ROBERT T. LYNCH

BROOKLINE GOLF COURSE

Brookline, Massachusetts

June 12, 2023

GOLF COURSE MASTER PLAN

Prepared by:

MUNGEAM GOLF DESIGN

195 SW Main Street
Douglas, Massachusetts

ACKNOWLEDGEMENT

This Master Plan is the product of a number of people and groups who have a great concern for the golf course and its environment. We would like to take this opportunity to thank some of the many people whose efforts have made this Master Plan possible:

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The Passionate Brookline Residents

Loyal Robert T. Lynch Brookline Golf Course Golfers

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Morning smoke over the 18th fairway (Justin Lawson photo)

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Looking back down Hole 4 from the Green at sunrise (Justin Lawson photo)

Front view of the Robert T. Lynch Brookline Golf Club (Justin Lawson photo)

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PROCESS

The MUNGEAM GOLF DESIGN TEAM was retained by the Brookline Parks & Recreation Department the fall of 2021 to develop a Master Plan for the municipal golf course. Members of the Design Team have extensive experience in the development of Master and Course Improvement Plans at municipal courses in the Northeastern United States. The purpose of the Master Plan is to create a roadmap for future improvements to the course and facilities, so that changes can be undertaken in a logical order with predictable costs and results. The process begins with an evaluation of existing information, a review of the course and support facilities and the determination of appropriate goals and objectives for the Plan. Brookline previously developed Master Plans in 1994 and 1999, so this new Master Plan is an updating of those Plans based on current influences.

From our meetings, the Design Team learned that the golf course property is one of the largest areas of Open Space in Brookline, and that there are many residents that would like it to be used in more diverse ways and be more accessible to non-golfers.

Functionality of the course was identified as being the highest priority. The Master Plan therefore focuses on improvements that promote consistently good and sustainable playing conditions through the golf season, as well as projects that will enhance operation of the course.

The completed Master Plan outlines a plan of improvements that makes the course more fun for all levels of play, more challenging for the accomplished player and more visually appealing for all. After our initial evaluation and conducting of a survey of over 500 players and residents, the Master Plan committee was presented with a "Preliminary" Master Plan drawing and report. The Preliminary Plan was reviewed by the Architect and Master Plan Committee over a series of meetings and course walks. Adjustments were made to the plan based on many discussions with and presentations to the Committee. The Master Plan identifies and prioritizes future modifications to each hole. A Master Plan is an important tool in alleviating haphazard changes done at the will of staff or board members that may adversely impact the course and not follow the desire of Town or resident users.

As part of Master Plan development, a review of aerial photographs and the original plan as prepared by Golf Architects Stiles and Van Kleek was conducted to better understand changes that have occurred to the course since its inception. These documents show how the course evolved to its current layout and provide the background information for restoration of former features.

SITE DESCRIPTION

The Robert T. Lynch Brookline Golf Course is located on mostly flat ground in Chestnut Hill, Massachusetts, a southwestern suburb of Boston. The 130-acre course is bordered on the south by Newton Street and the West Roxbury Parkway. To the north, the course shares a boundary with The Country Club, one of five founding members of the United States Golf Association in 1895 and host to numerous national championships including the 1913 U.S. Open won by local amateur player and TCC caddy Francis Ouimet. The site is mostly open with a few pockets of dense trees and some individual trees bordering the golf holes. One wooded area at the western side is preserved as Putterham Woods. Much of the course is built on flat ground underlain by poorly drained muck soils. The elevated sections of the course are mostly ledge. Together they created a layout challenge for the designer, who mostly used the higher ground for tees and greens and the flatter areas for fairway. Surface water enters the course from all sides and about 80% of the drainage must pass through the pipe that goes under the back of the driving range. The water reemerges at the left side of Hole 1 fairway before leaving going under Hammond Street on the eastern side of the property.

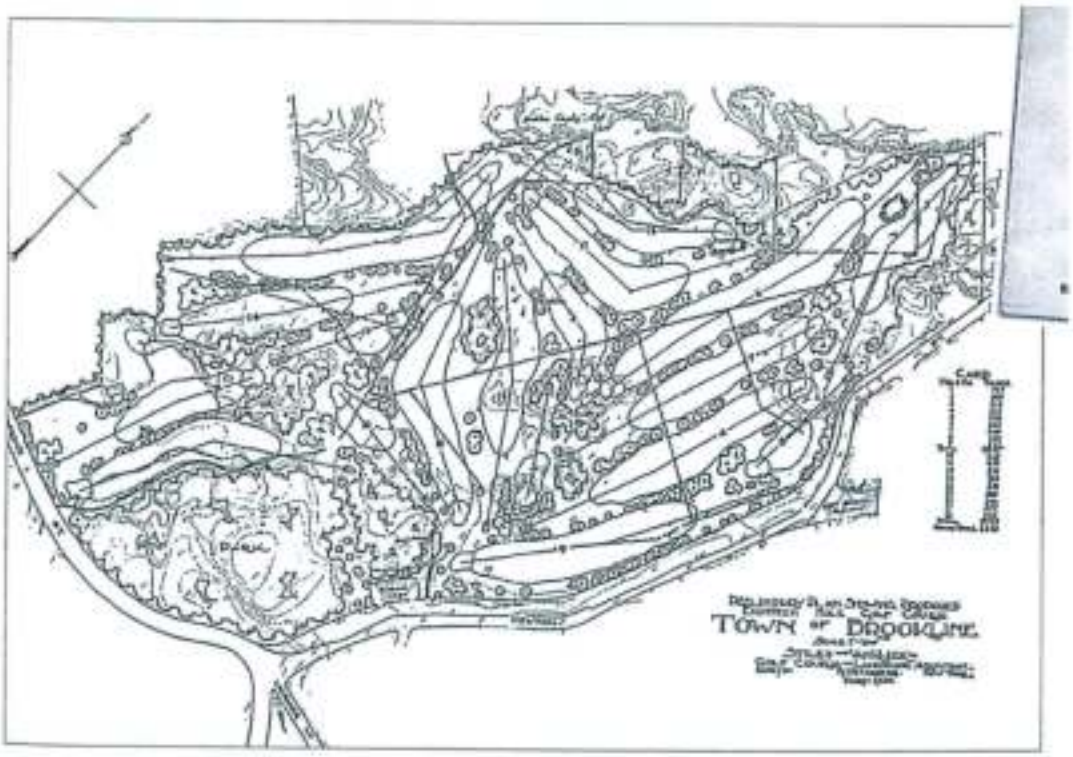
COURSE DEVELOPMENT HISTORY

The Town of Brookline and its residents has a tremendous reputation for its conservation of land and historic facilities. These ideals can be traced back to the mid 1800's when Monmouth Park was acquired by the Town for public use and in 1871 the Cypress and Brookline Avenue Playgrounds were the first parcels of land in the country to be acquired by a municipality for use as public playgrounds. In 1880 the Town's first Park Commissioners were elected and in 1881Frederic Law Olmsted began work on the Muddy River Improvements which incorporated the creation of Riverway and Olmsted Parks. In 1886, in response to advocacy by Olmsted and the Arnold Arboretum founding director Charles Sprague Sargent, the Nation's first Tree Planting Committee was formed in Brookline.
These conservation efforts led to the initial 1899 purchase of 124 acres of land at Putterham Meadows with the idea of creating a Tree Farm. Golf only began being played in America in about 1885, but as soon as the early 1900's it had become immensely popular and fashionable. Most of the early courses were private, but municipal development of courses for public use began in earnest in 1895 with courses at Van Cortland Park, New York and Franklin Park in Boston.

The Putterham Meadows property was soon considered as a possible site for golf in Brookline. Lotta Bradburn Schick, a leading Brookline activist, is credited as being the advocate most responsible for the creation of the course. The Town chose local landscape and golf architect Wayne Stiles of Stiles and Van Kleek (over more well known golf architects Donald Ross and William Flynn) to oversee the layout and construction of the course, which was started in 1932 and opened in 1933. One of the goals set forth by the Town in response to a request by the Brookline Bird Club was the preservation of the hemlock and woodland groves, which was mostly accomplished by Stiles.

Since opening, there have been several changes made to the course but most of the holes remain as originally designed.

