birdie, the better player is forced to draw the ball around the trees to attempt to find a patch of fairway along its left
side. From there the player is in the best position to pitch or run his second onto the sloping green. If the player finds the short grass on the left off the tee it is not guarantee of birdie, but it does make bogey unlikely. If, on the other hand, the player cannot resist the urge to have a go at the green, bogey or worse becomes a likely result. The forest surrounding the hole on three sides is filled with one shot penalties and

Figure 52: The Par Four Second hole at Cherry Hill (plan)
even if the player drives pin high but right he is forced to chip down the slope making it very unlikely that his birdie putt will be a short one.

For the bogey player the options are a bit more limited. While it is possible for this player to reach the green from the middle tees it is more likely that he will at best find the right hand bunker and be left with a downhill sand wedge, not a shot a bogey player relishes. No, this hole calls for much the same strategy as it does for the scratch player. Finding the fairway, preferably along its left side, is key to a good score. From the middle tee the line is not as obscured and thus a draw is not required, simply a well struck shot. It is often best to play a short iron of the tee to leave a full wedge or nine iron into the green. While this play may bruise the player’s ego a bit it will usually result in a better score; and isn’t that the point?

For the lesser player number two represents a real chance for a birdie. From the forward tees the hole plays similarly to the other lines of attack. A strong tee shot will leave a difficult but not impossible short iron into the green. It must be mentioned here that unless this player strikes a remarkably long tee shot he will find that the fairway in most places sets the ball above his feet. This positioning will usually cause the ball to fly from right to left, not the ideal ball flight for this hole. However, if the player strikes the ball well and is a bit fortunate a birdie may be in his cards.

It is unfortunate that the second comes where it does in the round. It sets the strategic bar too high for the other holes to reach and its balance of shot values would be made all the more interesting later in a competitive round. The hole is a success for a number of reasons. First, it is fair, it challenges a player to improve without asking too much of him, in other words it is interesting. Second, it balances its shot values well, better tee shots are rewarded with better chances of success. Finally, the hole is playable, it doesn’t unduly punish the poor tee shot (unless it is so poor that it finds the distant woods) and leaves a player the opportunity to recover from a mishit.

4.2.2 Number Three
The third hole will make for a very brief case study. There are few characteristics of merit to the hole, as it more or less serves only to progress the player up the hill to the fourth tee. Playing blindly up hill, the 165 yard par three is strategy free. The only task is to move the ball up the hill and find the nearly perfect circle of short grass. From there a couple of putts on the flat green and the hole is left pleasantly in the past.

The hole plays from a single tee box, thus the only difference between the players is which club is in their hand. A stronger player may play an eight iron while a weaker player may be forced to use a five wood. Regardless, the toughest mental challenge the hole presents is to find the top of the flag stick to aim at. If one were to run through the design tenets mentioned previously, the third would find itself lacking on every one. The hole may fit the penal definition of fair but it offers all advantage to the stronger player, thus making for a boring competition hole amongst players of varied skill. There is no strategy to speak of and as the hole is simply a hike up a hill there is very little to balance. The rhythm of the round that the
One final lesson that might be learned from the third hole is this: in order for a routing to be strong, all of its holes must contribute to its strength. This is not to imply that every hole must be the sixteenth at Cypress Point but rather that a routing, like a chain, is only as good as its weakest link. While the third at Cherry Hill could be improved with a variety of cosmetic changes, it is, at its heart a poorly sited hole and only a reroute would eliminate the problems associated with its design.

4.2.3 Number Seven

It is no surprise that the par five seventh is boasted of by the folks at Cherry Hill. It is far and away the most dramatic hole, both in the way that it plays and the scenery that surrounds it. The view of the Pioneer Valley from the tee box is gorgeous, especially if one is fortunate enough to play a round near sunset. If a player is able to focus on golf long enough to tee off he is welcomed to a somewhat narrow
looking but overall welcoming fairway target that runs steeply away from him. It is difficult for even the weakest player to not try to swing for the fences.

For the scratch player the play is a long, hard, draw around the corner. The odds are that only a perfect shot will leave the player with a shot at getting home in two. However, the repercussions for missing the fairway (as long as its not missed thirty yards left) are slight. A pitch to the bottom of the hill can be made from just about anywhere. From the base of the hill it is no more than a nine iron to a green that is very open and slopes from back to front. The seventh plays as a heroic hole for the stronger players because the lure of an eagle putt is often too strong to resist. For the stronger player this hole is balanced well and really allows the player to have some fun.

The bogey player will find this hole a bit less fun but no less challenging than his better competitor will. A long straight drive (a slight draw wouldn't hurt), followed by a mid iron that must be placed as close to the drop off by the water as possible will leave the bogey golfer a very fun 115 yard pitching wedge to a wide open green. In other words a decent chance at birdie. If the pin is on the left side of the green, stay

Figure 55: The Par Five Seventh Hole at Cherry Hill (image)
away. The front left side won't hold a golf ball dropped from a plane. The important message on this hole is to stay focused and play one's second shot layup as if he were playing for a flagstick.

The above accolades do not apply to this hole when played by a weaker player. The hole, while playing downhill is more of a slog than an enjoyable experience. A player with a shorter game is looking at at least 3 full shots to reach the bottom of the fairway and from there he is more likely to find the water than the green which is a full mid-to-long iron away. This is a hole where the balanced nature of the shot values doesn't apply across all skill levels. A sizable group of lesser players will simply pick up from the bottom of the hill and walk to the drop area rather than take a guaranteed lost ball. This is a failure of design, specifically it is a failure of balance and fairness. A balanced hole would provide an alternate route to the green, while a more fair hole would create a situation that would allow a shorter player the occasional opportunity for birdie, rather than the constant slog toward bogey or worse.

A hole must be designed for every player likely to play it. This hole fails to meet that challenge. This is not meant to imply that water carries are not useful in design, only that there is a difference between challenging a player to better his game and punishing him for not being physically capable of hitting a golf ball a certain distance. Aside from this issue the seventh has many things working in its favor. The scenery is distractingly beautiful. The hole allows a player to be aggressive late in a round which is useful in a competitive situation. Finally, the hole calls for a variety of shots from the better player. An improvement

Figure 56: The Par Five Seventh Hole at Cherry Hill (plan)
that might be made to make the hole more interesting would be to occasionally move the tees up fifty yards to tempt the average or better player to try a shot that is probably more than they should attempt.

4.2.4 Routing and Wrap Up

The routing at Cherry Hill deals with a difficult site. There are wetland areas at the bottom of the course and steep climbs on the way to the top. Having said that, rhythmically the layout misses the mark. First, there are three par threes. While not a disaster in its own right, the fact that each of them plays blindly and of similar length means that they are of very little interest in repeated play. Second, the middle stretch of holes (four, five and six) play nearly identically. Each is a dead straight par four and aside from the steep left to right slope of the sixth fairway, are near copies of each other. Finally, the course finishes with back to back par threes. Now, while a back-to-back par three finish can be accomplished, the holes must be exceedingly interesting, these are not.

Cherry Hill is something of a relic of the highway age of golf course design and, aside from the diamond in the rough second hole, has few strategic bright spots. What it does best as a case study is illustrate the shortcomings of lower budget courses. Very little thought was put into the balancing of shot values, this is especially apparent at the course’s signature seventh hole, which fails the test of fairness when examined from the point of view of the weaker player. The tenet of scale is difficult to examine at Cherry Hill as there was very little effort put forth to add strategic elements, much less to scale them properly. Instead the primary concerns are usually maintenance costs and returning play to the clubhouse at the turn. Maintenance costs are a vitally important concern for almost any golf course but the idea that a course cannot be affordably maintained and strategically interesting at the same time has persisted for far too long.
4.3 Pacific Dunes

The third case study will be of a more contemporary design. Pacific Dunes Golf Course at the Bandon Resort on the Oregon coast, is a brilliant course designed by Tom Doak and built in 2001. Ranked at number 19 on Golf Magazine’s 2011 List of the top 100 Courses in the World, the course sits right along the coastline about four hours south of Portland. Pacific Dunes has been winning accolades since its opening, and is hailed as one of the top two publicly accessible courses in the country along with Pebble Beach. That is lofty company.

Really that is of little surprise, Tom Doak and his Renaissance Design Group, are great students of the history of the game. Doak has written several books about Golf Course Architecture and his tome about Alister Mackenzie, The Life and Work of Dr. Alister Mackenzie, is extremely insightful and highlights the depth of Doak’s understanding of the fundamentals of first class golf course design. The land on which Pacific Dunes was constructed was of such quality that building a good golf course was a foregone conclusion. Doak and his team managed to build a magnificent golf course; but perhaps he says it best in his Architect’s Notes on the Pacific Dunes website.

*Every architect dreams of building among the sand dunes, in the same terrain where golf was conceived in the British Isles. For me and my associates, Pacific Dunes is that dream come true. I suspect that any golfer would have found some of the same holes, like the par-4 13th along the ocean, but it was an enormous responsibility to find the best possible routing on a site of such potential. The rippling fairways are mostly as we found them; so are the natural bunkers at the 2nd, 7th, 11th, 13th, 16th, and 18th holes, which guided our routing. Our layout is short enough to give every golfer hope, but its rugged*
nature will test every facet of your game. It was the highlight of our careers to participate in the creation of Pacific Dunes at what is rapidly becoming one of the great golf resorts in the world, and we had only one chance to get it right. We hope you have many more opportunities to play over this beautiful ground, and to come to appreciate it as we have.³

It was a difficult task, selecting a group of holes at Pacific Dunes to analyze, not for a dearth of choices but rather for the opposite reason. In the end, holes two, four, five and twelve were chosen due to their variety of design, length and par. Additionally, the holes share certain characteristics with the course at Pine Grove Springs.

4.3.1 Number Two

Located inland, at least by Pacific Dunes standards, the second hole plays in a northwesterly direction at a yardage of 368 yards from the back tees. The design highlight of the hole is a little bunker set right

Figure 58: The Par Four Second Hole at Pacific Dunes (image)

A. The center fairway bunker located 150 yards short of the hole is not really in play for the best players unless the wind isn’t cooperating. A draw over the aforementioned bunker will work with the slope to leave a wonderful look at the pin. The safer play off the tee is to the right but it leaves an obscured look at the green.

B. For the bogey player the center bunker is a wonderful dictator of strategy. It must be played around, or if the wind and player are both feeling right, over. A draw is the preferred play off the tee but above all the tee shot must find the fairway.

C. The short tees allow the weakest player the opportunity to steal a hole early in the round. A play directly over the central bunker will leave a beautiful look at the green.

Figure 60: The Par Four Second at Pacific Dunes (plan)

along the centerline of the hole, 215 yards off the tee. It is a small bunker but its effect on the play of the hole is immense, regardless of the tees played from, or the wind played in, the bunker must be thought
of before any shot is made. Doak obviously believes whole heartedly in Ross’s dictate about the fairness of bunker placement.

The longer player has an advantage at the second as the central bunker can be driven rather easily by the better players unless the wind is quite strong. For these players the best play is a long draw that uses the slope of the hole beyond the bunker to find the left side of the fairway. From there the look at the green is clear. It is necessary to be careful though, an overcooked draw can easily find the large bunker to the left or worse the dunes beyond. The green is rather forgiving if played from the proper angle as both the left and right sides funnel toward the center of the green. The stronger player should definitely take advantage of this short par four.

For the bogey player this hole is an interesting, and playable strategic adventure. There is plenty of fairway on all sides of the central bunker which occupies the fairway’s ideal landing area. Laying up short, while an option, makes the second unnecessarily long; while playing over the bunker has its risks as well, especially in any kind of wind. The play that best balances the risks of the shot is to the right of the bunker. If the player is confident enough he may even try a slight draw to attempt to overcome the righthand lines glaring downside, the fact that the green is not readily attackable from that side. As for the second shot, it basically boils down to this: the further left one’s tee shot ends up, the better the line on the second.

When the tees are played way up, the weakest player is given a pass on the central bunker. It instead serves as an aiming point over which to shoot. As long as the player has been able to find the exceedingly wide fairway the second shot allows him the chance to gain ground on his better competitors, especially if they have not managed to avoid the trouble off the tee. The second hole at Pacific Dunes allows the weakest players a taste of strategic thinking without asking too much of them.

The five design tenets are all readily seen at Pacific Dunes’ second hole. The hole is exceedingly fair, and made more so but the central bunker which also serves to highlight the skill with which Doak used scale to create a well designed hole. The central bunker is diminutive but due to the contours of the fairway it plays much larger than its size. Strategically, the hole provides a myriad of options and may call for any one of them depending on the conditions. These options, especially for the average-to-good players
are well balanced, rewarding good shots in full measure of their difficulty. Finally, the rhythmic/aesthetic success of the hole can be seen from the tee, from where it may be difficult to remember to tee off for all the aesthetic distractions the hole brings.

4.3.2 Number Four

![The Par Four Fourth Hole at Pacific Dunes (image)](image)

The synopsis of the fourth on Pacific Dunes' website begins with the not so humble description: “Playing along the Pacific Ocean, this is one of the greatest par-fours in the world.”

While it is difficult to confirm this claim, especially without a visit, it is tough to imagine that it doesn't at least belong in the conversation. The scenery rivals any hole in existence, even a few of the holes several hundred miles down

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the coast in Monterey. In order to live up to the surroundings, and Doak’s own lofty goals on playability, the hole must be more than a beautiful monster, it must be interesting.

At 463 yards from the back tees, this hole is a monster even with the prevailing winter winds at one’s back. With the ocean, beach and a fifty foot cliff along the entire right side the obvious safe play is to the left, but at what cost? Placed at a perfect distance of 270 yards off the back tees, a large Mackenzie-esque pair of bunkers sits along the left side of the fairway waiting to gobble up the overly cautious golf ball. The placement of these bunkers is ideal because of the competing urges the player is facing off the tee. The ideal line calls for a ball down the right and long, however the ocean pushes that line left and the bunker makes the player decide whether long is really worth it. Even if the strong player plays a perfect first, the second, a long iron into the cliffside green, is no picnic.

The tees here are placed perfectly to ensure that the questions asked of the best players are also asked of the average ones. Bogey players, playing the hole at a still lengthy 410 yards, are given a generous option to lay up short of the large bunkers on the left. This play however, leaves a very difficult second and may or may not force an ego bruising but wise lay up to stave off a large number. For this player the approach area to the green is at least as important to the second shot as the first set of bunkers is to the first. About fifty yards shy of the green the fairway narrows meaning that a run up shot, while still probably the correct play, calls for a high degree of accuracy.

The shortest player is all but forced to play this hole as a par five, with a first shot short of the left side bunkers, a layup to the wide fairway short of the second pair of bunkers and a chip from there. This may not be the most exciting route home, but it does have the advantage of potentially allowing the weaker player to sneak up on the stronger members of his party. If the hole is played as a par five most of the trouble is easily avoided, as is the potential for a large number. The same cannot be said for the braver shots mentioned above.

The fourth has a lot to live up to with its location and its description. In the end though it lives up to the hype and more. It is a magnificently beautiful hole that is also a highlight of a player’s round whether he is a scratch player or a 35 handicapper. While the ocean, beach and cliff steal the show the real driver of
Figure 62: The Par Four Second at Pacific Dunes (plan)

this hole is once again a bunker. The complex along the left side of the landing asks most of the questions here; the ocean acts as more of a beautiful distraction.
4.3.3 Number Five

Following the magnificent fourth hole, and turning away from the ocean, there is the possibility of a letdown on the fifth. Doak avoids this completely by designing a really fun par three that plays to Mackenzie’s edict that a shot should usually appear harder than it really is. At nearly 200 yards the fifth is no pushover, but if one knows how to play it and, as is often the case, has the wind at his back a birdie is not out of the question. In addition to the fickle nature of the elements and their impact on the fifth, Doak used a pair of tee angles to ensure that the hole retains interest from one day to the next.

For the strongest players the visual intimidation of the hole is of less concern than the fact that it sports a massive green and unless one is adept at making ninety foot birdie putts, a tee shot must find the proper area of the green if a good score is to be attained. The front half of the green is relatively forgiving, especially for a scratch player who, with proper wind, might have a 7 iron in his hand to attack the pin. The play is to the left front and allow the terrain to bring the ball back toward the flagstick. However if the flag is in the back, the hole plays with much more difficulty. This is especially true if the tees are placed
No matter the caliber of player the longish par 3 fifth is a challenge. The wind is usually helping so club down. But just getting on the green isn’t enough here. The two tiers, not to mention the large size, make a two putt no guarantee.

Figure 64: The Par Three Fifth Hole at Pacific Dunes (plan)

in the northwest most portion of the teeing area. This calls for a high, soft fade to get the ball on the back portion of the green and between the pair of bunkers that pinch the center of the hourglass. During times when the wind is from the southwest, par is an excellent score for any player.

The bogey player may find the fifth is somewhat more reminiscent of Robert Trent Jones than Alister Mackenzie. This is by no means based on the appearance of the hole which is very Mackenzie-esque, but rather on how it plays. It is very much a hard par but an easy bogey. The large green is tough to miss completely and even if this is managed the green’s size allows all manner of recovery shot to be attempted.
From the tee the hole has a very intimidating feel but if the bogey player relaxes and plays a comfortable shot he should walk off the green with no worse than a four.

The weaker player will likely see nothing but sand standing on the tee box. As bunker play is often the weakest part of a lesser player’s game its mere presence can be intimidating to the point of distraction. The bunkering at number five is wonderfully natural in appearance and scale which will do little to assuage the feelings of doubt that manifest in a weak player’s mind here. The genius of the bunker’s design is not so much in the bunkers themselves but rather in how much room on the green is given to allow for a “miraculous” escape from them. A player who finds himself in the sand is very capable of escaping onto the green and making no worse than a five. Not great but hardly a round killer. The hole, even when one finds trouble, is not necessarily so difficult as it might seem.