The original course layout had play starting on the current par-4 10th Hole and finishing on existing Hole 9 but this was soon changed due to the blind tee shot on that first Hole. Subsequently, for many years, play started on a downhill par-3 located within the current Driving Range. A par-3 starting hole wasn't optimal either, so in the late 1950's land was acquired from the farm at the northern edge of the property on which the current 5th hole was added and the 6th Hole was lengthened. This change allowed the 2nd hole to be lengthened so that the hole became a short par-5 and the new first hole. The change also increased par for the 18-holes from 70 to 71.



The Original Stiles and Van Kleek Routing Plan for the Golf Course. Note that Hole 10 is a par-3 and the order of the holes is reversed from what is currently played.

In 1971, additional land was acquired at the southern end of the property and a new green was built on Hole 14 that changed the straight hole to a dogleg right and lengthened it by about 40 yards. Shifting the 14th green also enabled the construction of new tees and the lengthening of the current 15th hole. In 2002 the current 7th green complex was rebuilt in the same location as the original green. At the same time the tees on Holes 8 and

No further substantial changes occurred at the course until 2014/2015, when the Driving Range and a new Turf Maintenance Facility were added. The new Range required new tees be established for Hole #1 which resulted in a significant shortening of the hole. Finally, in 2018 the original Turf Maintenance Facility that was located to the right of the 3rd Hole was eliminated.

COURSE DESIGN HISTORY

In 1930, the Town hired golf architect Wayne Stiles of the firm Stiles and Van Kleek to oversee development of the 18-hole golf course. The Stiles proposal was selected over those from Donald Ross and William Flynn. In his career, Stiles designed more than 145 courses, mostly in New England. He grew up in Brighton, Massachusetts, learned to play golf at the former Kenilworth Golf Club in Alston, and then became a member at Brae Burn Country Club in West Newton in 1905 where he became a fine player. Educated at Brighton High School, he began working for Architects Brett and Hall in Boston in 1902, reaching the level of junior partner in 1911. He then started his own landscape design firm in 1915. Within a year he had branched into golf course architecture with the design of Nashua Country Club in New Hampshire being his first project. Stiles lived at different addresses in Brookline for many years. He formed a partnership with John Van Kleek in 1924 with offices in Boston, New York and St. Petersburg, Florida. Stiles was a founding member of the American Society of Golf Course Architects (ASGCA).

An aerial photo of Brookline Golf Course from 1938, just five years after it opened.

One of the few photos that exist of Wayne Stiles and his house at Clarke Circle in Needham, MA.

The firm dissolved before the Depression when the real estate boom faded in Florida, but Stiles remained in practice almost exclusively as a golf architect designing and supervising many municipal and Civilian Conservation Corps projects proposed to put people back to work. Stiles died in 1953 at the age of 69 after planning more than 100 new courses. Some other area courses designed by Stiles include: Oak Hill, Pine Brook, Pittsfield, Marshfield, Thorny Lea and Taconic in Massachusetts; Rutland and Brattleboro in Vermont and Cochecho, Keene, Hooper and Laconia in New Hampshire.

In 1932, Stiles left Brookline and moved to a handsome, brick colonial home in Babson Park on Clarke Road in Needham, MA overlooking the 7th hole of Wellesley Country Club, where he lived until his death in 1953. While living on and playing the course, he befriended the Superintendent, Albert Zikorus, who himself went on to become a golf architect with many New England designs and renovations of his own.

Since Stiles' passing, several other local golf architects have contributed to the evolution of the course, including Geoffrey S. Cornish, Brian Silva and Robert McNeil.

GOALS AND OBJECTIVES

There are many reasons for developing a Master Plan. The objective for the Brookline Golf Course Master Plan as determined by the Master Plan Committee is the creation of a comprehensive Plan that addresses the functionality, playability, aesthetic appeal, conditioning and consistency of presentation of the Golf Course, while at the same time enhancing the natural environment and increasing community use of site for more than just golf.

In the process, the following objectives were outlined:

PRESERVATION - The plan will address *preservation* of the landscape and existing golf course character while providing recommendation on improvements to programmatic issues such as;

drainage, cart and player circulation, course strategy, irrigation and vegetation. The goal is to strike a balance between preservation of character and modernization of infrastructure.

INTEGRATION - Modifications should be seamlessly integrated into the existing facility and blend with the positive natural elements of the site. The changes should bring consistency to the style of the course rather than fragment the character.

RESTORATION - The architect shall utilize old aerial photographs and original plans, as well as observations made on the ground, to understand the evolution of the course layout. We will use these findings as a guide for future modifications. The proposed work will refresh and invigorate the course to meet the requirements of modern play, while being sympathetic to the original, classic design style.

FLEXIBILITY - Although a priority ranking for scheduling of improvements has been outlined, the Master Plan shall be flexible in terms of implementation depending on the Club's financial situation, maintenance requirements, schedule and impact on play.

ACCESSIBILITY - The Plan will review and recommend methods for enhancing community non-golf activities and use of the site.

The delightful view of Hole 18 from the clubhouse porch on a summer evening

SECTION II EXECUTIVE SUMMARY

INTRODUCTION

Master Plan development involved tasks and research that were completed over a year long period. Development tasks followed a planning process that allowed the Design Team the opportunity to collect valuable information about all the issues associated with the course and its ancillary facilities. The Design Team used that data to articulate potential scenarios for improvement.

The culmination of the planning process is the final Master Plan that will guide future improvements to the property. The specific tasks included site analysis and investigation, preliminary recommendations, improvement strategies, a preliminary master plan document, and the final Master Plan Drawing and Report.

SITE ANALYSIS

Prior to making any recommendations on improvements to the course facility, the design team first gathered information about the property, the course users and conducted an extensive analysis of the site. This included a review of the golf holes, the practice facilities, open space areas, entrance and parking area, as well as a survey of golfers and residents. Features related to analysis of the golf course facility included the following:

- Topography and drainage
- Golf Course playability for all capabilities and impact on pace of play
- Golf Course strategy and difficulty
- Adherence to Wayne Stiles original design and character
- Restoration of historic features of the site
- Cart path and pedestrian circulation
- Landscape and existing vegetation
- An evaluation of the existing irrigation system
- An evaluation of the constraints to development and permitting issues
- Clubhouse parking, cart staging and starting operations
- Wayfinding issues at the Clubhouse and on the course
- Potential opportunities for development of on-site irrigation water supply
- Opportunities for enhancement of wildlife and native plants
- Opportunities for a reduction in highly maintained turf
- Opportunities for increasing community use of the property

The golf course analysis is documented on the following pages through the presentation of a summary of the items reviewed and a hole by hole narrative with a drawing of each hole that shows the existing conditions and the recommended modifications based on our analysis.

METHODOLOGY

The Master Plan was developed through evaluation of the site and a series of meetings with the Master Plan Committee. At the conclusion of the site evaluation and several meetings to review issues impacting the course and operations, a Preliminary Master Plan was prepared which identified the design team's improvement recommendations for all aspects of the golf facility. Recommendations ranged from adjustment of mowing lines to creation of an irrigation pond. Following presentation of the Preliminary Plan, walking tours were conducted to get reaction to the Plan and to generate new ideas or to learn of issues not previously identified. A final Master Plan meeting was held in September of 2022 to review the walk though and discuss changes or additions to the Preliminary Plan. The new Master Plan is based on months of information gathering.

The Master Plan was developed over the following timeline:

- October 2021 - Design Team was contracted and work began. Develop existing conditions plan to be used for Master Plan drawing.
- November 2021 - Review of historical and site specific information (such as former Master Plans, original plans, drainage studies and back ground on course changes). Begin on-site analysis of opportunities and constraints of course property.
- December 2021 - Continue site analysis during several visits and conduct a Walkabout Tour with Master Plan Committee and interested residents.
- January 2022 - Prepare Public Survey. Begin work on Preliminary Plan and conduct first of six monthly Master Plan Committee meetings.
- March/April 2022 - Compilation of Public Survey results
- May 2022 - Preliminary Master Plan is presented.
- June 2022 - September 2022 - MP Break for Forward Tee Project Planning, Permitting and Construction.
- July 2022 - Conduct Walking Tour of Front Nine Holes to review Preliminary Plan
- August 2022 - Conduct Walking Tour of Back Nine Holes
- September/October - Last MP Committee meeting and end of public comment
- October 2022 to June 2023 - Development of Final Master Plan

The methodology used has ensured that the Master Plan was developed as a collaboration between the consultants on the Design Team, the Town's Master Plan Committee (including golf course staff members), and the residents of the Town of Brookline.

COST ESTIMATE

Associated with each recommendation is a cost estimate and priority ranking for each task identified on the plan. The preliminary cost estimates, along with the hole by hole recommendations, were presented to the Master Plan Committee for review, comment and input.

GREENS

The putting surfaces are generally considered the most important feature on a golf course. Their design, playability and upkeep are of utmost importance to the desirability of the course. Players demand playing surfaces that are smooth, firm, fast and consistent. On new courses, putting surfaces are built with drainage systems, specifically manufactured soils and are planted with genetically improved seed, making it easier to achieve perfect playing conditions. On the "push-up, native soil" greens found on such older courses as Brookline Golf Course, the turf is generally a combination of new and old bent grass and poa annua. On native soil, high quality conditions are more difficult to consistently achieve over an extended period on time, and especially so during periods of high stress, then on modern greens with good drainage and manufactured soil. Most of the greens at Brookline are original "native soil" greens with a blend of grass species. It is our understanding that there have been three (3) greens rebuilt. The 5th hole was added in the 1950's, the 14th green was moved to its present location and the 7th green was renovated about twenty years ago.

The new greens on Holes 5 and 14 appear to have been built in the "push-up" style of the original features. Construction methodology for the 7th green is unknown, but it was likely built with drainage and off-site prepared root zone mix based on the timing of when the work was completed.

The greens at Brookline are the most dynamic and best feature of the course. If there is one good characteristic or feature that players long remember after playing the course it is the putting surfaces. Whether it is their variation in size, their raised or ground level positioning, the surface slope and creative surface contouring, the greens at Brookline standout as the over-riding best feature on the course.

As is the tendency on all old courses, many of the greens at Brookline have shrunk and lost their shape over time. The loss of putting surface most frequently occurs at the corners, the back and behind hazards. When mowing with riding mowers, the shape of the green gradually becomes more rounded. Although restoration of lost putting surface and collar area has recently begun on several holes, there remains more of this work to be either completed or established. Restoration generally involves the expansion of putting surface and collar into areas that are currently mown as rough at the fringe of the existing green. Expansion is important because it restores valuable cupping space and distinctive undulations into the putting surface. Restoring lost green area is important for three reasons - it provides additional green area on which to spread out wear, it often returns valuable, strategic cupping areas, and it restores some of the original character. Enlarging greens to their original shape restores the original shot values, while not making the course any easier because of the location of the expansion. At Brookline, significant restoration is proposed for the back and left side of Hole 2, the back and right side of Hole 10, and the back of Hole 15, while most other greens are recommended for smaller areas of expansion. The process of restoring area is relatively

simple. The most successful method is to cut out the existing turf, upgrade the soil, shift the irrigation (if necessary), and replace with turf cut from a nursery or other green. Another method some clubs choose is to heavily aerate and topdress the expanded areas while gradually lowering the mowing height.

At Hole #10, continued expansion of the collar/green will accentuate the wonderful design.

At Brookline, we have recommended the reduction in size of two greens that were formerly rebuilt (Holes 5 and 14) so they are more similar in size and character to the original Stiles designed putting surfaces. Turf from these reductions can be utilized for restoration of other greens.

We have recommended the 17th green be rebuilt and shifted to the right slightly. The green has settled creating an uneven surface, and its low lying elevation causes it to have very wet soil. We propose raising the putting surface elevation and building the new green with improved drainage and soil.

At current standards for height of cut and smoothness, the existing bent/poa turf teeters on the edge of survival in the middle of summer. It is imperative that greens be healthy entering this stressful period. To ensure healthy greens, they must receive appropriate levels of sunlight throughout the year, be well drained and have irrigation available to water deeply and cool the plant surface when it gets overheated. Modern USGA built greens have the recommended soils and drainage systems to keep the turf healthy, but older push-up greens usually lack the drainage pipe and well drained soil of modern greens. The Master Plan recommends the installation of slit drainage in the putting surfaces of poorly drained greens to enhance removal of water from the surface and root zone layer. The greens most in need of drainage are Holes 3, 18, 14, 5, 8 & 15.

TEES and COURSE LENGTH

Most of the teeing grounds are in fair condition and many of the original tees appear to still be in use. The original course was likely built with only one or two small tee boxes. Almost all play was from the same tee. Tee design and placement has changed considerably since 1933. Most courses now have at least three separate teeing grounds spaced out to accommodate players of different abilities, and those tees are big enough to move the tee markers so that the grass doesn't become worn in one area. Brookline currently utilizes three separate tee markers (Blue for the longest course at 6,180 yards, White for the middle length at 5,859 yards and Red for the 5,537 yard short course). The 5,800 to 6,200 yard length is perfect for the majority of public course users. The Blue course distance is too short for most men's tournament play. At over 5,500 yards and with soft fairways without much roll, the existing Red Tee course plays very long for most women and beginners. Many new forward tees are proposed to make the course more welcoming and less intimidating for those players who find the current Red tees too long.

The Master Plan calls for the expansion and leveling and expansion of several existing tees and the addition of new tees. Tee improvements were begun in 2022 based on the Preliminary Master Plan. The intended goal of tee changes is to create a shorter, more enjoyable course for seniors, beginners and women; provide some additional tees at alternate angles and lengths to diversify play and spread out wear for the average player; create a longer course for low handicap players that will make Brookline a potential site for MGA and other tournaments; and to improve the alignment and levelness and make all tees a consistent rectangular, square-cornered shape.

Although work is proposed on each hole, the most significant proposed tee upgrades occur on Holes 1, 4, 6, 13, 16 & 17. On Hole 4, we have proposed combining and enlarging the existing tees to create more space and options, at Hole 6 the existing multiple tees will be enlarged and combined into a single surface and new tees added that shorten the distance from the tee to the fairway. On Hole 13, which is proposed to be the new first hole, a new back tee is to be added, the existing tee leveled and new forward tees created (one was completed in 2022).

Hole 12 tee wear prior to renovation and the new rear tee on Hole 16.

At Hole 17 the Master Plan calls for a big expansion of the middle/forward tee area to provide an alternate angle and additional tee space on the short par-3. We have even proposed use of the back tee on Hole 14 as an alternate tee for Hole 17.

Where required, tees are expanded to improve conditions by reducing plant stress brought about by excessive play in a small area. Each of the existing three tee marker areas were assessed and appropriate action recommended to increase variation in the angle of play and to improve alignment and conditioning. Expanding the tee boxes increases the variety within the course so that holes are not played from the same angle and distance each day.

The multiple tee philosophy has been utilized in the design of this work as this concept allows tees to be set comfortably into the natural grades while maximizing both variety of play and aesthetic effect, and best fits with the original design style, but this doesn't mean there should be five tees on every hole, and tees should not be designated as the "Green Tee" or the "White Tee" and only used for that color marker. It is more costly to maintain multiple tees, so where feasible they are sized to host more than one tee marker.

The access and landscaping of each tee area will be reviewed with recommendations made for improvements where necessary. Where tee steps are required, they should be built with material that is safe, permanent and visually compatible throughout the course. Landscaping should be minimal so as not to increase maintenance requirements. Our goal is to make management of the tee area as efficient as possible.

The best courses provide variety in the length and difficulty of each hole. In particular, the par three holes should be different and memorable. At Brookline Golf Course from the White Markers, the par-3 distances are 148, 177, 119 and 160 yards, which is excellent variation. The par 4 holes vary from 290 to 400 yards, which is also good design.

Because "Forward is the Future", the Master Plan team has utilized the expertise of renowned forward tee experts Arthur Little and Jann Leeming for advise on placement of new forward tees and the creation of shorter courses. Little and Leeming have worked with many courses (including all five courses at Bandon Dunes in Oregon) on proper forward tee placement. They have recommended the creation of additional tee surfaces to enable there to be a 4,500 yard and 3,800 yard course (with hybrid courses possible using a combination of tee markers). There analysis is based on swing speed, elevation change, soil conditions and the average driving distance for women, youth and beginner players. Their report can be reviewed in APPENDIX A.