The design tenet put to best use at Pacific Dunes’ fifth hole is probably scale. The massive scale of the green acts as something of an equalizer; at the same time making the hole more difficult for the better player and less so for the weaker player. Additionally, Doak’s use of scale in hazard creation is top notch. The bunkers, edged with native grasses, blend beautifully with the dunes against which they are set. The fifth hole, while not as renowned as the course’s Redan inspired seventeenth, is a wonderfully designed par three.

4.3.4 Number Twelve

Deciding on a par five to examine at Pacific Dunes was a bit tricky. In the end the twelfth was chosen for a variety of reasons. First, it plays much more difficult than its yardage of 529 yards from the tips might indicate. Second, the twelfth uses a central bunker, much like the one found at the second to dictate strategy, it is useful to study its success on a longer hole. Finally, the hole bears at least a passing strategic resemblance to both of the par fives at Pine Grove Springs. As the point of the project is the application of lessons learned to Pine Grove’s layout, number twelve seemed like the prudent choice.

For the scratch player, or any player for that matter, the drive is probably the easiest shot one will take at number twelve. The fairway is wide open and somewhat difficult to miss. The play is to aim at the unreachable center bunker and hit it as far as possible. At this point decisions get more difficult. If
the wind is coming in from the north it is more than prudent to double check the yardage to the central bunker. On a windy day it may be difficult for all but the longest players to clear, especially if the fairway was missed off the tee. It is possible to tack right or left of the bunker if need be, and of this pair of options right is the more preferred route. From the right hand side of the fairway the player has a clear view of a relatively flat green, and the wind which has hindered the player for several hundred yards should now aid him in softly landing a mid iron within range of the flagstick.

The bogey player faces a few more obstacles on his route to par. The set of bunkers that so wonderfully impact the fourth hole’s strategy come into play on twelve as well. A wayward tee shot that sails left may find one of these traps and make the hole all the more difficult. There is plenty of room in the fairway and the miss is definitely to the right, so finding the traps on the left is nigh inexcusable. The central bunker which may impact the second shot of scratch players will impact the second shot of their slightly less skilled comrades. It can be carried but the more prudent play is to take to one side or the other. A player
wishing to have the best of both worlds may attempt a slight draw around the right side of the bunker and, if successful, leave himself a mid-to-short iron iron into the green.

The weakest member of a group will no doubt find this hole a slog on the windiest of days. Though if this player has good control of his shots a par is not out of the question in even blustery weather. The hole is set up so that the shorter player may play a line along the left side before ending up near the green on the right side of the fairway. From there a well struck chip can yield a par which is a score to be proud of indeed.

The twelfth is not simply a par five version of its neighbor to the west, number four. It is an interesting hole with well balanced shot values and the wide fairway offers a variety of routes to the hole. This is especially useful when play is into the wind, as it often is. The most telling feature is, like the second, the central bunker that plays a starring role in the rhythm of the twelfth. Doak’s twelfth shows that a bunker is fair even if it is placed centerline on the fairway. The difficulty for the architect, is determining the distance from the tee to place said bunker in order to affect the strategy for the most players while still allowing the hole to be playable by all.

4.3.5 Routing and Wrap Up

As Doak implies in his architect’s notes on Pacific Dunes, finding a few good holes on the course property was a simple task. The
genius was finding eighteen good to great holes that played together in such a way that one could almost feel and hear the rhythm. Perhaps the most significant lesson in routing that can be learned from Doak's work here is how to make the most out of what the land gives the designer. In this case the primary dunes on the site, the area with the best golfing land, are at the north and south ends. Doak is able to fit twelve holes on the south end of the course, two further holes at the northwest corner and he uses three par fives and the long par four fourth to traverse the small valley in between.

The most amazing thing about this routing isn't how Doak managed to make the most of the best parts of the site. It is that he made the connecting holes interesting and playable. Very few (if any) properties are blessed with an unbroken flow of features that are ideal for building a golf course on. Often a designer must make the most of the good areas of a property and then connect the dots across the lesser terrain. The problem is that this connecting of the dots nearly invariably leads to a collection of holes that are at best not set to standard or at worst are nearly unplayable. That is not the case at Pacific Dunes.

The instructive elements at Pacific Dunes do not end with the routing. Like his idol, Doak paid close attention to balance and strategy and this attention is evident at nearly every hole, though perhaps nowhere more than the little par four second. Like Mackenzie's Cypress Point, all the attention in the world would be wasted if Doak hadn't successfully scaled the course's elements to the beautiful surroundings. As for the last tenet, the course is a nearly textbook example of Mackenzie's idea of fair.
4.5 Whitinsville Golf Club

Having examined a couple of masterpieces on the west coast it seems only fair to find an east coast design of equal weight. Though not the most famous course in Massachusetts, Whitinsville Golf Club outside of Worcester, is a course on par with even the historic and nearby Country Club in Brookline. A Donald Ross designed nine hole, Whitinsville is a valuable case study due to its similarities with Pine Grove Springs in age, length and geography, if not stature.

Opened in 1925, Whitinsville is a shortish (by today’s standards) rout playing to about 3150 yards from the tips. The lack of length masks somewhat the challenges the course presents. With a lone par five and a pair of short par threes the remaining holes are much longer than might otherwise be expected. Additionally, Whitinsville demonstrates beautifully the notion that a course need not be long to be both challenging and difficult. What this course might do better than anything else is demonstrate that the

Figure 67: The Par Five First Hole at Whitinsville (image)
proper use of even subtle terrain features can yield a wonderfully interesting and strategically challenging round of golf.

4.5.1 Number One

The first hole presents both an opportunity and a challenge right out of the gate. The wide open fairway permits a golfer to ease into his round with a fairly easy tee shot. The challenge part of the equation lies in the fact that the first represents Whitinsville’s only par five. Par fives are often seen as birdie holes and a place where a par is seen as something of a letdown. It is important that a golfer teeing off on the first be cognizant of both the state of his game and his plan of attack or else an unwise attempt to secure a birdie will yield a seemingly disastrous bogey instead.

The stronger player will usually attempt a more aggressive drive out to where the fairway narrows slightly. Missing the fairway off the tee, while not disastrous due to Whitinsville’s lush but fair rough, ensures that a lay up shot will follow. Eagle is put out of reach but a couple of well placed iron shots will yield a birdie opportunity. If the drive does find the fairway a brilliantly struck, and long, fairway wood could find the elevated green and a makeable eagle opportunity.

The average player will appreciate the wide fairway that greets his tee shot at the first. Even a longer drive by the average player is still unlikely to leave a chance to reach the green in two but the generous fairway allows a player to get his round
off on the right foot. The layup presents a few options that make a player choose between a shorter approach into the green or one with a better view of the putting surface. Laying up to around the 150 yard marker leaves a longer third shot but a wonderful view of the target; whereas a more aggressive layup to 130 yards will likely take the slope down to inside the 100 yard marker, a shorter shot to be sure but one with little view of the green aside from the top of the flag.

For the shorter hitter the first is a chance to gain an early advantage on his better playing partners. The landing area for shorter hitters is generous on both the first and second shots. Additionally, the run up to the green is particularly inviting to the longer clubs a short hitter is likely to be hitting on his third shot. The shorter hitter must play a straight game to compete with a longer, better player but if he does the first, like most of the holes at Whitinsville, will give him a chance to write down the lower number.

It is important to remember that as Whitinsville is a nine hole track, the first is also the tenth hole and as such the strategic implications of decision making can vary drastically from one play to the next. A player who has played a good front nine will feel the pressure to continue his good play, while the one who has suffered a less than impressive front nine will perhaps be overly aggressive on the tenth in search of an eagle and the redemption it brings. The first/tenth is a wonderful par five and is particularly instructive on two fronts. First, a wide open fairway is no guarantee of an easy hole; angles and slopes will make a wide fairway seem paradoxically tight. Secondly, the layup choices a player faces between sight and distance are wonderfully useful. The first/tenth hole at Whitinsville is a brilliantly subtle opening hole at this Donald Ross gem.

4.5.2 Number Seven

Often tight parcels yield par threes that are crowded in the middle of a number of holes; and often the results of such routings reflect the fact that they were placed as they were for convenience sake rather than because the land was ideal for the hole. A quick glance at the routing at Whitinsville would lead a player to think that the seventh is just such a filler hole in the round. Fortunately while the hole is squeezed on all sides by the first, fifth, sixth, eighth and ninth holes the design is beautiful and the medium length par three is anything but dull. Playing over a deep gorge of turf with a back to front green complete with a
Steep false front, the seventh is a treacherous hole which will yield birdies reluctantly and dole out bogeys with impunity. A three on this hole is a well earned par.

Temptation is at the forefront of any attempt to challenge a stronger player. This is obvious from the seventh tee. A wise player would play for the center of the generous green and take a couple of putts for a well earned par and move on. However, the green is very wide open from the tee and the temptation to attack a pin no matter its location may be too much to overcome. A front hole location is particularly difficult to resist (and particularly dangerous) due to the visual openness of the green as seen from the tee. A player who plays for such a pin must be prepared with a good knowledge of his distances. A shot that is just a few feet short can, and usually will, roll thirty or more yards back into the gully at the bottom of the fairway. From here bogey is a great score.

The seventh is probably most difficult for the player of average skill. Average players tend to have the most problems with distance control. While the large green is inviting it is very likely that a misclubbed
shot will either find the bottom of the aforementioned gully or perhaps worse the back rough or bunkers. The strategy here must be one of caution. An average player should play within his game (advice that is always well founded if infrequently followed) and play to the center of the green regardless of the position of the flag. With this strategy, an errant shot left or right, or long or short is still likely to yield a playable second shot and a chance to ensure a score of no worse than four. The temptation that taunts the stronger player on this hole can be particularly difficult to resist for his opponent of average skill. The seventh demonstrates beautifully that a strategically interesting hole is not always about the attack.

For the lesser player the seventh is a beautiful opportunity to steal a hole from his competitors. The openness of the approach and the depth of the green are particularly inviting to older and shorter players who will likely be playing long irons or hybrids into this green. The resulting low trajectory shot off of these clubs can, if well struck, run up the slope at the green’s approach and find the putting surface safely. Having said that, the trouble that awaits the offline shot is particularly daunting to the weaker player. Bunker play and deft wedge play are often not at the top of a weaker player’s list of strengths. The weaker player should view this hole as an opportunity to show off his accuracy rather than his muscle, and perhaps he can have a chuckle as he writes down his three while walking to the next tee.

When designing Whitinsville in the 1920’s Donald Ross demonstrated his mastery of his craft in a number of ways. Some, like the wonderfully designed gem that is number nine

Figure 70: The Par Three Seventh at Whitinsville (plan)
(to be covered next) are obvious, others like the diminutive seventh are more subtle. The strategy and balance that Mr. Ross found in the middle the Whitinsville parcel are just as much an example of Ross’ talent as can be found anywhere. The natural features that are utilized on this hole succeed in yielding a hole that is fair to all players regardless of skill level and strategically interesting enough to stand up to repeated play no matter how often a player is fortunate enough to tee it up on the seventh.

4.5.3 Number Nine

Often determining the high spot of a design is a difficult task. A course as well routed as Whitinsville often makes this job all the more difficult, but sometimes a hole is just so well designed that it can leave no doubt in the minds of those who get the chance to play it. Such is the case at Whitinsville’s par four, 442 yard ninth. The ninth faces the unenviable challenge of living up to its earlier brethren, not only does it succeed beautifully, it may even outshine the rest of the course in its entirety. Often listed among the best holes Ross (or anyone else for that matter) ever designed the ninth has it all. It is wonderfully scaled, emi-

Figure 71: The Par Four Ninth Hole at Whitinsville, viewed from the back tees (image)
nently fair, strategically interesting, finely balanced and provides the rhythmic climax this course deserves. The ninth is simply an amazing golf hole.

What makes the ninth amazing varies depending upon the skill of the golfer playing it. For the stronger player the decisions are both obvious and subtle. Regardless of the level of aggressiveness the tee shot must carry a wetland pond however, the question is how much does the golfer want to bite off. A relatively straightforward 250 yard drive of which about 140 yards is carry will leave the golfer with a wonderful look at the green from atop the large ridge which divides the fairway. The only problem from here is that the player is left with at least 170 yards to a green which is much more receptive to short irons than long. The second option calls for a monstrous drive of nearly 300 yards (nearly all of which is carry) if the brave (foolhardy?) shot is successful all that is left is a wedge into the green and a very good chance at birdie. If that were all there was to it the ninth would be a very good hole but not a great one. What makes it great is that the two landing areas while offering different distance advantages also offer different and opposite viewing advantages. While the view from the top of the ridge is nearly perfect, the view from the

Figure 72: The Par Four Ninth Hole at Whitinsville, viewed from the fairway (image)
more aggressive landing area is much less so. A shot from between 80 and 140 yards leaves very little view of the putting surface making any attempt at getting close all the more difficult. It is these two competing options which make the ninth a hearty finishing hole for even the best of golfers.

If the strong player is challenged to his limits what chance does an average player stand? In this case a decent one. The middle tees offer roughly the same options the stronger player faces without the drastic penalty of a water hazard. This is not completely accurate, the water hazard is still in play along the right side of the fairway but the carry is a more pedestrian 75 yards regardless of the line of attack. A conservative drive of about 225 yards will leave a long iron or fairway wood into the green with the same viewing advantages enjoyed by the conservative, stronger golfer. For the more adventurous, a driver must be struck squarely to get to the ridge (a distance of roughly 255 yards) from here the slope will add more than 40 yards of roll leaving the golfer with a wedge and a decent chance at birdie, though the same viewing handicaps face this player as face the stronger player.

The ninth illustrates how proper tee placement will allow a hole to play essentially the same way strategically for golfers across the skill spectrum. The forward tees on the this hole are just short of the fairway and thus allow the weaker golfer to avoid the need for a forced carry over the pond. Additionally, the forward tees allow a weaker player to be more aggressive is his pursuit of winning the final hole. Because the layup area will still leave the player out of reach of the green in two it is likely that the player will attempt to hit a longer shot off of the tee and use the natural slope of the fairway to gain a few extra yards and put the player within reach of the green in two. While the shot from the bottom of the hill will still be blind or at least partially so, for the weaker player this is a vast improvement over the alternative of laying up short of the green.

It is easy to see why the ninth at Whitinsville is so highly thought of, with its beautiful strategic balance and apparently effortless scaling. However, it is the other two tenets that are even more powerfully, if also more subtly, demonstrated. The fairness of the hole is manifested in the various tee locations available to the players. The changes in angles and distance permit each player to face the strategic questions the holes asks in ways that are commensurate with his skill level. Finally, the rhythm of the hole, or more appropriately its placement in the round is wonderful. If the hole is being played as the ninth, it will call for
Figure 73: Donald Ross’ original drawing of the par four ninth at Whitinsville (plan). The current back tees are located near the 50 yard marker on the scale bar on the bottom right of the image.
a player to play it conservatively in order to not derail his back nine before it has even started. While if the hole is the eighteenth of the day, it will call for a more aggressive play for a player in need of a win, or for one who is looking for a fine finish to a round.

4.5.4 Routing and Wrap Up

When one is examining the work of a master of his craft it is easy to get caught up in the who of the design and glaze over the more important what of the design. Because Whitinsville is a Donald Ross design it will be looked at as a great course by many even if there were deficiencies aplenty. At Whitinsville Ross was able to take a small parcel and guide a golf course across it in a way that is very rhythmic and to put it simply, interesting. The course doesn’t favor a particular ball flight over another (though the individual holes certainly do), it doesn’t present endless copies of the same strategic questions and most importantly it doesn’t feel contrived at all.

The rhythm of the routing is one of building to a crescendo. The course opens with its easier holes, perhaps more forgiving holes is a better term, before reaching its climax with a difficult but fair run of finishing holes. Ross even uses the road that divides the parcel in two to his advantage. The first two holes are fairly easy and on the primary side of the parcel, the following two holes are somewhat different in nature and slightly more difficult and they occupy the small parcel across the street. When the golfer returns to the main parcel the steady buildup to the beautiful ninth begins as the holes get steadily more difficult and the hazards more penal.

Finally, the scale of the course is wonderfully done. Admittedly the land seemed made for a golf course, with a collection of rolling hills and only one significant climb (to the tee on the fourth hole), but the list of bad golf courses on good land is a long one. No, Ross crafted a beautiful course that demonstrates his understanding of golf course architecture’s design fundamentals.
4.4 Case Studies Conclusion

Examining the above four courses was an instructive exercise in many ways. While Cypress Point and Pacific Dunes have maintenance budgets and terrain that are far more conducive to world class golf than Pine Grove Springs, many of the lessons they teach can be applied on even the smallest of courses. The way in which both courses move play along without jarring transitions is particularly instructive. The routing at Pine Grove Springs is more or less set. However changes, subtle or overt, can be made to make the experience nearly as smooth as the course’s more famous cousins. At the very least it drives home the need to consider the entire round when considering changes to a single hole.

The second most valuable lesson the West coast courses teach is how they are designed from the green backwards. Both Mackenzie and Doak discovered the ideal green locations, eyeballed the strategic elements of the green complex and then moved back toward the tees, laying out hazards as they went. This is evidenced by how on most, if not all, of the holes on the two courses the location of the flag dictates the play from the tee. This is true even on the longer par fives. On many holes a left hand pin position calls for attack from the right side, which means that a player seeks to find a small area of an otherwise vast fairway. This can make a hole, which might at first glance appear easy from the tee, play much more interestingly, even after repeated rounds.