BUNKERS

Sand bunkers add greatly to strategy and aesthetics on a golf course. Our survey of players indicated that the sand bunkers at Brookline are an area in need of renovation due to their less than average condition. Bunker issues are consistent with many other

courses of this vintage. They include sand that is contaminated with rocks and stone, undefined borders and poor drainage after rains.

A review of the 1938 aerial photograph indicates that bunker locations have evolved since the course was built. Several bunkers have been removed, such as several fairway bunkers at Hole 2, and the two left side approach bunkers on Hole 16, and some others have been added, such as both bunkers on Hole 4 The Master Plan outlines several changes to the bunkering, including restoration of bunkers that were previously renovated in a style more similar to what was originally built; the reintroduction of former bunkers that were removed; shifting of fairway bunkers to put them in a better position for the modern game; and the removal of some bunkers that are no longer in play or are considered too penal.

The Updated Master Plan makes the following recommendations on bunkers:

- Renovation in a consistent, vintage style similar to what was designed by Wayne Stiles.
- Improved drainage through installation of drain pipes in the bunker floors.
- More consistent playing conditions from floor liners and improved bunker sand.
- Restoration of several original bunkers that have been eliminated.
- The addition of some new bunkers to add strategy and visual character to the course for the modern player.
- Removal of a few bunkers that were previously added.

Existing bunkers at Holes 1 and 4.

An example of a newer bunker that is not in character with the original features is the greenside bunker on Hole 5, which is more dynamically shaped. New bunkers are proposed to restore the challenge and strategic interest of the holes. This includes a mound and waste bunker area between holes 10 and 11 to provide separation without the need for trees, and two bunkers on the right side of Hole 15 fairway (one new, the other a restoration of a former hazard) to help shift play away from the 8th teeing ground. In the process of updating the bunkering, drainage will be installed to eliminate standing water, and the floors will be lined to reduce erosion and contamination of the sand.

Bunkers work hand in hand with fairway expansions and modifications to define the strategy of each golf hole.

The life expectancy for most bunker renovations is about 10-15 years, after which sand build-up outside the bunker, slow drainage and sand contamination compromise the work and result in the need for additional refurbishment. Most of the bunkers at Brookline have not been renovated in the past 20 years, some much longer, so they are overdue for renovation or restoration. Bunkers should be rebuilt in a consistent style that compares with the original features but is distinctive to Stiles work and Brookline Golf Course.

Shown are bunker style examples that would be appropriate for Brookline. Both have simple shapes, grass slopes, and mostly flat floors with a small amount of sand raised onto the slope. The grass on the slope is somewhat shaggy and lies over the sand.

A copy of an aerial photograph from 1938 is included as part of the Master Plan document. Many vintage courses are using historical data to "restore" their layouts to a condition more similar to the original design. This especially relates to bunkering and vegetation. For this Master Plan, we have utilized the aerial photograph to guide decisions and assist in a sympathetic renovation of the original holes.

PRACTICE FACILITIES

The recent practice range installation is a key asset for Brookline Golf Course. Centrally located, the facility includes natural turf and synthetic hitting stations. With limited tee space, synthetic tees are crucial for operations. The range target area is almost completely enclosed by seventy-five-foot netting. Even with this generous height, it is not uncommon to see golf balls on adjacent holes and even the existing 4th fairway.

This facility has created a wonderful internal revenue source for the course. This facility should provide needed capital to spur further course improvements. Consideration should be given to adding night lighting to expand operational hours, especially in the shoulder spring and fall seasons. Modern lighting design can maintain adequate visual lighting requirements with controls to minimize light visibility from off site.

The existing putting green is of adequate size except for busy weekend mornings. It is in an ideal location between the pro shop and existing or proposed 1st tees. Additional putting surface area would be valuable, but the proximity of adjacent features such as the 9th and 18th greens prevents this.

The Practice Range tee with clubhouse in background.

To help free up practice green area, the Master Plan proposed the development of a short game practice area with approach cut turf and a greenside bunker. Maintained similar to an existing green, this area could be located where the existing and underutilized bocce courts area is currently. This location is also centered with the pro shop, practice green and 1st tees.

A new short game practice area is proposed for the bocce court location.

FAIRWAYS and ROUGHS

At some point in the past, the fairways at Brookline were narrowed to reduce the area of highly maintained turf. The Master Plan calls for widening many of the fairways and straightening the edges in a more classic style. The Master Plan indicates where fairways should be shifted, reduced or expanded to highlight natural features and make them integral to the strategy and to strengthen the visual attractiveness of each hole. Fairways will be designed to flow with the existing natural contour of the ground.

The 4th at Wellesley CC is an example of fescue roughs in out-of-play areas.

In most locations, the modifications to fairways involve more expansion then reduction. As happens with greens, fairways tend to get narrower over time. Proposed expansions improve playability and better fit the fairways into the existing landforms and hazards. Fairway expansions also balance out the increased difficulty resulting from proposed bunker shifting and new bunkers. These modifications will entice the better player to take educated risks to hit to a specific portion of the fairway, with the reward being an improved angle of approach into the green.

The Master Plan also identifies the incorporation of "Natural Fescue Rough" into non-play areas of the course. Most of the proposed areas are adjacent to tees. There is a strong affinity by the modern player for more naturalized golf layouts. The USGA has demonstrated this with its selection of such courses as Chambers Bay, Pinehurst #2, Shinnecock Hills and Erin Hills as recent hosts of the U.S. Open. Conversion of non-play areas to natural rough can reduce demands and inputs from the maintenance department.

DRAINAGE

Insuring quick and efficient removal of water from primary playing surfaces is probably the most important requirement for healthy turf and enjoyable play. Poor fairway drainage and the frequency of flooding are considered the most negative aspect of Brookline Golf Course. Improving drainage is an integral part of course design and a key element of this Master Plan. Even courses that are a century old continue to need drainage upgrades. It is a never ending project.

The poor drainage is a result of two factors, soil conditions and lack of slope. Much of the course is located on Swansea Muck (Peat) soils (see Exhibit A). This is the soil under much of Hole 3, Holes 4 through 11, and Holes 13 to 18. Swansea-Muck soil has little permeability, is unstable and has a high groundwater table. It is poor soil for construction and drainage. The other significant soil type is Hollis-Rock outcrop - Charlton complex, which are ledge outcrops and the location for many of the tees and greens at Brookline Golf Course. For example Hole 12 is built completely on Hollis-Rock outcrop soil. Water runs off the ledge in the Hollis-Rock area and sits on the adjacent peat soil.

At left is the common site of puddles covering the fairway, here on the left side of Hole One. At right is the area of Hole 9 fairway and Hole 10 tee after a flood event.

The other factor impacting drainage is slope. Most of the Swansea-Muck soil areas are flat with little or no surface slope, so most of the course has the combination of poorly drained soil and minimal surface slope. These issues are exacerbated by the large drainage area which flows into the golf course (see Exhibit B) and the single outfall at the pipe that goes under the practice range. Much of the runoff from West Roxbury Parkway, Newton Street and The Country Club come into Brookline Golf Course and fairways are like a giant sponge without the ability to squeeze out the water.

When built, there were several ditches and drainage pipes installed to help move the water and dry the fairways. The ditches flowed out which removed the surface water and lowered the groundwater. Some of those open ditches were later piped to make the

course easier to play, but the culverts eliminated some of the runoff and lowering of the groundwater. Several of these culverts can be observed as mounds (such as across Hole 8 fairway) due to the adjacent peat soil settling, thereby leaving the tops of the pipes above grade and no longer functioning.

At the start of our Master Plan development, the Town hired Geosyntec Consultants to prepare a Flood Evaluation of the Course property. The evaluation was conducted because of frequent inundation of playing surfaces and the subsequent loss of rounds and revenue. The study made the following Short and Long Term recommendations:

SHORT TERM

- Trim back vegetation in the swales.
- Raise low areas in fairways by incorporating sand and increasing grade.
- Install subsurface seepage drain laterals to better move water off flat areas.
- Video surveillance of culverts and repair.
- Utilize one existing and add two temporary dewatering sumps.