Often the most important lessons in design come from learning what not to do. In large measure this is true of the study of Cherry Hill. While there are a few bright spots strategically, and the second hole hoards most of these, the course is repetitive and does not stand up well to repeated play. The primary lesson to be learned from Cherry Hill is that it is imperative for a course, especially a lower budget nine hole operation, to provide its players as much variety as is possible with the terrain and budget given. Put another way, there are innumerable ways to hit a golf ball, as many of those shots as possible should be called upon on a well designed golf course.

The final case study, Whitinsville, may serve to be the most useful for this project. The terrain is vaguely similar to that found at Pine Grove Springs; it is a nine hole routing and as such faces challenges of interest and traffic not found on eighteen hole routings; and it faces the same challenges of climate
that face Pine Grove Springs. While the budget and private nature of the club allow the course to be maintained to a level that Pine Grove Springs is unlikely to reach, the course serves as a valuable goal as well as an instructive guide in the quest to allow Pine Grove Springs to reach its true potential. Its most instructive quality is probably the variety of holes found on the course, particularly the par fours. If Pine Grove Springs is to be a great course it must improve the variety of shots called for.

One possible way of ensuring variety is to examine the differing pars of holes, and design them in such a way that they play as dissimilarly as possible given the terrain. Assuming that the average nine hole course has a pair of par threes, five par fours, and a pair of par fives, then there are certain hole types that should be represented. Firstly, the par threes should be as dissimilar as possible. Much like the short fifteenth and intimidating sixteenth at Cypress Point, which are alike in only one way, they play over a portion of the Pacific Ocean. Likewise, the par fives should not ask for similar shots of the players playing them. A dogleg left paired with dogleg right is enough to maintain interest on the longer holes. Additionally, a par five which commonly provides a chance at eagle used in concert with a par five that even the longest of hitters has no chance of reaching in two can be quite stimulating.

This leaves the par fours to design. Length can, and should, be varied, from under three hundred yards to nearly five hundred yards (though holes of this length must use a number of tees to ensure that they are not so long as to bore the weaker players). Next, there should be two-shotters that play into the prevailing wind and with it; up hills (if present) and down them; and turn left and right. Par fours are often the best places to push a player to attempt a shot that is beyond his capabilities; so a course with an incessant run of nearly identical two-shotters is at least guilty of missing an opportunity. The challenge to improve is a central theme of good design and perhaps the single biggest way to ensure a player wants to come back for more.

Now that the tenets of golf course design have been identified and examples found displaying their use (and misuse) it is time to move into the application portion of this project.
5. The Story of the Site

In every design project understanding the canvas is vital to the creation of a worthwhile product. This holds particularly true when designing a golf course. If a course is artificially stamped on the land it will be obvious. As the game has been revealed over time, so too a course should appear to have been revealed. To create a sense of revelation it is important to remember that the golf course does not exist in a vacuum, and its context must be fully explored and understood. The site analysis process places the course at the center of a larger canvas and if performed correctly informs a design that carries a sense of place through to its core.

Site analysis is an important cog in the design machine and is most helpful when a sturdy framework is applied. For this project the following elements will be studied in order to provide the best input for the design process:

- **Landscape Architecture Analysis**
  - Location
  - Historical Context
  - Administrative Context
  - Circulation
  - Topography
  - Soil
  - Hydrology
  - Viewsheds
  - Solar
  - Meteorology

- **Golf Course Architecture Analysis**
  - Hole by Hole Analysis
  - Course wide Routing

A final assessment of the analysis will yield the best course forward for a design project that will make Pine Grove Springs the best golfing experience possible.
5.1 Landscape Architecture Site Analysis

5.1.1 Locational Analysis

Pine Grove Springs Country Club is located on the southern shores of beautiful Spofford Lake in the heart of the Monadnock region of New Hampshire. The bucolic New England locale shapes the golfing experience at Pine Grove Springs in many ways. First, the rugged, rural surroundings call for a golf course to match. An expansive, seaside style course would be distractingly misplaced in Spofford, New Hampshire. The woodland nature of the Spofford Lake region calls for a golf course that is reminiscent of a walk amongst forest meadows more than a stroll along the sea. This is not to imply that a suitable course must be tight and narrow, only that a course in these surroundings should be intimately scaled. In addition to the feel of the land, the New England location presents many challenges to a golf course.

The winter months squeeze the golf season at both ends. While courses in the southern United States remain open year round, Pine Grove Springs and other New England Courses must pull the flags out of the ground not later than Thanksgiving and are rarely able to replace them before April Fool’s Day. Climate change is having an effect on this timeline however and area courses including Pine Grove Springs have been able to open a few weeks earlier in the season in recent years.
Finally, the northern latitude (42.9° north) is a giver and a taker when it comes to sunlight. During the early and later parts of the playing season the days are short and sunset comes early (4:18 PM on Thanksgiving) leaving little daylight under which to play in the chilly Spring and Fall days. On the other hand the summer yields days that are long and don't end until after 9:00 PM, leaving lots of time to enjoy the warm summer breezes. This wide swing in daylight times requires a course that is hardy enough to thrive across the continuum of natural and man-made stresses.

**Locational Assessment**

Pine Grove Springs’ location presents a series of design constraints and opportunities. The rural setting presents an opportunity to use scale and rhythm to expand the golf course experience beyond the boundaries of the course. A few challenges related to the northern climate and latitude call for a golf course that treads lightly on the earth so that it is able to sustain itself in a variety of climatic and solar conditions.
5.1.2 Historical Analysis

Figure 76: Pine Grove Springs Hotel, Spofford, New Hampshire. Early 20th century.

**Pine Grove Springs Resort Hotel**

Opened in the 1890s by James H. Stearns, the Pine Grove Springs Resort Hotel was a posh, Victorian hotel located on the southern shores of Spofford Lake. The hotel catered mostly to wealthy New Yorkers wishing to escape the oppressive summers of turn of the century New York. Early promotional brochures point out the ease of travel from Grand Central Station in Manhattan to nearby Brattleboro, Vermont where a stage would be waiting to take guests to the hotel.

The primary attraction at the resort was the eponymous springs located on the property. The Pine Grove Springs were tested frequently and were boasted of often in the promotional pamphlets put out by the hotel. An early pamphlet describes it thusly:

"Pine Grove’s Health Giving Spring [is] of [the] purest crystal water, bubbling out with a never ceasing flow from the gravelly soil underneath the pines, [and] is one of the greatest attractions of this enchanting spot. The supply is unfailing, the quality absolutely"
pure, and analysis has proven it to be equal, if not superior, to the celebrated Poland Water."

The spring was not the only distraction available to guests. For those seeking a relaxing pastime the property boasted a loose network of trails that must have seemed truly primitive to the visiting city dwellers. Included on these trails was a hilltop observatory for summer night stargazing. Additionally the lake offered sailing, swimming and canoeing for those wishing to while away the summer days on or in its cool waters.

The hotel offered activities for its more competitive guests as well. There was the resort’s baseball team which competed on a field right along the shores of the lake against area summer teams. Also, there were tennis courts, a billiards room and even a bowling alley to test one’s skill against a fellow guest. None of these ventures were promoted as heavily as the resort’s golf links.

Before investigating the golf course, however, it is necessary to pay brief attention to the resort’s final decades. Through the 20s, 30s and 40s the resort continued to operate as a destination for New Yorkers escaping the city and over time it began to cater specifically to the Jewish community of New York. This is evidenced by several mentions in promotional literature of kosher meal preparation and other services meant to appeal specifically to the Jewish community. This period of prosperity would draw to a close by the late 1950s.

By the 1960s the hotel had all but closed down and the property was falling into disrepair. A fire consumed the resort building and most of the nearby outbuildings in 1969. There was no motivation to rebuild as changes to the tourism industry brought on by easier and cheaper transportation options spelled the end of the era of ritzy New England getaways for the well to do. A corporation was formed in 1971 to purchase and revitalize the golf course portion of the Pine Grove Springs property. The resort was gone but the course would live on.

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1 Pine Grove Springs Hotel Promotional Pamphlet (Date Unknown)
The Golf Course

Dubbed variously as “The Spofford Golf Links,” “The Scenic Links of New Hampshire” and finally “Pine Grove Springs Country Club” the early course played very near the lake, never venturing “beyond the reach of the lake breezes.” In 1905 the routing crisscrossed the Spofford Road (now Route 9A) and for the most part occupied the area of the course that is now the first and ninth holes, the second tee and the driving range. The layout was predictably rudimentary, consisting of large, natural greens, artificial, linear bunkers and very little in the way of strategy.

By 1909 the course had been stretched deeper into the woods with holes three, four and five moving up the hill onto the land now occupied by the second, fifth, sixth, seventh and eighth holes. The routing by this time had been refined as well, no longer was there a requirement to walk or play across an adjoining hole. The 1909 layout also seems to very subtly address the idea of strategy. The eighth hole now plays up

Figure 78: A description of the resort’s golf course taken from an early twentieth century brochure.

Figure 79: Course Routing Map for the Golf Links at Pine Grove Springs Hotel. 1905
hill and doglegs around observatory hill thus allowing the player to be as bold as he dares on his line to the hole. It is a small but important attempt to add strategy to the course.

Figure 80: Plan showing the golf course routing in 1909

Sadly, little is known about the alterations made to the course between the early part of its existence and the early 1980s. At some point during this time period the course was lengthened to accommodate the changes in ball technology. Additionally it is obvious that the course moved further inland (south) into the woods of the property. By the early 1980s the course looked much as it does now save for a couple of dramatic differences.

In 1984 the last remaining holes that played along the lake were removed and replaced by the current third and fourth holes at the south end of the property. Maintenance along the soggy lakefront made the move necessary. Necessary though it may have been it was surely the end of an era. The direct bond the course had enjoyed with the lake since its inception was broken. Over time the area on the north
side of route 9A was transformed into a driving range which has become an important part of the business model at Pine Grove Springs.

A last few historical points are worth mentioning as they indirectly affect the design of Pine Grove Springs. The historic clubhouse was moved from its original location on the northeast portion of the property to the northwest, and now functions as the machine/utility shed for the course. The current clubhouse is the former stable building for the resort and is located directly on the south side of route 9A, adjacent the first tee.

**Historical Assessment**

History plays a starring role in the experience of Pine Grove Springs Country Club. While the course has changed greatly since its early days the mere fact that its early days were more than one hundred years ago make a round at Pine Grove Springs memorable. The current owners, Jim and Nancy Hillier, have made many connections to the course’s past in their management of the course. For example the sand boxes used to fill divots on the tees are modeled after the original sand boxes used as tees at the turn of the last century. A successful design should expand on ideas such as the sand boxes by making the course’s history an integral part of the brand. A few possible examples might be

- Reusing a few of the original names of the early holes such as “Hoodoo, Paradise Valley and Devil’s Featherbed.”
- Mimicking one of the original lakeside holes with a practice green on the driving range
- Creating a common design language that is based on early elements of the Resort hotel
- Creating or at least implying an old rectilinear cross bunker on one of the holes, similar to the one that crossed the fourth and fifth hole on the original layout.

These are but a few examples of possible historical homages that can be paid to Pine Grove Springs’ rich past.
5.1.3 Administrative Analysis

Parcel Ownership

The Pine Grove Springs Country Club corporation owns six parcels of land in the Spofford area. For the purposes of this project one will be ignored due to its incongruity with the primary site and several others (all located along the lake north of Route 9A) will be combined. This leaves two primary parcels of concern for this project. The smaller parcel (about eleven acres) along the lake, which is currently home to the driving range, and the larger parcel (approximately 75 acres) south of route 9A that houses the remainder of the golf course operation to include all nine holes, a practice green, the clubhouse and all related parking.

The surrounding parcels are all owned by other entities and none are currently on the market. Though for the purposes of this project their use will be explored in the event they can be acquired at a later time.

Zoning and Land Use

Zoning along the shores of Spofford Lake has changed very little in recent decades. There are areas that are zoned for recreation and campground sprinkled in amongst large areas of residentially zoned properties. The land use directly reflects the zoning at the site, nearly all of the surrounding land is either forested or residential (a significant percentage of which are vacation homes) Any implementation of the potential expansion designs of this project would first require a deeper understanding of the zoning ordinances as they apply to neighboring parcels. For the purposes of this project there are no issues of concern in the zoning realm.

Easements, etc.

The only two easements of potential concern both concern the driving range portion of the property. The Town of Chesterfield owns the easement of the lake access road along the north end of the property.
The road is rarely, if ever used, but does exist and its access must be maintained. A second right of way crosses the property behind the tees on the driving range. Its purpose is to provide access to the boating club property located to the northeast of the lake front parcel. The driveway is a potential hindrance to some uses of the driving range parcel but is not really a major concern as traffic is fairly light even at peak times.

**Administrative Assessment**

Administratively there are few barriers to improvement that have thus far been discovered. Before implementation of any of the design ideas contained within this project a thorough examination of local laws concerning property improvement along the lake should be executed.

### 5.1.4 Circulation Analysis

**Automobile Circulation**

Given Pine Grove Springs’ somewhat remote location it is necessary to highlight the course’s vehicular connections to the world beyond the property lines. New Hampshire Route 9A, formerly The Spofford Road, serves as the only method of entry to the course and divides the area that is now the driving range from the rest of the course’s property. Route 9A is a short spur road connecting at both ends to New Hampshire Route 9 which serves as the primary connection between the regions population centers; Brattleboro, VT to the west and Keene, NH to the east. The course sits about equidistant from the two towns, taking about ten minutes to get to each. Route 9 also provides easy connection to the larger urban centers of the Northeastern United States and Southeastern Canada.

From Keene, it is a beautiful two hour drive to New England’s urban center, Boston, Massachusetts. In the other direction, Brattleboro sits along western New England’s primary North-South artery, Interstate 91, making a trip to or from New York a relatively easy three and a half hour drive south. For those wishing
for an international excursion, Montreal is a four hour drive north on 91. Pine Grove Springs occupies a nearly ideal place of rurality in the midst of a great web of urbanity.

A final note on vehicular circulation must address an interaction far more critical to the course’s successful operation than the Pine Grove Springs’ distant urban neighbors. As mentioned previously, the course sits right along New Hampshire Route 9A and access to the club is nearly ideal in its simplicity. However, the on site vehicular circulation is a bit more cumbersome. A series of poorly defined parking areas are shared with a collection of cart shacks and paths as well as with golfers returning to the clubhouse from the ninth green. All this encourages an awkward interaction between various modes of circulation. The current system is suitable for the mild levels of traffic the course receives on most days, however if the course were to grow, a well designed parking area would be mandatory.

**Golfer Circulation**

The circulation of golfers on the site is fairly straightforward. The first tee is located right outside the door of the pro shop alleviating the confusion that often comes on larger courses when trying to find the kickoff point for one’s round. From there a network of on again off again paved cart paths link the routing together without, for the most part, disturbing the serenity of the course. There are a few locations where
a bit of clarity would be helpful in moving from one hole to the next but generally it is very difficult to get lost at Pine Grove Springs.

With regards to green to tee connectivity there is only one linkage that breaks with Alister Mackenzie’s third feature of the ideal golf course. The eighth green is a lengthy trek through the woods to the ninth tee. In reality however this potential issue allows for a building of expectation when a round is coming to a close at the course’s superb finishing hole.

Another issue worthy of mention regarding golfer circulation is the cramped experience that exists at the top of the hill. The second, fifth, sixth and to a lesser extent the seventh fairways all run parallel to one another in tight proximity. This interaction is potentially dangerous as wayward golf balls are more likely to find human targets in this situation. Of more frequent concern however, is the effect on pace of play and enjoyment. The interruption of a round while another group plays from a neighboring fairway is irritating and creates a jarring stoppage in play. This area of the course holds design opportunity and challenge in equal measure.

Finally, the connection of the clubhouse to the driving range should be more clearly identified. The increase in use of the range and other potential practice facilities on the north side of Route 9A will make crossings of the road more frequent and this should be planned for accordingly.

**Circulational Assessment**

At both the human and vehicular scales Pine Grove Springs is blessed with generally good circulation patterns that can be tweaked to bring them toward the ideal. Particular attention should be paid to the area around the clubhouse which acts as the hub of the site. Here incoming and outgoing vehicles, golf carts and walkers all interact nearly constantly. A thoughtful design would make this interaction less dangerous and make both the initial and final interactions of golf course and golfer pleasant ones.
5.1.5 Topographical Analysis

Pine Grove Springs Country Club is located in the hilly Monadnock Region of New Hampshire on the southern shore of Spofford Lake. The low point of the property is along the lakeshore which sits at an...
elevation of 714’ above sea level. The driving range area of the property on the north side of Route 9A is fairly low lying and thus experiences soggy drainage conditions. For this reason the driving range is the perfect land use for the portion of the property.

On the south side of the road the ground rises quickly, to the high point of the property which is located on the second fairway near the green at an elevation of just over 880’ above sea level. Most of this elevation change takes place along the uphill first hole and the first half of the tight second hole, making each of these holes play longer than the card. The high point looks west across the somewhat level fifth and sixth fairways and down toward the seventh green which sits some sixty feet below the second fairway.

From the second fairway, looking toward the south, the topography causes the partially hidden second green to slope away from the play making this long, tight hole even more difficult. Continuing south the third hole drops precipitously from its elevated tees down toward the wetlands that dominate the strategy of the hole some 50’ below. From the bottom of the hill the par five quickly climbs back up the hill to a fairly straightforward green. The fourth hole plays uphill back to the north and the layout continues onto the level fifth hole and the level first shot on number six. From here the short par four dives some forty feet to a well guarded green.

The sharply doglegged seventh climbs to its high point at the corner of the dogleg before diving back down to a relatively flat green complex. The eighth hole plays as a topographic opposite of number six; with its first shot playing across a flat fairway before climbing some thirty feet to a green tucked away in the interior woods of the course. To finish the round the ninth plays across a small valley to a two-tiered green that is roughly level with the tee.