Left photo shows the existing "swale" or waterway between the 4th and 6th holes. Due to lack of slope and vegetation, the swale has little flow. It was dredged less than ten years ago. At right is the exit location under Hammond Street to the left of Hole #1 green for all drainage from the golf course.

As part of the short term work, the several additional studies were recommended to support the development of the long recommendations. These included development of an improved topographic drainage structure survey, a hydrology model, a preliminary geotechnical study of the soil constraints and a permitting assessment of the feasibility to incorporate needed improvements.

LONG TERM

- Restore and Expand on-site Vegetated Swales.
- Remove existing non-functioning culverts and replace them with open ditches.
- Raise low areas/Increase Grade/Slope of ground.
- Install additional subsurface seepage drainage laterals.
- Create Pond and Wetland storage to better handle flooding so it doesn't inundate the high play areas.

Master Plan development utilized the Flood Evaluation to identify several projects to improve drainage of the course. The addition of drainage is very site specific and requires extensive engineering so cannot be detailed in its entirety as part of this Master Plan. Some of the key recommendations include:

- Hole 9 permanent pump repair and development of temporary pump locations.
- Removal of the concrete culvert located in front of the tee, along the right side, and crossing the approach fairway of existing Hole 8. This will restore the former open waterway and eliminate a non-functioning pipe that blocks flow.
- Re-dredging of existing ditches (last done in 2013) with widening where possible.
- Development of drainage detention areas in areas of grass rough to absorb stormwater.
- Re-location of the ditch on the right side and metal pipe crossing the fairway at existing Hole 14. Replacement of that ditch with a new waterway/conservation area to the left of the tees of Hole 15.
- Installation of sand slit drains in the wet fairways.
- Installation of existing greens slit drainage in the greens that hold water.

Top photo shows slit drainage being installed in a green at Waubeeka Golf Links. The photo at right is an example of a newly created waterway with herbaceous plantings. The top photo on next page is a fairway slit drainage installation underway at Frear Park Golf Course in Troy, NY in 2022.

IRRIGATION

As part of the Master Plan, Brian Vinchesi of Irrigation Consulting, Inc. conducted a full evaluation of the existing irrigation system. The following is a brief summary. The full Irrigation Consulting, Inc. report can be found in Appendix E.

The existing PVC pipe irrigation system for Brookline Golf Course was installed in 1985. It is primarily a single row system (a single row of sprinklers down the middle of each fairway) that received a sprinkler head and control system upgrade in 2000. The life expectancy of an irrigation system is generally considered to be 25-30 years, after which problems (such as leaks) will occur more frequently. A single row system doesn't adequately water the roughs, or overwaters the fairways in the attempt to increase watering of the roughs. Single row fairway irrigation is antiquated and should be converted to a double or triple row of sprinklers. Also, the existing large sprinkler heads are inefficient and use more water than a modern system would with twice as many sprinklers. It is an out dated system that is overdue for replacement and a high priority for Master Plan implementation.

The water supply for irrigation is two 4" potable water taps which provide approximately 300 gallons per minute directly into the system. The limited supply means it takes 12 hours to fully water the golf course, which is about twice as long as what is recommended. Either the supply should be increased or a storage reservoir created to reduce the watering window.

The two booster pumps have not been operational for a number of years, which means that the sprinklers are operating at a reduced pressure and not achieving the intended spray distance and pattern.

PLAYER CIRCULATION

In today's economy, minimizing staff and developing efficient management opportunities can determine a course's profitability. Upon entering the property, visitors are required to park some distance from the clubhouse with no dedicated path between the car park and pro shop. The existing walk on the driveway past the course entrance can be dangerous. The practice facility is conveniently located, but players still need to visit the pro shop to obtain range balls. The practice green is in the correct sequence after visiting the pro shop and before the 1st tee.

Players must walk past traffic at the busy entrance to get from the car park to the clubhouse. A new sidewalk is proposed on the left side of this photo and in front of the cars on the right photo to get pedestrian traffic off of the entrance drive and out of parking.

The current location of the 1st tee is visually separated from the pro shop requiring a starter to monitor play. Once players are following the routing, green to tee locations are in close walking distance. There is only one location, the 5th green to 6th tees transition where the distance could be improved. The 18th green finishes directly behind the clubhouse and seeing people on the restaurant deck and terrace invites players to stay.

The Master Plan proposes a formal path be developed between the car park and clubhouse and between the first row of parking and the ledge directly in front of it. The path creates a safer connection to the clubhouse and completes the proposed year round walk path around the range and into Putterham Woods.

Most importantly, the Master Plan proposes a rerouting of play on the golf course by changing the 13th hole into the 1st. This change allows for a visual connection from the

pro shop to 1st tee for better player management. The existing 10th hole will become the 5th, and the existing 9th the 6th hole. Existing Holes 1, 2, & 3 will become 7, 8 & 9. This re-routing gets the first tee closer to the clubhouse and reduces the overall green to tee walk, but creates a 9th green that is further from the clubhouse. It affords the opportunity for 4 or 6-hole twilight or early morning rounds although most rounds played at Brookline have been eighteen holes.

CART PATHS

The existing path structure at Brookline is not continuous from the Clubhouse to the 1st tee through 18th green and back to the pro shop. Starting as paved, the path varies in material composition as it traverses the course. Generally, flat areas with paths are gravel and sloped path areas are paved. To help easy maintenance wear, the path along the 9th hole is paved to allow heavier equipment access to the courses' center. Many flat sections of the course have no path, such as the 6th and 16th holes where the path ends in front of the tees and resumes just before the green, forcing players to drive across the rough and fairway to connect with the next path. These path interruptions contribute to course closures when the ground is too wet and soft for cart use without them getting stuck or damaged.

Individual path locations serve tee and green complexes well without having an impact to play. Some locations require adjustment to either improve foot access to play surfaces or limit play impact. Places such as the 2nd green, 3rd tee and 15th green are included in this scenario.

At left is the path and stairs at the 3rd tee showing how elevation difference and trees impact turf health on the tee slope. The 10th hole at the right has an interrupted cart path. All carts exit the end of the path, causing a worn area barren of grass. The red line indicates the proposed fairway expansion.

The path system does meet ADA guidelines for golf courses. There is access to at least one tee per complex and each green for a wheeled player mobility device.

All paths consist of either bituminous concrete or loose gravel. The course makes at least one device available for patrons. For the most part the bituminous is in good shape. The gravel paths are typically undefined and require repeated maintenance for acceptable travel conditions.

In two areas, the proposed path will be connected where the fairway crosses the 6th and 18th holes. The Master Plan proposes connecting the paths with a pervious material so as to not to negatively react with golf balls and provide a seamless path.

MULTI USE TRAILS

An alternate use of the cart paths are as public trails. As one of the largest green spaces in the Town of Brookline, there is public interest in alternate uses of the property for recreation. Unfortunately, use of the cart paths by non-golfers during times of course operation is a significant safety hazard. There are several adjacent locations in Putterham Woods and Dane Park where the public can utilize trails while the course is open. It is a desire of the Town that a better trail system could be developed that would connect the adjacent trails into the larger Town wide system and even connect with the golf course paths when the course is closed or when light play allows. The golf course paths serve as a foundation of an expanded multi-use trail system.

The Master Plan proposes developing a trail system in Putterham Woods along with expanded parking and trailhead. A dog park is also proposed within the Woods. This trail system is then connected to Dane Park through a new roadside trail behind the current 1st green, 2nd tees, and through the DPW entry. Dane Park has an existing trail system that with only minor bridge repair on the south side would provide direct access to the park at large. With little work, the existing path that goes from the clubhouse to the current 1st tee can be connected to the paths in Putterham Woods to provide a hard surface path that can be utilized during golf play and introduces the public to golf course aesthetics.

A mix of paved and natural surface paths is possible in Putterham Woods.

Alternate combined path and trail use is proposed during course closure times, which generally occurs between December and early April and on Monday mornings. The Master Plan identifies a looping "course closed" trail system with options to explore the green space through the eastern wetlands, the flat peat holes, the granite outcroppings with aged hemlock trees and the fescue and wildflower rough areas to be created. The course parking area provides direct access to Putterham Woods and Dane Park.