In anticipation of the possibility of course expansion to the west it is necessary to review the terrain on the course’s neighboring parcel. A quick look at a topographic map reveals a rolling, interesting terrain
that would make a wonderful addition to the course. A brief walk through the snow confirmed what the topographic map hinted at. The western parcel is very good golf land.

**Topographic Assessment**

The topography dominates the experience at Pine Grove Springs. The routing definitely violates Mackenzie’s fourth tenet which speaks against hill climbing but on a site that climbs nearly two hundred feet from top to bottom a little hill climbing was inevitable. In many cases the elevation changes are used to enhance the experience. Numbers one, two and three play much more difficult than they first seem due to the rather drastic elevation changes. Numbers six, seven and eight can play much easier than they seem at first glance if a player uses the terrain to his advantage.

There are a few negatives associated with the effect the terrain has on play. The fifth hole is a boring, flat par three with only enough change in grade to partially hide the small green. It is a mostly blind par three with very little upside. The other topographic issue that requires mention is one of missed opportunity. Spofford Lake is a gorgeous landmark and is located only a few hundred yards away from the course yet even from the top of the hill at the center of the course there are no views that stretch out across the lake and the surrounding hills. This has not always been the case. On one of the early routings the course included a hole that played from the top of observatory hill (near the present day second tee) down to the northwest offering a gorgeous view of the Monadnock region’s countryside. Any redesign should at least attempt to grant current and future players this glimpse that their predecessors undoubtedly enjoyed.

*Figure 85:* Early twentieth century image showing a player teeing off with a wonderful view of Spofford Lake to distract him.
5.1.6 Soil Analysis

Sources: USGS Soil Survey & Granit (UNH GIS Clearing House)

The soil underlying the property at Pine Grove Springs is surprisingly well suited for a golf course. The heavily forested area with significant amounts of exposed or barely covered granite would lead one to presume that there were significant drainage and runoff issues on site. For the most part this simply isn't the case. The majority of the soil classes found at Pine Grove Springs are variations of silt loam. Most of these contain high amounts of stones and gravel which is to be expected given the glacial geologic history of the region but are otherwise well suited, if not perfect, for a golf course.

The areas of potential drainage issue are located in predictable locations around the property. The area along the lake on the driving range is the first area of soil drainage concern. The second is the wetland area that runs across the third fairway and makes up most of the area to the north of the fourth tee; which is responsible for the only areas of poor turf quality on the course, the third hole's lower fairways. Finally,
the area along the eighth fairway is of particular concern if any ideas of course expansion are to be looked at.

On the subject of course expansion it must be mentioned that the parcel of land to the west of Pine Grove Springs is of very similar soil and drainage makeup. There are a few areas of poor drainage around which circle fine silty loam. The parcel, pedologically speaking while not quite being linksland in nature is decent golfing land.

**Soil Assessment**

The soil situation at Pine Grove Springs is very positive, with a soil profile that is typical of a glaciated area. There is a this soil layer with a gravelly well drained subsoil profile. There are a few poorly drained areas around which a course can very easily be built. If plans for expansion are to be explored then soil conditions on the neighboring parcels would not be a hindrance.
5.1.7 Hydrologic Analysis

Hydrologically speaking Pine Grove Springs is a much more cognizant user of water than are most golf courses around the country. This is true for several reasons. First, the owner strives for a hard playing surface which places additional value on shot making. This stands in opposition to a significant number of American courses which tend to play soft and call for a repetitive brand of target golf. These hard playing surfaces require much less irrigation than do the softer fairways found elsewhere, and in fact only the greens at Pine Grove Springs are irrigated at all.

The second reason Pine Grove Springs can be looked at as at worst a neutral player within the Spofford Lake region hydrologic system, is that the course does little to interfere with the naturally well draining soils. These soils, along with the preponderance of granite mixed within them, encourage excess water to be absorbed and infiltrated rather than pooled and run off. This benefit is compounded by the dearth of paved surfaces on the course property. All of this is particularly beneficial for the course because the water that infiltrates eventually finds itself in Spofford Lake from which the course draws all of its irrigation water.

The above analyses deal with water quantity. When dealing with golf courses the issue is often one of water quality. The golfing industry as a whole has been blasted for its overuse of chemical fertilizers and pesticides (though this is improving partially as a result of the emergence of the minimalist school of design and programs sponsored by Audubon International). At Pine Grove Springs the practice of encouraging hard, running playing surfaces also requires significantly fewer fertilizers and pesticides than the average American course, and therefore there are fewer chemicals present to infiltrate or run off into the ground water supply. It is important to note here that no scientific water quality analysis was done on the wetland areas at the southern end of the course; however, Spofford Lake, the end recipient of all of Pine Grove Springs’ water is routinely tested and found to have outstanding water quality.

Hydrologic Assessment

From a hydrologic standpoint the most that can be said of any plans to alter the status quo at Pine

5 http://spoffordlakeassoc.org/images/2012_Spofford_Lake_Water_Quality_Test_Results.pdf
Grove Springs is “do no harm.” Any expansion or other changes to the course should reflect the current usage practices employed on the course. In addition to ensuring that Pine Grove Springs continues to lay loosely on the land hydrologically speaking this will also ensure that there are no jarring transitions in the way the course plays from one hole to the next. As always, it is important to continue to monitor the water system but as of this writing there are few areas of concern to note.

5.1.8 Viewshed Analysis

The views from the hill on which Pine Grove Springs Country Club is laid out are fantastic. During the autumn months the leaves changing in the background beyond Spofford Lake rival those found anywhere else in New England. The course provides a lovely foreground for these views. There are ancient stone walls which contrast nicely with the lovely turf and make taking a wonderful photograph an endeavor not likely to fail. The only problem is that for the most part these views are not easy to find on a course that seems to be laid out with no regard to the beauty of its surroundings.

This analysis is not meant to be overly critical or to insinuate that the grounds are not lovely in their own right; however, visually speaking the course’s greatest asset seems to have been designed around rather than embraced. Hole number one plays directly away from the lake which is blocked from view (except from the tee) by a large stand of trees. Number two provides the only glimpse of the lake from anywhere on the hill and that glimpse must be worked for. If one walks thirty to forty yards down the hill behind the second tee and looks to the Northwest it is possible to see the lake and the hills beyond. Once play begins on two however the lake is forgotten and not thought of again until after a golfer putts out on the ninth green and walks back to the clubhouse.

While the lake is the star of the viewshed show it is not the only player. The hills surrounding the lake in all directions are beautiful and can occasionally be seen while on the course; the wetland areas along and through holes number three and four and the aforementioned stonewalls that are scattered about the property make time spent at Pine Grove Springs aesthetically pleasing. One final component of the
grounds that bears mentioning in a visual discussion is the historic club house. The old hotel stables have been repurposed to provide an interesting and beautiful home to the golf club.

**Viewshed Assessment**

Sometimes the most obvious points are the most important to identify. In the case of the Pine Grove Springs Country Club and the nearby Spofford Lake the obvious point is that the two should be linked. While hydrologic concerns dictate that a direct link is unlikely (thus the replacing of two golf holes along the lake with a driving range), a visual link is a near requirement. Today there are few visual ties between the course and its aquatic neighbor to the North. Any significant changes that might be made to the course should address this injustice.

5.1.9 Solar Analysis

From a solar aspect the primary concerns facing a golf course are first, providing adequate sunlight to the turf in all areas of the course and second, ensuring that the sun's interference with play is minimized. The existing conditions, and the fact that the current turf is of good quality lend anecdotal evidence that the first concern is being addressed adequately. For future design alterations to the course the turf’s access to sunlight must be factored into any decisions. Thankfully this is usually a rather easy concern to address because designing a course for open play usually provides the turf with adequate solar radiation.
The second concern falls into the “only notice it when its done poorly” category of design. The most obvious indicator of design that ignores the planet’s closest star is when a course either begins with holes playing directly into the rising sun (east) or finishes playing into the setting sun (west). Doing so impacts play at the beginning and end of each day, often the most crucial times for efficient play.

Pine Grove Springs, whether by design or good fortune, does not suffer from either malady. The first hole does play slightly east of due south but that is not really a problem because when the sun most closely aligns with the line of play, the course is usually covered in snow. As for the finish with eight and nine playing in easterly directions, the only potential point of concern is the second half of the seventh hole which plays almost due west. Unfortunately there is very little that can be done about the situation presently. However, if the course were to see future expansion, the seventh green would be a great transition point to the neighboring parcel and thus would no longer occupy a place near the end of a round.

Solar Assessment
There are few solar concerns that must be addressed at Pine Grove Springs. Minor changes to individual holes or the layout in general will likely not affect the solar situation at the course. Major renovations or expansions in the future should attempt to alleviate the minor solar issue on number seven and ensure that play on the final holes play in an easterly direction.
5.1.10 Meteorological Analysis

Temperature

The temperate climate of central New England provides four distinct seasons. Of particular interest to golf of course are spring, summer and fall. The spring welcomes golfers out of hibernation with chilly days and average highs in the mid fifties (April). As summer approaches the high temperatures climb to the mid eighties on average and can often reach the scorching nineties (July). As the days get shorter and the leaves change the daily high temperatures at Pine Grove Springs drop back to around sixty (October). In addition to the temperature’s effect on the golfers, its effect on the golf course must be accounted for.

There are several temperature related aspects of golf course management that must be designed for. First, frost. Frost delays are a normal part of spring and fall golf in New England. Frost occurs when the dew on the leaf blades of the turf freezes. This will make the turf brittle and easily damageable. Play is usually delayed during the spring and fall mornings until the temperature has risen to suitable levels to melt the dew. At Pine Grove Springs the last frost of the spring usually occurs by mid May. The first frost of the fall usually comes right around the Autumnal equinox. While there is little to be done to prevent frost from affecting a golf course, its effects on play can be minimized by providing less shading on holes at the beginning of a round, if possible. In the end however, the delays caused by frost are a small price to pay and are not significant enough to warrant a course redesign.

At the other extreme, brutally hot midsummer temperatures can cause stress to turf that is already stressed by a marked increase in traffic. The turf at Pine Grove Springs is naturalized to New England and has proven well suited to its climate; however, whenever possible stress reducers designed into the course can prove vital to turf health. Among the easiest ways to reduce stress on a course (and improve interest) is to vary the distance and angle at which it is played. This is accomplished primarily by providing various teeing areas from which to start play and by creating greens which possess several potential pin placements.

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6 NOAA Historical Temperature Data
Taking these simple steps (both now and in potential future design) will dramatically improve course turf health.

**Precipitation**

From a precipitation standpoint Pine Grove Springs is nearly ideally positioned in the world. Average monthly precipitation at the course is just under three and a half inches and this number holds remarkably steady throughout the year, with the course receiving roughly 40” of rain annually. While droughts can and do occur, the course in general receives all the precipitation that it needs.\(^8\)

**Wind Patterns**

The Scots have a saying with regard to the weather “Nay rain, nay wind, nay golf” meaning that golf is meant to be played in the elements and that wind and rain are an integral part of the game. While rain tends to halt play for most golfers wind is often seen as fun to play in and adds to the strategy of play. At Pine Grove Springs, while not quite reaching gale force in nature, the winds can be substantial at times. The winds tend to blow in off of the lake and are often amplified by the tall trees throughout the course. They are most noticeable along the tunnel-like second hole and at the exposed top of the hill on holes two, five, six and seven.

**Meteorological Assessment**

Pine Grove Springs is nearly ideally situated from a meteorological standpoint. The golf season, while short is blessed with temperatures that, though hot at times, are generally mild; precipitation that is steady year round, and winds that often ask interesting questions of the golfers. Any future design or expansion should attempt to build off of these strengths by providing a variety of teeing options to reduce stress on the course; using the topography to make the best use of the precipitation and using the vegetation (namely the large trees on the site) to shape the winds.

\(^8\) NOAA Historical Precipitation Data
5.2 Golf Course Analysis

The golf course analysis portion of the site analysis will consist of an examination of each hole from the perspective of two players, a stronger player and a weaker player. The stronger player (player A) will be assumed to be able to drive the ball 250 yards on average and be able to shape his shots to some extent. The weaker player (Player B) is able to drive the ball 175 yards on average and is usually seen playing to safe areas of the fairways and greens. Following the examination of ninth hole, there will be a brief investigation of the course’s routing, balance and rhythm. The analysis will conclude with an assessment that lays out the areas of the course that are both most in need of preservation and most in need of remediation.

5.2.1 Number One (Par Four)

The opening hole at Pine Grove Springs is a shortish par four that doglegs up the hill behind the clubhouse. As a first hole it sets up very nicely. The fairway is inviting and allows the golfer the chance to ease into a round. From the landing area the green, which slopes strongly from right to left, is mostly obscured behind a mound on the right side of the approach. It is further protected by a pair of bunkers, one on either side.

When reading the card, player A will be tempted to pull out driver and attempt a play for the green. All considerations of this idea should be washed away when the player tees up behind the clubhouse. The better idea is to hit a comfortable club and play a soft draw to the corner of the fairway from where a wedge will allow the player to play for a position beneath the hole. While the fairway is open and easy to hit there are definitely landing areas that play better than others. A lapse in concentration that leads to a pulled shot that ends up inside the corner can make par a struggle.

For player B the hole is also a nice way to start a round. The corner is not quite reachable for the shortest of players but if they are able to play to the right side of the fairway they can still end up with a birdie putt. The green complex is interesting and can be very difficult from the wrong place. The smart play is to the left side of the green, even when the flag is on the right, from there an uphill putt means par
is all but assured. If a player finds themselves off the right side of the green an outstanding short game is needed to get up and down.

**Assessment**

For a short hole, number one has a lot of strategy built in. The fairway, which looks wide and inviting definitely has preferred landing areas. The interesting green complex is at the same time inviting to a well struck shot and punishing to one misplayed. While the hillocks surrounding the green are generally
cut to rough length they can be cut closer leading to the possibility of run up shots and putts from the fairway. This is definitely a short hole that is very difficult to overpower. The first hole sets up the round in a way that works wonderfully. The open fairway allows the body to ease into play; while the mind must do a little thinking to avoid missing the opportunity for a low score to start the round. The green is set up so that the longer tee shot is not necessarily the better play.

5.2.2 Number Two (Par Four)

The second hole starts a tough three hole stretch that will doubtless add a few larger numbers to a player’s card. Played up the north side of the property’s primary hill and along an ancient stone wall the hole plays much more dramatically than it might appear to on the plan above. This is probably the longest continuously existing hole on the course, though it has been lengthened considerably since the course’s early days. Early photographs depict this hole as much more open than it appears today and this is one place the course could definitely benefit from some tree thinning.

Player A finds out quickly that the second hole plays a lot longer than the card’s 378 yards. The first 200 yards rise nearly 50 feet in elevation to the high point of the course. This is particularly daunting due to the narrow feel of the hole (not to mention the unforgiving nature of the stone wall along the left side). If the stronger player plays a driver or three wood, and manages to find the fairway, the hole becomes much easier. With a short iron in hand, the green, which slopes away from play, is much less intimidating than it is when a player is holding a three iron. The ideal line into the green is from the right which is actually the easiest area of the fairway to find. The green will surrender a birdie putt to those who manage to find a landing area below the hole.

For Player B this hole is a doozie. The shorter tees give the player some help, but in most cases the second shot for Player B is going to be at least somewhat blind and with a mid iron in hand. This play is not impossible but it can be nerve racking. This is especially true because the green complex isn’t very forgiving to balls that are played long. There is a modest mound that will save slightly long shots from a more severe punishment, but anything more than a club long will risk being lost in the trees between the second and fourth greens. Seeking to avoid this fate, a player is advised to land an approach short of the
Figure 89: The Second Hole at Pine Grove Springs. A. Plan View. B. View from the Tee. C. View of Green
green and have it run on. This play, while perhaps smarter, is not without its dangers. A shot that hangs up short of the green will leave a delicate downhill up and down for par.

**Assessment**

The second hole is a historic member of the Pine Grove Springs routing and will challenge even the best of golfers. This does not mean that it is beyond improving. Widening the fairway by removing the trees to the right of the fairway might make the hole more appealing off the tee while at the same time adding some more overt strategy. This would have to take into account the fifth green, which is currently protected by those same trees. Secondly, the wall along the left should be made more prominent. This could be done by a selective removal of some of the trees along the wall (with the other property owner’s permission of course), or by mowing the fairway closer to the wall (if turf conditions allow it). Finally, the approach to the green should be more defined. The bunker on the left is sort of stuck in no man’s land, not quite a fairway bunker but also not really a green side bunker. The second hole will be an interesting one to explore as this project progresses.

5.2.3 Number Three (Par Five)

Moving from the oldest hole on the course to the two newest brings the players to the long dogleg par five, third hole. Playing along the southern corner of the property the third is a long three-shotter that calls for a variety of shots depending on skill, conditions, and bravado. The course’s first two water features shape play on each of the first three shots and the final climb up to the green is surprisingly intimidating.

Player A, especially if he is coming off a bad score at number two will be tempted to pull out driver and attempt to peel the cover off of the ball. Driver might not be a bad play, as one wants to end up at the base of the hill, but a little restraint might be in order; ending up through the fairway or in the first pond will kill a scorecard in a hurry. A hard fade around the fairway pine will leave a good look at the distant green. However, for anyone this side of the PGA Tour, the green is probably a shot too far, especially as it climbs twenty feet at the end. The next decision is to play over or short of the second pond which is obscured by a large mound on the left side of the second fairway. The better lie is to be found on the near side of the water, but this landing area is obscured by a large mound between the ponds and can seem difficult to hit. If a player opts to go over the second water hazard, a long iron is the preferred club and
the key is to simply try to find the middle of the fairway as the lie and look at the green are less than ideal from either side. From either landing area the green is open to attack with a mid to short iron, and the only real danger is misclubbing. A club too short risks running ten yards or more back into the fairway, while a club too much will bring the woods beyond the green into play.