A five kilometer (5K) cross country route that exposes participants to the different golf course terrain, but also provides repeated spectator viewing locations is suggested. The proposed parking area at pickle ball court location could serve as a southeastern trailhead during course closure periods.

During the winter when there is snow cover, the course is ideal for cross-country skiing and snow showing. Routes of travel can be modified to provide unique and shared trails with endless routing possibilities. These trails can lead to sledding areas.

VEGETATION

Brookline Golf Course is home to some wonderful old trees that were preserved when the course was built in 1932. Prior to the site being developed as a golf course, the property was mostly a poorly drained wet area with prominent ledge outcroppings. The ledge areas were dominated by eastern hemlock trees which were identified by the initial project goals as an aspect to highlight and preserve. Wayne Stiles, the original golf course architect, routed the course to green positions often located on these high points so as to highlight the hemlocks and use them for framing and aesthetic appeal. Unfortunately, over the past twenty years, the invasive insect woolly adelgid has become rampant and without expensive and environmentally questionable controls, the hemlock trees are dying off. Our dilemma is how to address this loss.

The existing 15th and 11th greens are located in a forest of mostly hemlock trees.

The impact of the Hemlock wooly adelgid (HWA) can be seen in this photo of the 11th green complex. The tree at left is a still healthy hemlock, whereas those behind the green have become infested with HWA and lost most of their needles.

Additional treed areas contain oak, white pine, and maple, and similar species of individual trees have been planted to frame the side of golf holes. Overall, in recent years, the trees have been maintained on a regular basis. Trees are thinned and pruned to maintain health and limit blow downs and dead branches. The understory of some of the treed areas is natural and is slowly seceding to wild areas. Areas like Putterham Woods have been devoid of maintenance and need significant thinning, pruning and tree removal to remove dead and damaged trees and to improve overall forest health. Most understory areas are out of play and do not hinder pace of play or regular turf maintenance.

Additional tree and herbaceous plantings are instrumental to the Master plan. While there are large areas of vegetation management required to improve sustainability of the turf, the Master Plan identifies locations for new plantings of native tree species. One of Stiles' design strengths was in planting design, and he apparently preferred grouped planting rather than single specimen trees. The proposed planting layouts follow and strengthen the Stiles grouping concept and enhance course safety, hole corridor definition, and habitat enhancement. While most golf courses contain primarily edge habitat, the plant groupings will create small wooded areas where animals and birds can shelter.

Maintaining the Eastern hemlock species is not sustainable. With a nod to the site's history and initial goal of preserving the hemlocks, the Western Hemlock has been chosen as a replacement tree. This similar sized evergreen tree will continue ideals set forth by the founders of the course.

A suggested tree plant list is included in APPENDIX C. This list includes evergreen, deciduous, and understory species. Many of the identified species are climate change sensitive and most are native to the Mid Atlantic and northeastern seaboard. This will allow tree species to reach a healthy maturity. This concept also accentuates the need to make the course maintenance sustainable. Trees will require little input from the maintenance staff once established.

On a smaller scale, the expanded wetland shelves, ditch edges, and detention areas will be planted with appropriately sized native species conducive to use on a golf course. These wetland edge and steam bank plantings will require continued maintenance in some locations to retain vistas within play corridors and course playability standards. Most locations will only get annual fall or winter trimming and mowing and invasive plant removal. Continued maintenance is imperative to maintaining stormwater drainage release volumes. If the ditches become clogged with plants and sediment, the fairway drainage system will ultimately fail.

The Master Plan proposes more extensive use of grass meadows in the transition areas between the existing and proposed woodland areas and the naturalized ditch edges. Often identified as "fescue areas" at other golf courses, these meadow area locations will be carefully planned so as to minimize interfere with golf play, then will be planted with a mix of fescue and other low maintenance grasses, wildflowers and some shrubs. These areas will be minimally maintained; with most only getting an annual mowing in the late fall. While mostly out of play, these areas reduce the maintained turf area and provide large scale pollinator and wildlife habitat opportunities.

Three different locations where trees are in rows. The second tree from the left has poor form and should be removed, with more trees planted near the three to the right.

Many individual trees were planted in rows after the course was built to provide separation and "beautify" the golf holes. Many of those trees have reached maturity. Some have died and have been removed and some are now in poor health. Several of the weaker trees that were planted should be removed, with some replaced.

The Master Plan notes several areas on the course where tree removal and or pruning should be undertaken to reduce shade and improve turf health. Other trees may need to be removed to improve playability from expanded tees. Much of this work has begun.

In future tree planting much thought needs to be given to the affect the tree will have on playability when it reaches its mature height and width. This is also an important consideration in the spacing of plantings. Stiles was an advocate of group plantings with areas of open ground that allowed players to have long views across the course. Plant material should also be considered, with native materials that are the most resistant to disease and infestation recommended. The club should continue to review and remove trees and branches that adversely affect playability, air movement, and sunlight on key features, and should invest in root pruning of existing trees to remain that are stealing nutrients and water from the turf or impacting paths.

CONNECTING OPEN SPACE

Brookline Golf Course should be viewed as a public open space and utilized as such in concert with an operational 18 hole golf course. The property abuts or is near several public open spaces and could be a conduit for enhancing the park experience. The currently closed Putterham Woods, an approximately eleven acre wooded area is part of the golf course and located adjacent to the course parking lot at the southwest corner. It also abuts the Hammond Pond/West Roxbury Parkway rotary, directly across from which is Skyline Park, which itself is adjacent to Lost Pond Reservation. Abutting the course to the northwest is Dane Park, and Larz Anderson Park is a short walk from the eastern side of the golf course. Re-opening Putterham Woods and connecting it to Dane Park on a trail/path through the golf course is considered a high priority of the Master Plan. Tying all these parcels together with non-vehicular paths provides additional recreational options and a greater environmental improvement. Providing connectivity is more in concert with the ideals of renowned Landscape Architect, Planner and former Brookline resident Frederick Law Olmstead.

The Master Plan proposes a direct off-street path be developed between Dane Park and Putterham Woods. Development of the path involves reclamation of a path that was previously traversed through the Department of Public Works site. It also requires the addition of a new walk path behind the current 1st hole green and 2nd tee and then across the Public Works facility driveway. The existing chain link fence behind the tee and green could be replaced with a more pedestrian scaled four-foot fence with some additional plantings to enhance views into the golf course from Hammond Street while continuing to keep people from entering the golf course from the street.

The Town should develop a walk path next to Hammond Street and behind the 1st green and 2nd tee to connect Putterham Woods and Dane Park.

ENVIRONMENTAL ISSUES AND ENHANCEMENTS

The majority of Brookline Golf Course lies within jurisdictional areas regulated by local, state and federal wetland laws due to the hydric soils and waterways throughout the course. Therefore, any proposed work will require some level of permitting by State and local permitting agencies as was done for the 2022 Tee Project. The wetlands create significant constraints to course improvements. Even though most of the proposed work is within already maintained turf areas, it is still subject to review, permitting and mitigation.

The vast majority of the golf course area consists of a poorly drained Swansea Muck as classified by the USDA. This soil holds water and has no structural characteristics. While rock ledge outcroppings are an impediment to the site, the proposed improvements are not affected.

Further complicating the overall site quality as a golf course is the lack of topography. The previously mentioned Swansea Muck is literally at or near the same elevation over much of the site. This lack of relief slows stormwater flow and allows vegetation to clog the existing ditches. This clogging created flooding conditions that disperse slowly and negatively impact turf maintenance and conditioning.

Future improvements are centered upon reducing stormwater impact by capturing flow prior to it reaching the ditches and expanding the ditch banks to allow for more flood capacity. This will also serve as an opportunity to increase biodiversity with native herbaceous and shrub vegetation, increased pollinator plantings, all while minimizing regular maintenance and enhancing the golfer's visual experience.

PUBLIC SURVEY

Critical to any project should be a stakeholder review and comment phase. At Brookline Golf Course, prior to developing the Preliminary Master Plan we sought input from Brookline residents and golfers who play the course. Input was received via an online survey. This survey was sent to a variety of different groups within Brookline. Questions ranged from "Where do you reside?" to "What Tee Markers do you play from?" A simplified copy of the survey and its results is included in Appendix B. This version does not include the individual responses due to space concerns. Brookline Recreation has available a more complete survey response that includes all the individual answers. In summary:

1. There were 576 responses with 195 of them being Brookline residents.
2. Four out of five responses were male.
3. There was a good diversity of ages with no one group dominating.
4. 90% of respondents play golf and 98% at Brookline Golf Course.
5. Of the people who answered the question of whether they play nine hole or eighteen holes, almost half of Brookline residents play a handful of nine-hole rounds, while one quarter play six to ten eighteen hole rounds.
6. Residents play in the morning while nonresidents most often play in the afternoon. This is an industrial norm.
7. Roughly 45% of golfers or residents play the White Course.
8. The Blue course is played by more nonresidents.
9. The Red course is played by more residents.
10. Roughly 75% of golfers have a handicap between 6 and 24. Most golfers fall into this range according to the USGA.
11. Roughly 90% of respondents plan on returning to play again at Brookline.
12. Overall course conditions could be improved.
13. The practice facilities are better than average.
14. Customer service is very good.
15. Pace of play, cart paths, and golf carts are average.
16. Tees have average variety, accessibility, and conditioning.
17. Bunkers have average positioning, but below average attractiveness, and conditioning.
18. Fairways have average width, but below average playability, and conditioning.
19. Trees are average in positioning, attractiveness, and conditioning.
20. Greens overall are slightly better than average for playability, attractiveness, and conditioning.
21. The top five reasons players choose Brookline are Pace of play, walkability, playability, greens, and location.
22. When asked what two improvements respondents would like to see occur, they choose drainage and improved tee/fairway conditioning.
23. Other reasons respondents visit the Course are primarily for lunch/fundraising/parties with walking/hiking and snow activities a distance 2nd and 3rd.
24. When asked what other recreational uses the respondents would like to see they choose snow activities, keep as golf only, walking, and pickleball.

COMMUNITY ACTIVITIES

As evidenced by the Town Meeting warrant article of 2022 which requested the scope of the Landscape Master Plan be broadened to include concepts for course reductions to nine or fewer holes to allow for other uses of the site, there is considerable pressure on many municipal golf courses to close or make adjustments so that the land can be converted to a "better use". As a result, facilities must consider revisions to their operations to become a more valued asset of the general community and more sustainable.

It is good to know the past to plan for the future. The development of municipal golf courses began in the northeastern United States in the late 1890's. The Franklin Park Golf Course in Boston was just the second municipal course when it opened in 1896. In April 1913 the New York Times published an article on municipal golf which stated:

"A great wave of agitation for public golf links is sweeping through the United States, and in such a decisive fashion as to make it only a matter of time when each city of large size will have a course of its own for the rank and file."

Golf being played at Franklin Park in Boston in 1903

With many out of work, the Depression Era brought an increase in municipal golf course development. With WPA funds and available labor, the construction of golf courses put many people to work in these difficult times. Golf architect Wayne Stiles was busy designing such area municipal courses as Gannon (Lynn), D.W. Field (Brockton), Newton Commonwealth (Newton) and Riverside (Portland, ME) as well as Putterham Meadows t this time. These courses were built to put people to work and as a service for its residents, much like the public library, tennis courts and recreation fields or the Town Park, and not to be a revenue source. But with the advent of more privately built, "for profit" public courses, and dwindling municipal resources especially after Proposition

2.5, municipal courses were forced to become revenue centers, and that revenue is from golfers.

Based on the Public Survey and our research, we considered numerous options for increasing community use of the facility for more than just golf play. Several of these options were previously considered and are already utilized.

NON-GOLFER PUBLIC ACCESS - The course is closed to golf and open to the public for walking or biking every Monday morning through the golf season. The course is also open to public use every day in the off-season from about mid-December through mid-March.

WALKING TRAILS - The cart paths used by golfers make excellent walking and jogging paths when the course is closed. The Master Plan defines numerous loops of various distances that take users over the varied terrain to wooded and open sections of the property and connect to open space at Putterham Woods.

BIRDING - As birding is most often an early morning and late evening activity when play is reduced, it may be possible to allow access for birding at these times.

PAVILLION - The addition of a covered structure for community uses such as small group meetings, picnics, classes (such as yoga) was considered. Several locations were reviewed and a preferred location at the edge of Putterham Woods near to parking was identified.

CROSS COUNTRY SKIING, SLIDING & SKATING - These winter activities are dependent on cold weather and snow, but are a great use of the site when conditions allow. The Golf Shop currently has ski equipment for rent. Development of a pond near the Clubhouse is proposed for skating opportunities.

Cross Country skiing tracks across the 12th hole (Justin Lawson photo)

DOG PARK - Many survey respondents were interested in the addition of a dog park to the site. The Master Plan includes this use in a portion of Putterham Woods.

DISC GOLF - Though not compatible with regular golf, disc golf is another potential use of Putterham Woods and the Hemlock Grill.

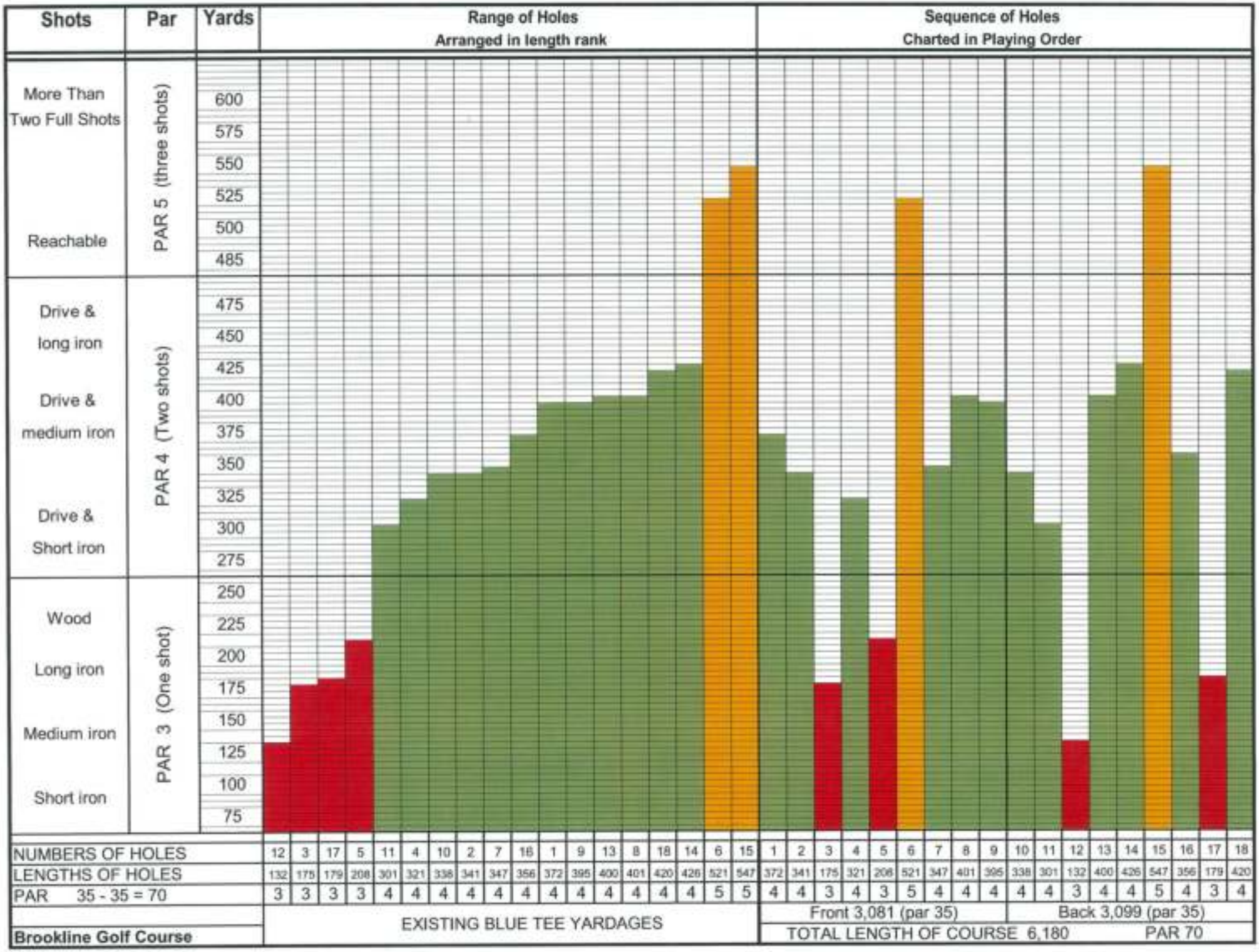
FOOT GOLF - Played just like golf, Foot Golf is played with a soccer ball that is kicked to larger holes set in the rough or sections of fairway adjacent to the regular greens. Foot golf can be played in conjunction with regular golf and is a favorite of kids who play in town soccer leagues.