For Player B the third hole is a not so obvious opportunity to make up ground. While it can be a slog, especially when playing into the wind, if a player plays within his game and hits the prescribed landing areas he can sneak a score past his braver opponent.

The key here is to know the clubs necessary to find the good lies in the fairway. A good drive is essential to find the first flat area in front of the first water hazard. From there a strong mid to long iron is
needed to find the good lies in front of the second hazard. If player B’s ball is still dry, the most difficult shot of the hole awaits him; a full long iron or fairway wood up a steep climb to a partially obscured green. The idea here is to miss to the right spots, in this case short and right. A chip from there is not too daunting and can garner a player a par. Missing long or short left leave shots that lesser players are intimidated by.

**Assessment**

Number three appears at first glance to be a long, hard slog that is best survived. However, the difficulty has more to do with the number in the par column on the card than with anything on the course. If a player plays within his game, a score no worse than six is most often the result. Architecturally speaking, the beauty of the hole and the ways that it can be improved are the ways that it can (and could) tempt the player to play outside his game. The easiest way to tempt players to play outside their games is to shorten the hole. In this case moving up the fairway by 75 yards would bring visions of driving the first water hazard dancing into their heads. The benefits of such a play are well balanced, as pulling off the shot leaves a very good chance at reaching the green in two and a rare eagle putt. Additionally, the penalty for failing will cost the player that stroke he was trying desperately to gain.

Thinking a little more long term, narrowing the water hazards on the hole and allowing the water to run to the wetland area beside the fourth tee more rapidly has potential strategic bonuses. A narrow water hazard is less intimidating to players even though the impact of the hazard is not really lessened at all. A stream that is five feet wide but buffered by slopes for twenty feet on either side still plays as if it was forty-five feet wide but appears much less intimidating. The ecologic and turf impacts of such a move would need to be examined of course but the idea is at least worth considering.

The final area of concern is the green. While it is not unusual for a long, difficult par five to have a fairly easy large target, it is at least worth considering the possibilities available atop number three’s hill. Perhaps removal of the front bunker or conversely its expansion would induce more doubt or confidence than is otherwise warranted. The worst idea is to make changes for change’s sake but each of the above ideas should be examined to strengthen an already very good hole.
5.2.4 Number Four (Par Four)

A dogleg left par four following the previous dogleg right hole is naturally a good idea. It forces a player to play a shot that he has not had a chance to use in the round. Strategically, the hole is fairly straightforward. A drive should go as far as possible while still finding the fairway. This leaves a short iron into an elevated green that is easier than its predecessors. The look of the hole changes drastically depending on the location of the tees. With the front tees being able to play a very straight shot to maximum advantage and the back tees forced to play an aggressive inside line, a tough draw, or both.

The look from the back tees is quite daunting for the stronger player. A draw around the corner to a green that is as yet invisible is the only play if a player wants a chance at birdie. A more reluctant play

Figure 91: Fourth Hole at Pine Grove Springs A. Plan View. B. View from the Tee Box. C. View from the corner of the fairway. D. View of the green from a green side bunker.
would be a straight shot to the corner, however this leaves a lengthy uphill long iron which has reduced room for error. If the drive is executed well, then a short iron into the green is a relatively easy play for Player A and affords a good chance at birdie.

For the player teeing off from the front tee boxes the hole appears much less difficult. However, the line and distance selection is key. If Player B wants to hit a 7 iron or better into the green a strong drive along the (more dangerous) inside line is key. If however the player opts for the easier line to the right, and accepts the fact that his second will be much more difficult, he must still concentrate enough to find the fairway. It is very easy for even the weakest player to hit too much club and find himself run through the fairway and into a small drainage ditch that runs along the outside of the dogleg. From there a par is a pipe dream and a double bogey much more likely.

**Assessment**

Like the first hole, the fourth is more strategically interesting than it first appears. A few potential adjustments which might prove unpopular in the short term might serve to amplify the strategic shot values on the hole. Placing a fairway bunker at the corner along the preferred line off the tee would play to Mackenzie’s idea that shots appear more difficult than they really are. The bunker would be easily avoided but not so easily blocked from either player’s mind. The second option would involve the removal of a bunker from the green front, most likely the left hand bunker, thus encouraging play from the left (tighter) side of the fairway. These two changes would work well in concert.

One final, possible, addition would be the placement of a set of tees further behind the current back tees. The wetland area beside the tees would necessitate the placement of new tees be nearly 75 yards behind the current tee boxes. This added distance would put a driver in Player A’s hand rather than a fairway wood or long iron. The driver is more difficult to shape and thus would make the hole a more difficult par.

**5.2.5 Number Five (Par Three)**

Climbing the hill to the fifth tee the players find themselves looking at the first par three at Pine Grove Springs. The hole is a straight, mid-length one-shooter, sloped, nearly imperceptibly toward the tees.
Figure 92: The Fifth Hole at Pine Grove Springs A. Plan View. B. View from the Tee. C. View from in front of the green
From the tee box the green is nearly completely obscured, though the flagstick is easily found. There are only two hazards on the hole, a bunker to the right keeps wayward shots from ending up in the second fairway while a bunker behind the green serves the same purpose, though this time saving a player from having to go traipsing through the forest in search of a golf ball.

Player A holds a 7 iron at most, on the fifth tee and plays directly at the flagstick, for there is little reason not to. The traps are not difficult for a player of this caliber and the green is so nondescript as to not worry player A much about being in the proper location on the green. The hole is something of a letdown after the previous four holes which call for as much thought as they do skill. The only danger here is taking too much club, not an error likely to be repeated (thus making the hole play less and less interestingly in later rounds).

For player B the hole is not so much different from the one played by his stronger competitor. The smart player will play a half club short of the flag and allow the terrain to run a ball close and thus avoid the trouble beyond the green. There is very little else to think about on the tee here. For the lesser player there may be a tendency to overcorrect away from the bunkers and thus, possibly end up in trouble off the left side of the green, but from here the recovery is nothing interesting, simply a hack out of the scrub beneath the trees.

**Assessment**

The fifth hole is definitely the first weak strategic link encountered at Pine Grove Springs. The hole is similar to the par threes at Cherry Hill in that it has very little thought involved in its play. Potential corrections to this conditions are difficult and will require much study. The terrain is very open and any adjustments designed to increase visibility of the green (the hole’s primary fault) would easily feel contrived. There are no simple solutions here but the reward for finding the elusive, complex solution that appears simple is great. The lone blight on the first half of the course would be eliminated.

5.2.6 **Number Six (Par Four)**

The view southward from the sixth tee is distractingly good, matching perfectly with the strategy of the hole. The tendency on a short, downhill par four is to try to drive as close to the green as possible.
Figure 93: The Sixth Hole at Pine Grove Springs. A. Plan View. B. View from the Tee. C. View from the Crest of the Hill in the Middle of the Fairway. D. View from the front of the Green.
Here the hole is not drivable, though a perfectly struck drive will get close, but the downsides of such an attempt far outweigh the upsides. Here the strategy is a little bit more subtle. A play to the top of the hill leaves a grand view of the large green and will leave a player salivating over his chances for a tap in birdie.

Player A is especially susceptible to the desire to drive the cover off the ball. However, at best all this will leave is a mid-wedge pitch into the green with no better a look than one gets from the top of the hill one hundred yards previous. The difficulty does not end with the right decision off the tee. Merely deciding to play to the top of the hill is only half the equation. The remainder involves staying focused enough to execute the shot. The fairway narrows considerably about 150 yards short of the green (right where one wants to be) and finding the wrong half of the fairway will make for a very difficult par. The green is especially receptive when the flag is on the left side but the chances of a successful run up to such a pin are diminished by the low lying nature of the green complex. The turf is often too soggy to permit such a shot.

For player B the decisions are easier but the benefits the same. Playing to the narrow neck of the fairway leaves an open look at an appealing green that sits at least twenty feet below the player's feet. The green is set into a natural hollow and is framed very well, making the shot among the more comfortable on the course. Finally, the green is very receptive to a high shot, and if well struck such a shot will yield a good chance for birdie.

**Assessment**

The sixth hole is wonderfully positioned within the round. It is the middle of a run of three easier holes that, if well attacked will allow a player to write little numbers on his card. The beauty of that placement is that it would seem to reward the aggressive player, but the opposite is usually true at number six. Potential changes to the hole should be well thought out so as to not interfere with the natural strategy of play. The only danger the hole faces from a redesign is that its position behind number five in the round might necessitate changes that otherwise would be unfounded. The goal must be to make sure that the balance and rhythm of the round and the balance and rhythm of the individual hole are optimized.
5.2.7 Number Seven (Par Five)

Perhaps the most idiosyncratic hole on the course, number seven is a difficult hole to examine. An acute angle dogleg left, par five, the seventh is a throwback to a bygone era when experiment in such holes was more common. The majority of such holes have gone by the wayside because they are difficult to balance and are often disruptive to the rhythm of a round. While those potential downsides do hang over Pine Grove Springs’ seventh hole, all is not lost here.

For a strong player the seventh represents a great chance for a red number on the scoreboard. From the tee the hole is invisible, hidden behind a veil of hardwoods on the inside (left) corner of the fairway. The aggressive play is for a hard draw (nearly a hook) around the corner which can use the slope down

Figure 94: Pine Grove Springs’ acute seventh hole. A. Plan View. B. View from the Tee. C. View from the corner looking down toward the green. D. View of the green.
from the high point at the corner to run the tee shot well within range of the green. If a player wishes to get greedy standing on the tee, the ideal play is to the extreme inside of the dogleg so that the tee shot ends up along the left side. From here the second shot does not have to contend with the small water hazard on the right side of the approach. In either case, as long as the fairway is found it is only the most timid of players who will not have a go at the green in two. The large green, though protected by three bunkers and the aforementioned pond, is quite receptive to long irons and fairway woods and will reward a pair of well struck shots with a chance at eagle.

For the weaker player the opportunity here is probably not for eagle but a birdie is a very nice consolation prize. A play to the high corner of the fairway will leave a wonderful shot location from where to survey the challenges ahead. The play from here is to the left center of the fairway, a spot which will yield a beautiful line along the approach from which to attack the flag with a wedge in hand. The seventh will reward the weaker player who knows the limitations of his game and accepts them. If said player is unable to resist either the temptation to be overly aggressive off the tee or from the fairway a harsh punishment is surely waiting.

**Assessment**

The seventh hole is a puzzling hole to define. It is at the same time awkward and fitting and it seems to conform to the majority of the design tenets (balance, strategy, and fairness) almost in spite of the others (rhythm and to a lesser extent scale). The knee jerk reaction upon seeing the hole on paper is to attempt to find any way possible to adjust the routing to be rid of such an odd hole. However, upon closer inspection the hole seems very much worth saving, if in an adjusted form.

A few adjustments that are called for would contribute more to the scale and aesthetic value of the hole rather than its playability. The first change that seems necessary (though thoughts on this may change as the project moves forward) is the elimination, or at least redesign, of the hole’s water hazard. While the small pond definitely serves a strategic purpose, its appearance can best be described as incongruous. Its location and form are such that it sticks out as a manmade stamp on an otherwise natural looking hole. A second adjustment would involve the relocation of the bizarrely placed bunker some 75 yards short of the green along the right side of the fairway. In its present location its only purpose appears to be to overly
punish a shot which already faces a stern punishment. Perhaps the bunker would be better served as a central bunker similar to the second or twelfth at Pacific Dunes.

The seventh definitely places rhythmic stresses on the round but for the foreseeable future there is little that can be done about that. The hole is not perfect, but for a course that prides itself on its idiosyncrasies, the benefits of the eccentric little par five outweigh any effects the jarring angle of the hole may have on the round as a whole.

5.2.8 Number Eight (Par Four)

The eighth hole benefits greatly from its placement within the round. A simple, little uphill par four, the eighth can be played in a variety of ways, often depending on the urgency a players feels for a

![Figure 95: The Eighth hole at Pine Grove Springs. A. Plan View. B. View from the Tees. C. View from the fairway looking up at the green.](image-url)
low number. With a maximum length of only 330 yards, the hole would appear on the card to be a hole which can be bullied. However, the terrain is this hole’s primary protection. The final one hundred yards are played up a relatively steep hill to a green that becomes more blind the closer one drives to it.

For Player A this hole is, like several others before it, a game of temptation and restraint. As there is very little benefit to a drive of 300 yards as opposed to a drive fifty to seventy-five yards shorter the smarter play is often a lay up to a comfortable wedge distance along the right side of the fairway. However, if a player is feeling bold (or desperate) the temptation to try to drive the green (especially when the tees are forward) is often too much. The problem is that there are numerous ways to waste strokes around the green which is hidden back into a small neck of the woods around which the course at Pine Grove Springs revolves. A fairway wood and a wedge will leave a good chance for birdie, and barring a poor shot, little chance of a score worse than five.

For player A’s weaker opponent, number eight represents an enormous opportunity. A strong drive to a safe wedge distance up the hill is the simple request this hole makes. The downside for player B comes around the green which is well (if incongruously) protected. A number of bunkers and the slope of the approach will punish any shot not purely struck. A par can be had here for the weaker player, which is often enough to conquer a braver but less controlled opponent.

Assessment

The length and straightforward appearance of the eighth hole make it a perfect penultimate hole for Pine Grove Springs. The only potential speed bump for this hole is that its green complex is a study in scattered design. First, there are the two bunkers visible from the tee, which do a fine job of framing the hole from the fairway, but are less successful upon a closer examination. If these bunkers were expanded (especially the righthand bunker) they could more definitively stake their claim as either fairway or green side bunkers rather than hazards that don’t really fit either category.
5.2.9 Number Nine (Par Three)

Part of the issue with the strategic dead spot that is the par three, fifth hole is that its cousin the ninth is such a wonderful one-shotter. There are some who have issues with a par three finishing hole, saying that it leaves a competitive match to chance, but strength of the ninth’s design far outweighs any issues a golfer might have with its length.

From the back tees the hole enjoys the visual aesthetic of a short par three, while at the same time calling for a much longer shot. Player A will usually have at least a six iron in hand from the back tees, and with this club will attempt to find the most difficult green on the course. A high fade to the lower tier (regardless of where the flag is) is the ideal play. When the flag is on the narrow back shelf, a brave (or foolish) player is one who will attack the pin. While the green is not heavily defended at the back, any miss long will leave an intimidating chip with a possibility of running off the front edge of the green. Playing

Figure 96: The ninth hole at Pine Grove Springs. A. Plan View. B. View from the Tee. C. View of the green from the front right side.
to the lower tier does not guarantee par but it does almost ensure that a player writes no worse than bogey on his card.

For Player B the pair of bunkers on the left side of the green are likely to be the focus. This will likely cause an overcorrection to the right, a move which brings luck more squarely into the picture. The terrain to the hole’s right side is heavily banked toward the hole and a shot played too far right can end up quite well if the player is fortunate. As likely as a fortuitous bounce, the ball can also become lodged on the hill leaving an extremely difficult lie from which to extricate one’s self. There is one final option left to the weaker player, and that is to play short of the green and run a second shot up the hill to the hole. While not a way to make a birdie, it does help to eliminate the chances of a large number.

Assessment

The ninth hole’s only potential fault is its location within the round. The other aspects of its design are beautiful. The hole rewards and punishes shots in fair measure, it tempts and warns in balance and it is exciting to play, especially with a match or a good score on the line. Potential design improvements that might be explored are limited to the placement of the tees. While there isn’t much room to maneuver, moving the tees either left or right or back would bring a sense of variety to repeated play.

5.2.10 Routing and Wrap up

The competitive rhythm of the routing at Pine Grove Springs is surprisingly smooth. In many ways it is similar to the back nine at Augusta National. While this lofty comparison may seem overdone, the similarities are real. The round begins with an open call for caution, which is followed by a run of holes that are difficult and best simply survived. If a round runs the gauntlet of two, three, and four unscathed there is the opportunity to score across the fifth, sixth and seventh holes. The round finishes, much as Augusta does, with a pair of straightforward holes that call on a player to execute at the most important portion of the round.

A review of the natural rhythm of the round is slightly less positive. The round begins well enough but the course seems to choke around the fifth hole. The balance, strategy and fairness of both the second and sixth holes would be improved with wider fairways, however that is not possible. Additionally, there
is not an easy fix to the situation. Eliminating the hole would leave an awkward transition from the fourth green to the current sixth tee; while lengthening it and turning it into a short par four might improve the hole but it will do nothing to improve the clogged feeling atop the hill. The second point of rhythmic concern is the seventh hole. As was discussed earlier there is no simple solution here either, and the abrupt nature of the hole may in fact be a net positive for the round. The final issue with regard to rhythm is the relatively lengthy walk from the eighth green to the ninth tee. There is little that can be done here to address this concern, though an expansion of the course to eighteen holes could include a hole played from the woods between the eighth and ninth, thus eliminating this issue.

Finally, concerning the balance of the course, Pine Grove Springs does not suffer from an over reliance on a particular shot. There are several holes that ask for each of a draw, a fade and a straight shot. The only concern that warrants mention here is that there are a few holes which could benefit from tempting a player to attempt a draw or fade when doing so would bring various hazards into play. The
second, fourth, and sixth holes in particular might be shaped slightly differently so as to make a player question whether a straight shot is the correct play.

The course as it exists today is a wonderful collection of holes that, with a couple of exceptions, fit together very nicely. The land that the course occupies ensures that the designer is not required to compensate for boring terrain. An expansion of the course, or any change to the course’s routing should be undertaken only after a close examination of the effects such a change would have on the lovely rhythm the course possesses in its current state.

5.3 Final Site Assessment

Pine Grove Springs Country Club occupies a lovely patch of land that, while not “Golfing Land” in the Scottish use of the term, does very well at providing a home to a small nine hole golf course. The history of the course along with the close ties it enjoys with its surroundings make a round (or a season’s worth of rounds) at the course very enjoyable. When all parts of this analysis are taken in total a few potential points of opportunity come to the surface. These are, in no particular order:

The circulation into, around and out of the club house area of the course. The mix of car, cart and walking circulation is not well delineated and is potentially dangerous. Improving this area will work wonders on initial and final experiences of time spent at Pine Grove Springs. The above finding is true but its concerns fall outside the scope of this project as its concerns are chiefly focused on the golfing aspect of the site.

Minor adjustments, in the form of transplanted, removed or emplaced hazards; additional teeing grounds and tree removal could be made to a number of the holes at Pine Grove Springs at relatively minor costs and effort. These possibilities include (but are not limited to) numbers two, three, four, seven and eight.

More drastic changes, though outside the budget for near term adjustments at the club, are worth considering in the context of a longer scope of time. Among these changes are the replacement of number five with either a short par four on the same site, or a par three earlier in the round (perhaps between the
current third and fourth holes). An additional and even more drastic change that will be considered is the expansion (through the purchase of the property adjoining the course to the west) of the course to an eighteen hole layout.

In conclusion, the temporal restraints this project faces ensure that its scope is limited to conceptual design only. As the designer of this project will be spending vastly more time at the site in the future this project will act not so much as a conclusive report but rather a jumping off point for in depth designs that will eventually see implementation.
6. Design Introduction

As this is a design project, it is now time to delve into the project’s design recommendations. It is important to remember here that the intention of this project is to deliver a set of design recommendations to Pine Grove Springs, not to draw up a collection of templates that directly reflect the ideals of the Golden Age. What this translates into is that the designs to follow were done in the best interest of Pine Grove Springs rather than as a purely academic exercise (i.e. a bunker will not be placed simply to serve as an example of a particular design tenet). It is the goal of this project that all design recommendations be made with a heavy dose of reality. While it would be fun and perhaps academically useful to focus on truly theoretical design options, this would do nothing to help make Pine Grove Springs a better golf course. With this in mind, the design portion of the project will be divided into two sections: Design Phase 1 and Design Phase 2.

6.1 Design Phase 1 - Introduction

Design Phase 1 will focus on changes that can be made in the spirit of Alister Mackenzie and his contemporaries within the context of a limited financial and temporal budget. It is important to note here that money will not the primary constraint in either section of this design but in order to remain a useful project, recommendations, especially within Design Phase 1, will involve changes of minimal impact. This will include but not be limited to bunker addition and removal, tree removal, tee realignment, and slight modifications to contouring on and around the greens.

6.1.1 Design Phase 1 - Number One

When looking at design options for the first hole several things are obvious at a glance. First, the hole is in pretty good shape strategically as well as from a playability standpoint so any changes need not be drastic. Secondly, there is no option to push the tees back or to move them to either side in order to change the length or angle of the tee shot to provide strategic variety; the clubhouse and Route 9A prevent any such changes. Finally, the fact that the ninth green, located near the outside corner of the dogleg, must
be considered when contemplating any changes to the width or angle of the first fairway. Understanding these points makes the way forward obvious, plan the hole backward.

Like any well designed hole the green dictates play for every shot back to the tee. In this case, the green is made up of two shelves, a smaller upper shelf (Forest Green) in the back and a lower, larger shelf that makes up the front two thirds of the putting surface (Maroon). Currently a pin located on the back shelf is best attacked with a run up shot that is ideally made from near the corner of the dogleg. A backstop mound behind it protects the upper shelf and if found will leave a nightmarish chip down the hill. The front portion of the green is a larger area (about twice the size of the back tier) and slopes, gently at
first and then more drastically, from right to left. The right half of this shelf is home to a few possible pin positions and best attacked with a high fade from an area of the fairway that allows such a shot (meaning away from the corner trees). The left side of the lower shelf presents this hole’s design opportunity.

The front left area of the green currently is too steep for a pin placement and any shot played to this area invariably ends up in a small area of fringe between the green and the bunker. This presents a strategic problem (who wants to continuously play the hole the same way?) as well as a maintenance issue. Raising and leveling the left front area (Navy Blue) subtly would create a third area for pin placements. Making this change in concert with a reshaping of the bunker that protects the left side of the green creates a third strategy for playing the hole. The best method of attack for a pin in this area would be playing toward the front center of the green (thus avoiding the bunker) and allowing it to funnel down toward the pin.

In order to make sure that these changes are successful there are two requirements. First, the grading of the front pin area needs to be subtle and secondly, the bunker needs to be a proper deterrent. This can be accomplished by moving it up so that it is right on the green and intimidatingly deep. If these changes are made successfully, the hole will require thought on every shot back to the tee shot. An added benefit, given that this is a blind hole on a nine-hole course is that the player will have more information to process the second time the hole is played. For example, knowing that the flag is on the back shelf will tempt a player to play a more aggressive tee shot in order to minimize the distance a run up shot must travel. This aids the course is maintaining interest, which is often a difficult task for a short course that must be played twice around for a full eighteen holes to be played.

6.1.2 Design Phase 1 - Number Two

The second hole presents a series of design challenges, especially when any design changes must be low impact. The goal of any changes here (as well as elsewhere on the course) is to provide a more strategically interesting and balanced hole for players of all levels. In order to accomplish this at the very tight second hole, players must be given room. A first step toward this goal would involve clearing as many trees as possible along the hole’s left side along the stone wall that demarks the property line. This would only
get one so far, as the hole already plays tightly to the property line. Thus, the redesign turns to the right side of the fairway.

In the area short of fifth green (Forest Green Oval), the club has already begun clearing some under-
brush making the wood here less penal (allowing a player to escape without undue penalty). These efforts should be continued and perhaps even taken to their extreme. The elimination of the majority of trees in this area would provide options to players off the tee.

Like most holes, the strategy at Number Two starts at the green. The green slopes away from play and this feature is the hole’s primary defense. The secondary defense is the bunker and evergreen combination that dominates the left side of the approach (Maroon Oval). To increase interest and strategic balance the removal of the evergreen beside the bunker would be an easy alteration, especially if the resulting open area were graded such that ball would kick toward the green. In tandem with this move, relocating the bunker so that it occupies the center of the fairway would greatly increase the decision-making necessary on approach to the green. A final change that would be recommended to the green complex would involve mowing the apron as far out toward the fairway as the turf would allow. This would increase the value of the run up shot, which is particularly useful on a long hole with a green running away from play.

6.1.3 Design Phase 1 - Number Three

As was discussed in earlier sections of this project balance is vital to the interest of a hole. In the case of the third, there is a subtle lack of balance that can make the hole rather dull upon repeated play. The hole is brutally long and its hazarding (a pair of water hazards across the fairway and dense brush along it) are unforgiving to wayward or ill conceived shots. In order to bring the hole into balance and ensure that the hole does not become a dreaded slog upon repeated play, creativity should be encouraged.

From the tee, creativity is discouraged by the fact that dense brush along both sides of the fairway and the water hazard at the bottom of the hill limit a player’s options to simply finding the fairway by whatever means possible. The tee shot is very penal in nature and thus not very interesting on repeated play. To remedy the situation there are three solutions. First and easiest is the employment of a forward tee by all players (Forest Green Oval); doing so would encourage a player to play aggressively over the first water hazard with dreams of reaching home in two. Secondly, clearing out the underbrush that occupies the buffer between the third and fourth fairways (Maroon Oval) would encourage more aggressive play because a player finding this area would be able to advance his ball without the undue penalty or irrita-
tion at having lost a ball (and a few strokes). The final solution is both more difficult and more expensive but certainly more impactful; if the hole’s first water hazard (Navy Blue Oval) were narrowed and made to resemble a stream or creek rather than a pond, its visual dominance (if not its actual impact on play) would be lessened, thus encouraging more aggressive play from the tee box.

From the first water hazard forward, the hole is sound strategically and few changes are needed or recommended. Following a well-struck tee shot, a player is given a choice of potential layup positions (assuming there are no delusions of grandeur encouraging a try at the green) either short of the second hazard or beyond it. Short is an easier lay up but a more difficult approach while beyond is a much more difficult layup (as the area is surrounded on three sides by water or wetland) but leaves a very straightforward wedge into the mostly unprotected green. The only improvements to this area of the hole would be an underbrush clearing campaign, which would make the hole less punishing to those weaker players who have strayed from the fairway.

There is one final aspect of the hole that should be mentioned and that is its scale. The hole is a monster and is scaled as such but like the sixth hole at Cypress Point, the approach is scaled such that it is visually deceiving. Unlike at Cypress point this scaling makes the hole seem shorter rather than longer.
The combination of the front left bunker, the mound some sixty yards off the front of the green and the close quarters at this end of the course make the hole appear closer than it is. Any changes that are made should be done carefully to avoid disturbing this deception.

6.1.4 Design Phase 1 - Number Four

The fourth hole is a well-designed hole that, if tweaked slightly in a few places can become a true gem. Like most holes, the fourth is easiest to examine from the green back toward the tee. Currently there is little encouragement to play the hole anything but straight away. This is due to the fact that the approach to the elevated green is protected on both sides by very similar bunkers. If the left side bunker (Forest Green Oval) were removed to encourage play from that side of the fairway, the results would be far reaching. In making this change, the right side bunker (Maroon Oval) would also require a few changes; mostly focused on reshaping and enlarging so as to increase the bunker's influence on the approach.

With a newly opened left side the inside corner of the dogleg becomes the desired target off the tee. Not only does this line provide a shorter attack route but it is also free of greenside hazards. In order to properly balance this option a toll must be asked of any player seeking this most aggressive line. In this

Figure 101: Redesign Diagram of the fourth hole at Pine Grove Springs.
case a fairway bunker will be placed at the inside corner of the dogleg (Navy Blue Oval). Such a bunker must be properly placed and sized so as to be easily avoided by those who choose a safer and longer route to the green.

There are a couple of further minor changes that can be made to increase the fourth hole’s interest over repeated play. First, the addition of a back set of tees (Mustard Oval) would add some teeth to the hole, ensuring that it is not easily overpowered. Secondly, the brush clearing and waterway defining that was mentioned in the redesign ideas for the third hole would go a long way toward encouraging creativity, both from the tee and from any of a number of trouble spots along the outside of the dogleg. This collection of relatively minor changes will result in a hole that is widely variable and interesting from day to day.

6.1.5 Design Phase 1 - Number Five

Finding a low impact solution to the problems presented by the mid length, slightly uphill, blind par three number five is easily the toughest design question facing Pine Grove Springs. When searching for answers to how to make the blind hole more interesting holes such as Lahinch’s Dell (Number 5), Cruden Bay’s fifteenth and the Himalayas hole at Prestwick (Number 5) were examined. However, these holes did not provide much help as they all feature dramatic dunescapes from which they are carved, an element that is lacking at Pine Grove Springs. One feature they all share, even to a minor extent is that they are all set at an angle to line of play. This is not the case at Pine Grove Springs but perhaps it should be.

Canting the green slightly to play from front left to back right (Forest Green Oval) and rebunkering to match (Maroon Oval) would create a situation wherein a player could play as aggressively as he wished. The added bonus of such a change is that the green which already slopes from left to right could be made to funnel balls back to the harder looking back right hole locations. The balance of such changes would be difficult; the hole follows the difficult stretch of two, three and four and as it currently sits, is a
A bit of breather following that gauntlet. The idea of changes here is to leave the left and front sides open to bailouts and to make the hole more interesting without making it more difficult.

**6.1.6 Design Phase 1 - Number Six**
While the fifth hole offers the most difficult design challenge on the course, the sixth offers perhaps the easiest. The hole is a strategic gem as it exists today. The only alterations that might be necessary in-

*Figure 103:* Redesign Diagram of the sixth hole at Pine Grove Springs.
volve either end of the hole. First, there is the opportunity to add an alternate set of tees to the right side of the current set (Forest Green Oval). Doing so would create a different feel for the tee shot, an important component of a nine-hole course. Secondly, the green complex (Maroon Oval), which hits the Goldilocks spot on the easy-to-difficult continuum, could be made more dramatic by mowing the fairway so that the front bunker is completely surrounded by short grass. Making this minor maintenance change would give the hole a more dramatic appearance from the ideal attack point at the top of the hill.

6.1.7 Design Phase 1 - Number Seven

The easy, par five, seventh hole provides a nice counterbalance to Pine Grove Springs’ other par five, the brutal third. However, the acute dogleg, wide-open fairway and downhill nature of the hole make it often too easy. The goal of this redesign is not to make the hole more difficult for difficulty’s sake; the goal is to ensure that the hole interesting upon repeated play by every level of player. To accomplish this feat it is necessary to go against grain and begin changes at the tee box.

A slight realignment of the tees and an extension of the fairway toward the tees (Forest Green Oval) would have a large impact on the visual feel of the tee shots. As the hole is currently laid out, the angle of play is rather ambiguous; making a few slight adjustments would sort out the visual feel of the hole’s first shot. The next change that is recommended will probably be more controversial. The addition of a small, but highly impactful, bunker at the corner of the dogleg (Maroon Oval) will, in similar fashion to the central bunker on Pacific Dunes’ second hole, dictate play for every player to come through this corner of the course.

For weaker players, the inclination will be to avoid the bunker at all cost (Positions A or B); doing so removes the chances of reaching the green in two but means that par is a likely score. For the stronger players either a hard or soft draw over or around the bunker (Positions C or D) will leave shots of under two hundred yards into the green and a great chance at eagle; if they are successfully executed. From the
corner, if a player chooses to forgo the chance at getting home in two, the design decisions must focus on shaping the choices a player faces on his second shot.

Currently, a large bunker on the front left and an odd pond on the front right protect the green. This set up, in concert with the open, formless fairway give the hole an unfortunate freeway feel. To combat this and make layup and approach decisions more interesting several changes must take place. First, moving the front bunker back and giving it a more organic shape (Navy Blue Oval) and more impactful location slightly closer to the hole's centerline will allow players trying to get home it two that opportunity, while at the same time ensuring that the decision of layup locations is not one taken lightly. Secondly and most easily accomplished, altering the mowing patterns of the lower fairway (Mustard Oval) to a more organic

Figure 104: Redesign Diagram of the seventh hole at Pine Grove Springs.
form would remove the freeway feel from the lower fairway and add visual and playability interest to those standing at the precipice at the hole's corner.

The final change is perhaps the most dramatic, and expensive but its influence would be far reaching. Altering the currently out of place water hazard (Grey Oval) so that it connects to the wetland area beyond the hole by traversing the right side of the green will greatly lessen the hole's artificial feel while at the same time altering for the better, the strategy of the hole. If the hazard is redesigned with care it will protrude slightly into the green's approach, this change along with the fact that the connecting stream will run along the right side will encourage play along the left side of the fairway (inside of the dogleg). This change in strategy in turn will bring the newly added corner bunker more into play for the aggressive player, a prime example of Tom Doak's billiards analogy.

It must be made abundantly clear here that the goal of the changes to number seven is not to make the hole more difficult it is to make it more interesting. These changes will do just that with little to no affect on the playability of the hole for the weaker golfer.

**6.1.8 Design Phase 1 - Number Eight**

The eighth hole shares many characteristics with its counterparts earlier in the round, but it is most like the sixth for several reasons. First of all, the hole is strategically sound. While not as dramatic as the sixth, the strategy here is similar. The temptation is to bomb it toward the hole but like the sixth, the better play is to lay back about a hundred yards (or more) short of the green along the hole's left side. Secondly, the green is very appropriate for the type of hole in that it is visually deceiving. There is a slight front right to back left cant to the hole and the extreme front left is a false front that won't hold even a wedge. Finally, a little variety off the tee would only serve to increase the enjoyability of an already enjoyable hole.

Starting from the green, the bunkering needs a little adjustment. The pair of front bunkers do a wonderful job of framing the green but they're purpose could use a little definition. The left hand bunker (Forest Green Oval) acts as both a punishment and a saviour for wayward shots. Enlarging the bunker and moving it down the hill slightly would expand the bunker's saviour role by saving offline shots from
finding the nearby deep woods, without limiting its penal role. The bunkers on the front right (Maroon Oval) function well but should be adjusted to complement the changes to the bunker on the left. A final note concerning the hole’s bunkering: there is a pair of oddly placed bunkers behind the green (Navy Blue Oval). The bunkers serve to protect holes from running through the green and into the woods beyond. They are, however, slightly small for this purpose and their function would be improved greatly by some modest reshaping and enlargement.

As one moves back from the green toward the tees the subtle strategy of the fairway becomes obvious. The only change that could be made to increase the strategic strength of this hole at this point would be to offer an alternate, second set of tees set into the woods on the left of the existing set. This however, is made temporarily impossible by the fact that the existing tees are snuggled into a pocket between the seventh green and the property line; there is very little room to work unless the adjacent property is acquired.

Figure 105: Redesign Diagram of the eighth hole at Pine Grove Springs.
A small change that would make the hole more interesting would be a tree overhang removal campaign along the hole's left side that would open the hole up a bit. In conclusion, little need be done to improve the eighth hole at Pine Grove Springs aside from improved hazard definition near the green.

6.1.9 Design Phase 1 - Number Nine

The ninth hole, like the sixth, offers very little opportunity for improvement. In fact, there is not a single change that would be recommended to this hole at this time.

Figure 106: Redesign Diagram of the ninth hole at Pine Grove Springs.