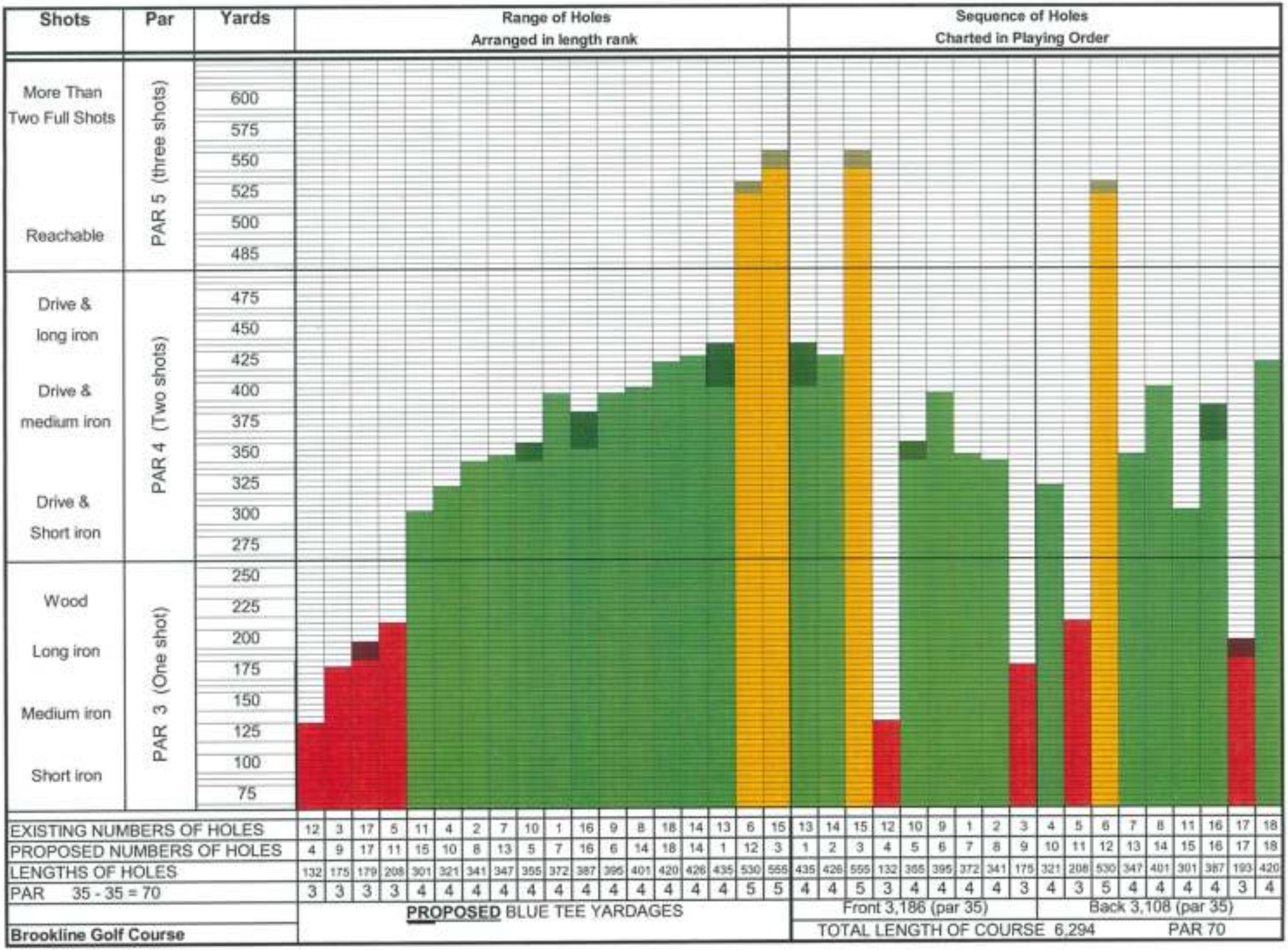
Brookline Recreation is willing to try new and different things to increase community use of the course, including Movie Night on the Driving Range.

PICKLE BALL - As golf was in the early 1900's, pickle ball is a fast growing sport needing places to play, and it was high on the list of needs on our public survey. The Clubhouse area was thought to be too congested with not enough parking for this use, so the Master Plan identified a potential location off of Newton Street for six courts.

GOLF HOLE LENGTH AND SEQUENCING CHARTS

The following charts are similar to what many "Golden Age" architects used to evaluate the golf course. Using the charts, one can quickly decipher whether the course has enough balance in hole length and placement in the order of play. Each sheet has two charts. The left chart arranges the holes by length from shortest to longest with the goal to not have gaps in hole lengths. The test of a good course is that it will require a player to use all fourteen clubs. The right chart arranges the holes in the sequence of play from Hole 1 to Hole 18. From this chart, the order of long and short holes and the balancing of difficulty can be discerned. The first chart is of the existing routing and the second shows the routing as proposed with Hole 13 becoming the first hole and the current first hole being changed to the 7th.


Shots
Par
Yards
Range of Holes
Arranged in length rank
Sequence of Holes
Charted in Playing Order
More Than Two Full Shots
Reachable
PAR 5 (three shots)
Drive & long iron
Drive & medium iron
Drive & Short iron
PAR 4 (Two shots)
Wood
Long iron
Medium iron
Short iron
PAR 3 (One shot)
600
575
550
525
500
485
475
450
425
400
375
350
325
300
275
250
225
200
175
150
125
100
75
NUMBERS OF HOLES 12 3 17 5 11 4 10 2 7 18 1 9 13 8 18 14 6 15 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
LENGTHS OF HOLES 132 175 179 208 301 321 338 341 347 356 372 395 400 401 420 426 521 547 372 341 175 321 206 521 347 401 395 338 301 132 400 426 547 356 179 420
PAR 35 - 35 = 70 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 5 5 4 4 3 4 3 5 4 4 4 4 4 3 4 4 5 4 3 4
Front 3,081 (par 35)
Back 3,099 (par 35)
EXISTING BLUE TEE YARDAGES
Brookline Golf Course
TOTAL LENGTH OF COURSE 6,180
PAR 70


Shots
Par
Yards
Range of Holes
Arranged in length rank
Sequence of Holes
Charted in Playing Order
More Than Two Full Shots
Reachable
PAR 5 (three shots)
600
575
550
525
500
485
Drive & long iron
Drive & medium iron
Drive & Short iron
PAR 4 (Two shots)
475
450
425
400
375
350
325
300
275
Wood
Long iron
Medium iron
Short iron
PAR 3 (One shot)
250
225
200
175
150
125
100
75
EXISTING NUMBERS OF HOLES 12 3 17 5 11 4 2 7 10 1 16 9 8 18 14 13 6 15 | 13 14 15 12 10 9 1 2 3 4 5 6 7 8 11 16 17 18
PROPOSED NUMBERS OF HOLES 4 9 17 11 15 10 8 13 5 7 16 6 14 18 14 1 12 3 | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
LENGTHS OF HOLES 132 175 179 208 301 321 341 347 355 372 387 396 401 420 426 435 530 555 | 435 426 555 132 365 395 372 341 175 321 208 530 347 401 301 387 193 420
PAR 35 - 35 = 70 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 5 5 | 4 4 5 3 4 4 4 4 3 4 3 5 4 4 4 4 3 4
PROPOSED BLUE TEE YARDAGES
Front 3,186 (par 35)
Back 3,108 (par 35)
Brookline Golf Course
TOTAL LENGTH OF COURSE 6,294
PAR 70