6.2 Design Phase 2

Design Phase 2 will focus on a series of potential scenarios that the course may encounter in the coming years and the design responses to these circumstances. Three general scenarios will be examined. First and least drastic, is the addition of single par three on the current property bringing the number of holes on the course to ten (Design Phase 2A). This would be done in order to allow the course to continue
to operate as a nine-hole facility even while closing other holes to execute more drastic alterations. The second potential scenario (Design Phase 2B) aims to create a more rhythmic and interesting set of holes at the top of the hill. The current interaction between the second, fifth, and sixth holes is constrained at best.

The final and easily most expensive and drastic design scenario involves the addition of several new holes to the Pine Grove Springs course with the ultimate goal of bringing the course to a full eighteen hole layout (Design Phase 2C). This scenario would almost certainly involve the expansion of the course boundaries to include the parcel along the course’s western boundary. As topographic and other data is limited, the proposed expansion will be rudimentary in nature; though it will seek to apply the lessons learned from earlier portions of this project. One last note concerning this portion of the project is this: in order to avoid confusion over numbering that may arise when inserting holes into a routing, this project will utilize the names listed on a course routing sheet from 1905 to identify new holes rather than hole numbers.

6.2.1 Design Phase 2A - Meadowbrook

When discussing changes to a golf course it is easy to forget that the course is a business and must remain in operation during any alterations. There are several ways to go about making changes while remaining operational. One, a hole may be improved piecemeal while remaining open for play. This often involves mowing a circle of shorter grass into the fairway, cutting a hole in the middle of it and making improvements to the green and other parts of the hole while the hole remains in play. This solution is one that is often used but is not ideal. The temporary hole is rarely anything more than a filler in the round and usually not very satisfying to play (even Cypress Point used this method during the author’s visit, turning the exciting ninth into a dull drive and pitch) but it does allow the course to maintain a “full round” of nine or eighteen holes.

The second option involves closing the hole altogether and simply reducing the round to either eight or seventeen holes. This option is not often employed because the course does not want to be seen as

![Figure 107: Location of Design 2A](image)
cheating its customers. However, it does have the advantage of allowing the club to making any changes that are necessary without having to hold up work for daily play or having to design around temporary elements. The final and least often used option involves the addition of an entirely new hole, bringing the course’s total to ten or nineteen. This is not often done simply because it is expensive to design and build a new hole that must then be maintained. The benefits of this option however, are huge. Opening a new hole allows play to continue on a full course with nine (or eighteen) challenging holes while a hole elsewhere on the course can be closed indefinitely. This ensures that its redesign can move forward with no concessions made for temporary play and no undue time pressures that come with reducing a course to a less than standard number of holes.

For the purposes of this project the third option will be used to move forward with Design Phase 2A. After careful consideration a par three will be used as the additional hole for a couple of reasons; first, they require the least amount of land to build, second they require the least amount of money to build, and third they require the least amount of resources to maintain. These logical considerations along with a careful examination of the Pine Grove Springs site from a variety of different angles has led to the conclusion that the best area of the course on which to design a par three is in the southwest corner, just after play has concluded on the third green (Forest Green Oval). A par three here would be a logical bridge between

Figure 108: Redesign Diagram 2A - “Meadowbrook”
the current third and fourth holes and due to its close proximity to both holes its placement would not adversely affect the rhythm of a round.

When determining the location and length for Meadowbrook the similarities of site and scale between it and a Mackenzie gem became apparent. Playing at roughly the same length and elevation change as the world famous twelfth hole at Augusta National, Meadowbrook was the perfect opportunity to explore a few Mackenzian ideals.

Meadowbrook calls for a short iron shot to a kidney shaped green that is set at a slight left to right angle to the line of play (Forest Green Oval). There is a single bunker on this hole, which is located in the right-center niche of the green (Maroon Oval), a nearly identically position to a similar bunker at Augusta’s par three. The bunker serves several purposes; namely it provides a sense of scale and aids with depth perception while at the same time rescuing slightly missed shots from a more serious fate at the hands of the wetland pond, which borders the hole’s right side. At this point Meadowbrook and its muse diverge.

Unlike Augusta’s hole there are no bunkers beyond the green. Instead the punishment for missing the hole long is a steep drop off of several feet (Navy Blue Oval) from where a delicate pitch must be executed to a green that runs away toward the water. Another divergence from Meadowbrook’s more famous cousin is that the hole offers a bailout to the timid. The area short of the green is left open to a player choosing to run a pitch up close to the hole rather than playing a direct line. A second major difference is the redan-like cant of the green. The steady but not too steep left-to-right sloping of the green allows a player to play at a back left pin without taking a direct line over the bunker or pond.

Meadowbrook is a fair design that allows a player to play as aggressively or timidly as he wishes and allows for more than one way to achieve a par. The balanced shot values mean that an aggressive play is rewarded proportion with its difficulty when successful and when the shot is unsuccessful it will be punished.
in similar fashion. Finally, the hole is not as penal as many waterside holes tend to be. Unless the water is found recovery is not impossible when a little skill and creativity is applied.

### 6.2.2 Design Phase 2B

The area atop the hill at Pine Grove Springs where the upper second fairway, the fifth hole in its entirety and the upper sixth fairway come together, is the most claustrophobic on the course. There are a variety of potential solutions to this issue, though none of them are without their drawbacks.

#### 6.2.2.1 Design Phase 2B - Option 1

The first option involves the removal of the fifth hole entirely which would result in the ability to expand the fairways on both the second and sixth holes (Forest Green Oval). As adding width to the first half of the sixth hole would be of little benefit this change would be a particular boon to the second hole. At the second a greatly widened fairway from tee to green would allow for a variety of strategic options that are simply not possible today. There is of course a downside to such a drastic change and that is the rhythm of the round will be adversely affected. This is due to the fact that a player finishing on the fourth green would be forced to walk several hundred yards to the current sixth tee only to return whence he came after teeing off. Nevertheless this option will be briefly explored.

The expansion of the second fairway would lead to some exciting possibilities. The doubling of the fairway’s width to nearly seventy yards allows for the introduction of much more strategy to the hole’s design. First, the addition of a fairway bunker right in the preferred landing area (250 yards off the back tee) forces a choice to go over or around. Going over rewards the bold with a clean look and run at the green; while a trip around the fairway greets the timid with an obscured carry over a pair of bunkers. Additionally there is ample layup area given should a player wish to lay up short of the green and avoid a double bogey or worse. The rudimentary design HERE is but one possibility given the increase in room allowed by the removal of the lackluster fifth hole.
As stated above however, such a move is not without its drawbacks. Removing the fifth hole creates an odd gap in the routing, which is both a rhythmic and physical annoyance. The affect of this change on the holes involved is undeniably positive with the removal of the weak fifth and the strengthening of the already strong second. In the end this change's detrimental effect on the round as a whole is simply too
great to justify.

6.2.2.2 Design Phase 2B - Option 2

A second, less drastic solution to the cramped area in question would involve moving the fifth green twenty-five yards to the left. This would not completely alleviate the blindness issues the hole currently faces, though it would improve visibility some. Additionally, this change would provide most of the same benefits to the second hole as Design 2.2.1 does without the sacrifices to the course’s rhythm. Finally, this change would necessitate slight alterations to the sixth teeing area in order to address safety concerns. These alterations would primarily consist of moving the tees some twenty yards to the right to create a minor dogleg. This would alter a strategically sound hole but in the end the affect would be minor and not altogether negative.
It is worthy of mention here that converting the fifth into a short, dogleg left par four with a green near the first green was considered. However, such a plan, while very interesting in theory, would in practice do little to alleviate the cramped playing conditions present atop the hill.

If this design option were to be reduced to a pros and cons list the list would probably look something like this:

- **Pros:**
  - The widened second fairway opens up a slew of strategic options that are very exciting. Placing some bunkers near the preferred landing area while at the same time providing a route to avoid them would ensure strategic thinking off the tee. The movement of the greenside bunker to protect the green from attack from the easier right side would strengthen the strategy further.
  - Unlike Option 1 there would be no detrimental affect on the rhythm of the round caused by the removal of a hole and the requisite awkward circulation that would bring.
  - The doglegging of the sixth hole would be relatively minor and certainly wouldn’t affect the hole for the worse.

- **Cons:**
  - The newly redesigned fifth hole would be awkwardly placed right up against the course’s pump house. While this course and this project’s designer are not so weak as to shy away from quirky (potentially unpopular) design features; this particular option is simply too quirky to work. Additionally, the redesigned hole would play to a nearly identical length as the existing par three ninth and the newly designed Meadowbrook hole. Having three par threes of similar length (if not feel) is detrimental to the balance and rhythm of a round.

The pros above are strong and not altogether unconvincing, in the end however, the single con is simply too strong. Replacing a weak hole with a different weak hole even if it greatly improves its neighbor is not a viable solution. Given the obvious benefits of widening the second fairway Pine Grove Springs would be wise to continue evaluating this section of the course in an effort arrive at a workable solution that does not compromise the integrity of the round.
6.2.3 Design Phase 2C

The final design solution considers the possibility that Pine Grove Springs will expand to eighteen holes at some point in the future. As there is not nearly enough room for nine additional holes on the current property such an expansion would involve acquisition of additional land. Due to land ownership and soil constraints the most likely avenue for expansion is the parcel along the property’s western boundary.

Determining where to leave the property was a crucial first step in routing the expansion. There were three options. First, play could leave the property after the third hole (Maroon Oval). This choice had the benefit of beginning the addition of eight holes at a corner of the new parcel; thus allowing the most possible room to use for hole design. In the end however, getting play back to the holes on the current course...
proved too difficult, as there was awkward climbing that had to be done to return play smoothly to the existing routing.

The second possibility was to leave the parcel after completing the current seventh hole (Navy Oval). This option proved untenable very quickly as it became clear that the soil conditions around the current eighth tee made returning play to the original parcel for the last two holes very difficult, if not impossible. The final choice was to leave the current property after playing the eighth hole (Mustard Oval). The last possibility proved to be the best; leaving the original parcel after completing the eighth hole allowed play to move efficiently around the additional land without destroying the rhythm of the course.

6.2.3.1 Design Phase 3 - Devil’s Featherbed

The first hole on the expanded property is a difficult, mid-length par four that plays along an area of poor soil, which will be converted into wetland habitat (Forest Green Oval). The wetland area along the hole’s left side dominates play visually from the tee, however the real driver of strategy is the smallish central bunker which sits about 230 yards off the back tees (Maroon Oval). There are several choices, the first is to lay up short of the bunker and leave a dangerous and difficult second shot with a long iron or fairway wood. Second, play can be made over or around the right side of the bunker which will leave an easier shot into the green though from the fairway’s right side the lone greenside bunker makes attacking the pin difficult. The most daunting choice off the tee is to play between the wetland area and the bunker. If successful, such a play will leave a mid-to-short-iron into the green and will have the added bonus of having a clear view of the green, especially if the pin is in the front or middle of the green.

If Devil’s Featherbed were to epitomize any of this project’s design tenets it would be that of fairness. The hazards on this hole are placed such that they affect each player equally (so long as they play from the proper tee box). The central bunker forces the same thought processes for the weak player as it does for
the strong. Additionally, the green is generous and forgiving enough that it is receptive to whatever club a player may be forced to play, particularly if it is played from the left side of the fairway.

6.2.3.2 Design Phase 2C - Mount Pleasant

Mount Pleasant (270 yard par four) is a textbook operation in strategy. The hole plays across a rolling plain to a green that sits perched on the top of the hill, not far from the third green. The fairway is essentially split in two allowing a player the choice of two lines of attack. The easier tee shot to the left is one of about 200 yards to the base of the hill in front of the green (Forest Green Oval). From this landing area the second shot is not difficult but it is visually obscured. The pitch is one of anywhere between fifty
Pine Grove Springs
"Mount Pleasant"

Back - 288 Yards ~ Front - 240 Yards
Elevation Gain From Tee to Green = 8 Feet

Figure 114: Mount Pleasant

and eighty yards to a large green that is receptive to a run up but punished a shot played either too long or too aggressively.
The second branch of the fairway (Maroon Oval) is slightly more difficult to hit but as it is played closer to the hole’s direct line of play it is shorter. If the upper fairway is successfully found the approach is no more than a pitching wedge to a much more visible green. The danger here is distance control, as the deep bunker behind and to the left of the green (Navy Blue Oval) will swallow up any loosely played or miscalculated shot (as well as any chance for an easy par). The upper fairway is more difficult to hit but it does increase the chances for a birdie.

There is one final potential play off the tee though it is not an advisable one. The straight-line distance to the putting surface is only a shade over 270 yards meaning that it is within range of bigger hitters. The obvious downside of this play is that there is really no place to bail out. Long or left present only the choice between an unplayable lie or a lost ball; while short leaves a difficult mid-length bunker shot. Missing right (as long as it’s not long and right) isn’t particularly punishing but isn’t very rewarding either. The green is just large enough that it will accept a perfectly struck driver and the chance at eagle that comes with it; but it must be perfect.

6.2.3.3 Design Phase 2C - Hoodoo

The slightly downhill par five Hoodoo is a chance for a player to loosen his belt and swing for the fences. The fairway is wide and only the longest of hitters can reach the target bunker on the far side of the fairway (Forest Green Oval). The hole plays similarly to Alister Mackenzie’s par four sixth at Royal Melbourne. The further right one plays off the tee, the easier and shorter the hole becomes; however catching any part of the corner bunkers (Maroon Oval) all but eliminates the chances for a red number on this definite birdie hole.

From the back tees the corner bunkers represent a carry of between 260 and 280 yards depending of the aggressiveness of the line chosen. From the landing area choice becomes whether to have a go at the green in two or to lay up to the appropriate wedge distance. The approach is such that there are two ways to attack. From a closer distance a shot played straight at the green over the protecting bunker (Navy Blue Oval) will have plenty of room to stop. If however, a player has less distance in his bag (or his tee shot was
not as well placed as he would like) all is not lost. A long draw using the slope of the hill to run the ball up onto (or at least close to) the green will leave an excellent chance for birdie.
Weaker players will generally play this hole as a three-shotter but can still be aggressive, especially if the hole is playing downwind. The trickiest part of this hole when played as a three-shotter is definitely the approach. A lay up short of the guarding bunker leaves an easier line and distance but must be played over the aforementioned bunker. If a player plays right of the bunker the approach is more open but a bit more tenuous playing down the hill. Either way a well-struck shot will give a weaker player a chance for birdie, which is all he can ask for.

Hoodoo demonstrates well the idea of theatrical rhythm within a round. Following the quirky par four Devil's Featherbed, Hoodoo allows a player to either extend a rally or right the ship. The hole's place within the round dictates a player's strategy as much as the hole itself does, that is a rhythmically sound hole.

6.2.3.4 Design Phase 2C - Punchbowl

If the previous two holes could be described as easy, it is obvious that at Punchbowl that train has left the station. The long par three is easily the most difficult one shot hole at Pine Grove Springs. Played down nearly fifty feet the hole does not share the visibility problems of the current fifth hole; however, being able to see that there is trouble at every turn only serves to make that trouble all the more intimidating.

The back tees (Forest Green Oval) play to nearly 240 yards meaning that even with a drop of fifty feet this hole still requires at least a mid-to-long iron to reach. The ideal play is a slight draw into the front edge of the green and to allow the contours of the green to feed the ball toward the pin. This play is also smart as the front right area of the green represents the only viable bailout at Punchbowl. If a player is particularly confident, and has the skills to back it up, a high fade will allow a shot to get tight to a pin positioned on the back half of the green. The downside here is substantial however. Missing long or right
is dead (Navy Blue Oval), while the bunkers, which aren't particularly deep will allow a chance at par, so long as the pin isn't tucked in close to the sand.

For the weaker player Punchbowl is every bit as intimidating as it is for the scratch player. However, the tee locations will allow the less skilled player to safely play to the green's front edge regardless of pin position and provide at least a chance for par. There are several other factors at play on Punchbowl, which make it potentially more difficult than it seems at first sight. Firstly, following a pair of easier holes which allow for a generous margin of error will make Punchbowl seem all the more unforgiving. Secondly, for the first time in the round Spofford Lake plays a key role in the distraction of all players. Set upon a precipice
the view from the tees of the lake and mountains beyond is awe-inspiring. Finally, it has been six holes since the last one-shotter and player's are liable to get a bit anxious to take advantage of a “short hole.”

6.2.3.5 Design Phase 2C - Paradise Valley

The wide-open fairway (Forest Green Oval) at Paradise Valley belies the trouble that awaits the overly aggressive drive. Playing slightly uphill the tendency here is to attempt to drive the cover off the ball. So long as this doesn't mean that a player ends up down in the hole’s eponymous valley (Maroon Oval), this isn’t a bad play. When the tees are forward however, entering the valley is a very real possibility. From the fairway atop the valley a mid-to-short iron will be all that is required to find the putting surface, which is at nearly the same elevation. A soft draw will avoid the bunkers (Navy Blue Oval) and the valley and allow a player a good chance at birdie. If an overzealous driver of the golf ball finds himself at the bottom of the valley however, a different story altogether is told.

From the base of the valley a player must play a wedge up a steep bank over a Mackenzie-esque corner bunker to a green that is invisible to the player. Additionally, a pot bunker sits to the right of the green waiting to swallow an overzealous attempt at a pin on the right side. The presence of the bunkers and the lack of visibility encourage play toward the left, which, while safe will all but eliminate birdie from possibility. Paradise Valley plays on the rhythm of the round to add to its difficulty. The hole is properly balanced and will reward intelligent and well-executed shots; however, coming as it does after a likely bogey or worse at Punchbowl, the restraint necessary to play this hole intelligently will often be in short supply.

6.2.3.6 Design Phase 2C - Overlook

Overlook is modeled loosely on George Thomas’ classic tenth hole at Riviera Country Club. The strategy here is about options, the hole presents very different questions depending on which of the green’s two tiers the flag occupies. If the pin is on the upper tier (Forest Green Oval), tucked behind the deep bunker on the right, the better options tend toward the more conservative. If however, the flag is set nicely
Figure 117: Paradise Valley

Pine Grove Springs
"Paradise Valley"
Back - 446 Yards ~ Front - 332 Yards
Elevation Gain From Tee to Green = 15 Feet
on the lower level (Maroon Oval), framed by the green’s pair of protecting bunkers, the temptation to play for an eagle may be too great.

For the longest hitters a carry of about 250 yards is needed to clear the corner bunkers. If that is too much to ask then there are two further options. First, a draw around the bunkers on the fairway’s narrow neck; or second, a lay up short of the bunkers, which while ego bruising, will leave an ideal short iron into the green. If a player yields to temptation but misses the putting surface his short game better be there to bail him out. Playing from the right is very difficult even if the bunker is avoided as it still greatly impacts the recovery shot. A drive (or approach) missed left will give a player a chance to recover. If the flag is on the bottom tier the ridge that separates the two levels will act as a backstop of sorts allowing a pitch to
easily find the right level. Of course, if the flag is on top (especially if its on top but tucked near the front right bunker) the pitch is much more difficult.

Overlook seeks to prove that with proper balance a hole can be a potential birdie hole for weaker player without being a pushover for the stronger player. If a weaker player is confident in his wedge play, a short drive from the forward tees, over the bunker will ride the slope down where such a player can show off his skill and maybe steal a hole from his better competitor. Overlook is a strategically sound and more importantly interesting hole to play, regardless of how often it is played.

6.2.3.7 Design Phase 2C - Steeplechase

It is doubtful that the original golfers who laid out Pine Grove Springs’ golf course in the early 1900s had this stretch of land in mind when they came up with the name Steeplechase. Having said that the name fits like a champ. The hole is a series of ups, downs and arounds that tests the accuracy and distance control of a player as much as any par five on the course. Playing more than 550 yards from the tips every shot on Steeplechase presents a choice. The first decision is, of course, made on the tee.

From the tee a good drive must carry a small valley (Forest Green Oval) before reaching the upper plateau that houses a devious little fairway bunker (Maroon Oval). The bunker insists that players negotiate with it if they want to find the pleasure of writing down a small number after putting out. Sitting 260 yards off the back tees there is no easy way to avoid the little bit of sand. The bravest and most dangerous play is long and left (A), such a shot will yield the best chance to reach the green in two. Playing directly over or around the right side (B) will work as well though the angle toward the green is not as appealing.

From wherever a tee shot ends up the second shot presents as many questions as the first. Going for the green in two is not impossible but it is dangerous, especially for those who have a tendency to miss right. Laying up isn't very difficult though one doesn't want to lay up too close to the green; doing so hides the green behind the slope in front. The ideal spot to play into the green from is between 100 and 150
yards out (Navy Blue Oval). From here though the green is elevated, it is not hidden from view and is very receptive to shots played from anywhere save the far left side of the hole.

The success of Steeplechase hinges on its balance. If the hole were any longer reaching home in two would be out of the question and if it were any shorter the valley in front of the green would make the hole
play nearly as a short par four. The placement of the central bunker is essential; too close to either side and the hole becomes one dimensional, too far or close to the tee and there are no decisions to make on the tee. The balanced shot values of the hole make an eagle or a birdie as likely as a bogey or worse.

6.2.3.8 Design Phase 2C - Wilderness

While the name may be a bit of a misnomer as the hole plays very near Route 9A, Pine Grove Springs’ new penultimate hole is a fun and interesting par four. Playing over and then along a short ridge-line (Forest Green Oval) the best way to attack the green is from the left; whether one gets there directly or by playing the steep slope on the right. The hole is really not as difficult as it seems, the hardest part is that the second shot calls for a fade, however the lie from the fairway is almost always a hook lie. The fairway does flatten out somewhat at about 130 yards off the green (Maroon Oval); the consequence of this is that a confident driver of the golf ball has the advantage on the seventeenth hole.

The green is protected by a single bunker (Navy Blue Oval) placed short and to the hole’s right side. If this bunker is found the recovery shot is difficult as the green slopes away from the bunker making getting close to the pin a difficult proposition. While the hole does favor stronger drivers, the weaker player
is not left out of the mix; the tees are arranged to give weaker players a fine view of the fairway and a very good opportunity to play no more than a seven iron into the green.

Of final note, Wilderness’ position rhythmically within the round dictates that players make bolder choices. This is due to the fact that with the eighteenth being a par three where anything can happen, those wishing to leave the idea of chance on the outside looking in will want to take advantage of this hole to buffer the forces of lady luck, a constant companion to par threes everywhere. While Wilderness is not as dynamic as many of its companions on Pine Grove Springs’ new back nine, it does take a page from Alister Mackenzie’s oft (unfairly) derided eighteenth hole at Cypress Point. Like its more famous cousin, Wilderness rewards execution above all else; and at the end of a close round there is nothing that should be rewarded more.

6.3 Design Conclusion

Concluding the design portion of this project requires a brief refresh of the project’s framework. The design was created in two phases that each focused on the application of Golden Era design principles to the course at Pine Grove Springs. In phase 1 these recommendations focused entirely on improving the game for Pine Grove Springs’ patrons in a way that was financially and temporally feasible for the club in the short term. Phase 2’s objectives were more broad and ambitious. These ambitions ranged from the addition of or drastic changes to entire holes all the way to the procurement of a neighboring parcel so that the course could be expanded to eighteen holes. Throughout this project the best interests of Pine Grove Springs trumped any other factor.

Phase 1’s design recommendations were challenging but rewarding. The author found that designing a balanced golf hole from scratch (Phase 2C), while by no means easy, was a much less daunting undertaking than attempting to make minor changes to an existing layout that would greatly improve the golfing experience. Some of the recommendations were simple and straightforward. The first hole called for only minor adjustments while sixth and ninth holes called for even less. The second, third and fourth holes called for more intensive interventions and each of these have the possibility of being controversial. However, Alister Mackenzie often recalled that the best holes in existence were the most controversial.
ones. Finally, adjustments to holes five and seven can be viewed as works in progress. The problems facing these holes are not impossible but they do call for a more hands on (read: time consuming) application of the five design tenets.

The final grade on Phase 1 is in the hands of Pine Grove Springs, its owner and its members. Many of the recommendations will very likely be introduced in some form in the near future and therefore will be held to the highest standard available, daily play. The research done for this project supports the changes recommended, but in the end if they don’t improve the golfing experience, no matter how theoretically sound a design may be, they will be deemed failures. Having said that, the author has every confidence that every facet of Phase 1 will improve the Balance, Strategy, Fairness, Scale and Rhythm of a round of golf at Pine Grove Springs.

With Phase 2 the project turned to a more theoretical application of Golden Age design principles. The designs laid out in Phases 2A-2C, while still centered on the reality of the Pine Grove Springs site, were more or less free of the constraints of existing conditions (aside from topography and soil conditions). For this reason phase 2 (especially 2A and 2C) was especially useful as a testing ground for the five design tenets that have guided this project. None of the holes in this phase were set out as examples of any one design tenet, but they were all laid out within the framework the tenets provide.

The final verdict on Phase 2 is that the tenets guided a well thought out and sound design. The author was surprised by the impact that rhythm had on the process. The pursuit of sound rhythm guided the flow of the routing in phase 2C which is not so surprising, however the impact rhythm had on phases 2A and 2B was surprisingly significant. Rhythm, more than any other factor determined the location of holes within the routing. Once the routing was determined the next two tenets to impact the designs were generally strategy and balance.

Strategy and balance responded to the topography of the routing and dictated the flow of the individual holes. These two tenets acted as a second layer of design, taking what rhythm had given them and building individual holes and shots. Once balance and strategy had worked their magic and the holes had
been roughed out, the finer scale tools of fairness and scale provided the finishing touches to the rough sculptures the other tenets had given them.

The most surprising conclusion reached regarding the application of the Golden Era’s design tenets was that rather than working as a holistic design framework where all five tenets guided each decision in turn, the tenets provided a more linear framework. Actually, linear is a bit misleading, the process was more of a repeating, circular one; wherein rhythmic decisions guided strategy and balance related concepts which were then shaped by the ideals of scale and fairness. The “finished product” resulting from this process was then run back through the framework to further refine the design. This continued until a suitable design had taken shape. While the changes recommended in phase 2 may never see the ground the lessons learned from their design will prove invaluable to future golf course design projects.
7. Conclusions

The designing of golf courses has been going on in some form or fashion for more than 150 years; throughout this time nearly every course that has been laid out has been designed with the intention of being the best course possible given the financial and natural conditions present at the site. The vast majority of the golf courses in existence today have fallen short of this lofty ambition. Usually they have not fallen short for lack of trying but rather for a lack of understanding; understanding of the site, understanding of the game and understanding of the process behind golf course design. Even a nearly complete understanding of each of these facets will not always result in a world class course; however, it will result in a course that reaches as close as possible to the fullest potential of the site.

Throughout the research and analysis portions of this project the attempt has been made to isolate the genius behind those courses that have succeeded in reaching the full potential of their sites. A majority of the men responsible for those courses practiced their craft during a period of design known as the Golden Age of Golf Course Design. These men included names like Alister Mackenzie, Charles Blair MacDonald and Donald Ross to name a few and it is their work that has guided this project to its identification of the five fundamental tenets of golf course design. None of these men identified the tenets identified here as such, nonetheless their work reveals not only the existence of the tenets but also the grasp these men held on the ideals behind them.

The first tenet, rhythm tends to guide a course’s designer much like a conscience, often it is difficult to identify how the rhythmic tenet has been violated, however it is rarely difficult to identify when it has been violated. Rhythm in golf design is a feeling that both designer and player experience on the course and as such it must guide every decision made in a design, even when the guidance is difficult to interpret. The next pair of tenets act in concert to ensure the interest and enjoyability of the game. Balance and strategy are intertwined ideas that govern the concrete decision making by both designer and player. For the designer this governance often involves the placement of the various elements of design; and for the player it centers on how those elements are best interacted with. Finally, the tenets of scale and fairness are used to take the rough edges off of a design and help to ensure that the course and the experience of it fit with
the course’s players and surroundings. Scale and fairness do not dictate placement of course design elements so much as they guide the intended interactions with those elements, whether physically or visually.

The identification and analysis of these tenets is only as useful as their ability to be applied in a practical, concrete way. To ensure their real world value the tenets were used as the guiding framework of a two phase design project using Pine Grove Springs as its subject. In phase 1 the project revealed the usefulness of the tenets in guiding small-scale changes to an existing routing; the framework worked wonderfully. During phase 2 the project took on a more academic slant and sought to apply the tenets to a (nearly) complete initial design project; this was accomplished by envisioning a nine hole addition to the existing routing. Here the tenets did not fail to impress. The framework they provided to the process was invaluable and helped produce a run of new holes that is fundamentally sound, and above all interesting.

No project can guarantee success, however if a proper framework, such as the five tenets, is applied success is a much more likely outcome than if a design is approached in a free from manner. The hope of the author is that the framework provided by the five tenets will be used to guide design changes on existing golf courses as well as helping to produce truly interesting original design for the enjoyment of golfers everywhere. It is further hoped that the usefulness of the tenets does not stop at a course’s design phase but rather helps the golfers playing a course to better understand the facets of good design.
8. **Sources List**


9. Appendices

9.1 Appendix of Images

Certain images used in this project were used at a size that made their interpretation potentially difficult; for this reason those images have been added here.

9.1.1 Riviera Number 10

Riviera
Country Club #10
Back - 315 Yards
Front - 275 Yards
9.1.2 Cypress Point Number 4

A. A more intimidating tee shot over a massive bunker rewards the bold player with a shorter, more visible line to the hole.
B. The less bold (or less capable) player is offered an easier tee shot to the right of the opening bunker. In exchange he is faced with a longer, more intimidating line into the hole.
C. The shorter player may elect to play the fourth as a three shotter; laying up short of the green hoping to chip close and save par.

Cypress Point #4
9.1.3 Cypress Point Number 6

A. A strong drive played over the first fairway bunker will benefit from the right to left pitch to the fairway in the landing area, gaining distance. Regardless of the quality of the drive getting home in two will require a wonderfully struck second shot.

B. Finding the fairway off the tee is imperative for the shorter hitter. From the fairway the hole does not play as a difficult three shotter with a simple layup yielding a nice 125 pitch into the green along its ideal line of attack. If the tee shot finds the first bunker, par is an excellent score.

C. For the short hitter number six is quite a trek; however, the hole can still be stolen if played correctly. The drive must find the fairway. From there a pair of well struck layups will yield at worst an easy pitch and a chance at a five. If fortune (and the wind) favor the player a birdie putt is not out of the question.

Cypress Point #6

9.1.4 Cypress Point Number 16

A. The bold line is all about gumption and skill. 200 yards of carry over the Pacific Ocean. While technology has made this shot a bit easier it is still among the most intimidating shots in golf.

B. Technology has made this hole much more mentally difficult for the bogey golfer. A perfect shot means a chance at glory and a two on the card. Anything less means spending the rest of the day thinking "I should have played to the left and taken my four."

C. This is a par four for anyone forced by lack of distance to play line C. An intimidating carry is followed by a well presented but still difficult pitch with little margin for error.

Cypress Point #16
9.1.5 Cypress Point Number 17

A. The stronger player must think about his second shot on the tee. A route to the right of the central trees calls for a bit more bravado off the tee but yields an easier second. While a trip around the left side calls for more power off tee but can potentially yield a safer second shot.

B. Like the 16th the 17th plays more like it was designed for the bogey player. The tee shot requires the same thinking as it does for the stronger player but its the second that really challenges the mind of the bogey player. Left = risk the beach for the chance at a three. Right = risk a bogey but probably no worse.

C. For the weaker player this hole is about skill with an iron in one’s hand. The tee shot must be played back leaving almost no chance at the green in two. From there a well-struck iron is needed to reach the layup area from where a 75 yard pitch with the ocean as a backdrop is needed for a chance at a four.
A. The back tees call for a slight draw off the tee to leave a clean, level look at the green.
B. While the temptation is great to have a go at the green a lay up to full wedge distance is usually the better play.
C. Two solid iron shots can yield a good chance for par.
9.1.7 Cherry Hill Number 3

Cherry Hill #3

The play here is to find the top of the flagstick and aim at it. There are no hazards to speak of so just hit a good clean stroke. Make sure you club up though its a steep hill.

9.1.8 Cherry Hill Number 7

Cherry Hill #7

A. The temptation is to swing for the fences, and there is little reason not to. A long drawing drive may leave a chance at the green in two. If the tee shot is wayward most of the surrounding areas are open enough to yield a recovery shot. From there a short iron to the open green is all that stands between a player and birdie.

B. Like the stronger player, the bogey golfer can really try and hit the ball as far down the hill as possible. The only true danger is the out of bounds to the left. While it is unlikely that even with a great tailwind a bogey golfer can reachable in two, a short iron and a good putt should yield a chance at birdie.

C. The weaker player will find this hole very difficult. While the hole plays straight downhill it is still three well struck shots to the end of the fairway. This area is the only area of fairway that allows the weaker player a shot at the green. An attempt from any further back than 30 yards from water's edge will almost certainly lead to a dropped ball and several dropped strokes.
9.1.9 Pacific Dunes Number 2

A. The center fairway bunker located 150 yards short of the hole is not really in play for the best players unless the wind isn’t cooperating. A draw over the aforementioned bunker will work with the slope to leave a wonderful look at the pin. The safer play off the tee is to the right but it leaves an obscured look at the green.

B. For the bogey player the center bunker is a wonderful dictator of strategy. It must be played around, or if the wind and player are both feeling right, over. A draw is the preferred play off the tee but above all the tee shot must find the fairway.

C. The short tees allow the weakest player the opportunity to steal a hole early in the round. A play directly over the central bunker will leave a beautiful look at the green.
9.1.10 Pacific Dunes Number 4

A. Played along the cliffs bordering the Pacific. Number 4 is no joke. From the back tees the ideal landing area is pinched between a large bunker on the left and the cliffs on the right. A bold drive will leave a mid-iron into the green.

B. The different tees leave the bogey player with a similar choice off of the tee. However, regardless of where the tee shot lands it will probably be a mid-to-long iron into the green. The ideal line is from the right. But then there is that whole ocean thing on that side.

C. For the weakest player there is no rest here but at least the scenery is amazing. It will probably be three full shots to reach the green, especially into the prevailing winds.
9.1.11 Pacific Dunes Number 5

No matter the caliber of player the longish par 3 fifth is a challenge. The wind is usually helping so club down. But just getting on the green isn’t enough here. The two tiers, not to mention the large size, make a two putt no guarantee.
9.1.12 Pacific Dunes Number 12

Pacific Dunes #12

A. At 529 yards from the back its not an overly long modern day par 5 but playing into the wind as it usually does it will probably take three shots to get home for most players. The aiming point off the tee is the center bunker. The second shot ideally plays over it to the right side of the fairway leaving a short pitch onto the flat green. Not the most difficult hole on the course but a loss of concentration here surely means a loss of strokes.

B. Barring a strong tailwind, this hole is most definitely a three shotter. The second shot is tricky as it must negotiate the central bunker which will be just in range of a well struck second. The play for the third is most definitely from the right side of the fairway. The green is among the easiest on the course but you don’t want to play it from the wrong angle.

C. For the weakest player this hole is about patience. The fairway is wide and the shots aren’t too difficult but it is a long row to hoe especially when it plays into the wind. A series of well struck shots will yield a chance at par.