



Bob Baldock is seen in both photos as he inspects the installation of irrigation pipe at the Shore course. At left, a joint is being welded with a solvent. At right, a connection is made by inserting lengths into a coupling. A rubber gasket and lubricant are used in making the connection water tight.

How Corrosion Was Countered at Monterey's Shore Course

Irrigation pipe that would hold up in sandy soil was needed at this California layout . . . This article outlines the solution to the problem

By BOB BALDOCK
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Designing a course in the midst of several world famous courses is like being born into a family of talented ancestors. Everyone is watching closely to see if you are going to live up to expectations.

That is the problem I faced about three years ago when I began the design and construction of the Shore course of the Monterey Peninsula CC in Pebble Beach, Calif. The Del Monte forest and Monterey Peninsula are famed for such magnificent layouts as Pebble Beach, Cypress Point and the Dunes. Trying to come close to matching any of these invites a good deal of pressure even before you go to the drawing board.

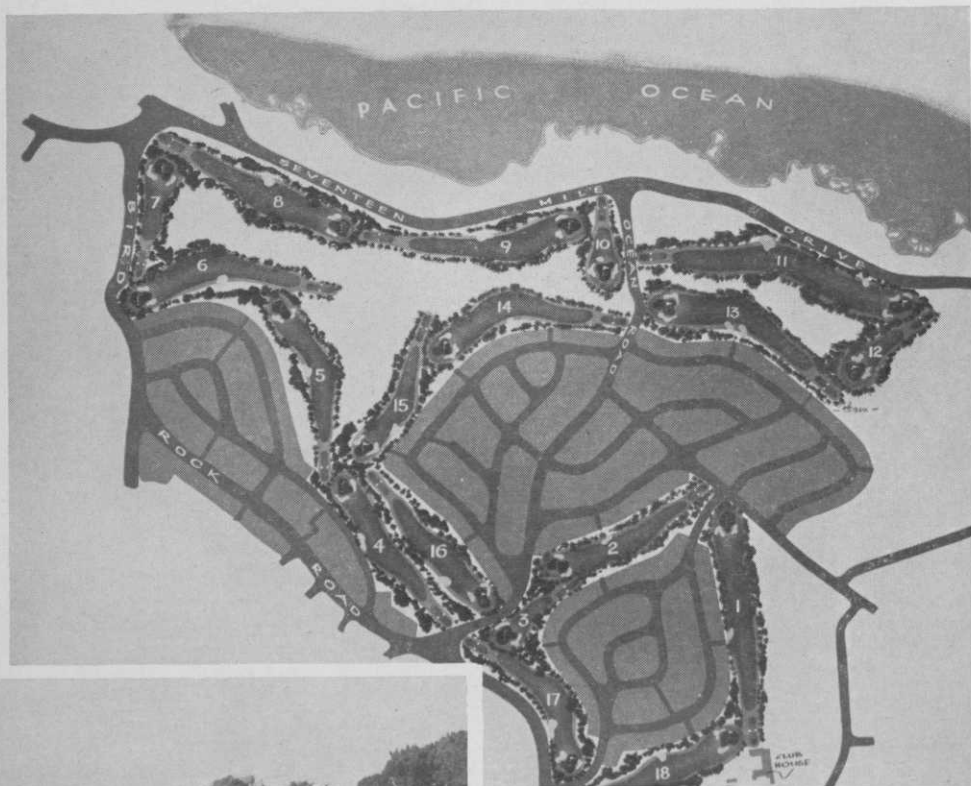
Pebble Beach, perhaps the most fam-

ous of these links, was designed in 1917-18 by Neville and Douglas Grant. The latter won the California state amateur on this course a few years later. The Dunes course, badly overworked by golfers through the years, is 37 years old. Seth Raynor was the designer, although refinements later were incorporated by Bob Hunter. Cypress, 33 years old, is the youngest of the Del Monte forest courses. Raynor also designed it, but it was completed by Alister Mackenzie when Raynor died.

Pacific Backdrop

The Shore course, with its 8th, 9th, 10th and 11th holes bordering the famed 17-Mile Drive, is located south of the Monterey Peninsula Club's present Monterey Dunes course. Eleven holes that flank the Pacific provide golfers with the same scenic and playing challenges of the other three links.

The No. 1 fairway at the Shore parallels the Dunes' 18th hole. All of its holes are within a brassie shot or two of the ocean or wind through the Del Monte forest area of luxurious homes. The short-



Large photo shows the layout of Monterey Peninsula's Shore course. At left, gamboling deer are having a light snack on a fairway.

est hole, No. 10, is 165 yards; the longest, No. 11, extends to 565 yards.

The nearness of the Del Monte residences compounded the design and construction problems. With work on the course scheduled to last for about six months, we felt obliged to minimize the dirt and unsightly appearance that are part of any construction job. In addition, the course had to be designed so as not to invade the privacy or property lines of any adjoining properties, or to present an undesirable view.

Planned in 1925

The Shore course was planned in 1925. However, due to the financial conditions of the late '20s, the work that was started was suspended. Then, a few years ago, Del Monte Properties deeded 125 acres to the club and the way was cleared for

building the course.

The availability of only 125 acres meant that we were faced with tight problems in design. The USGA has specified 160 acres as being ideal for 18 holes. It considers 120 acres an absolute minimum for a standard 6,500 yard layout. Thus, with our 125 acres, we were working with a very thin margin. The Shore course is 6,425 yards long — 3,300 out and 3,125 on the heavily hazarded return nine. Working with such small acreage, however, is not unique — it has become a common problem for every golf architect.

Building a course today is a complicated and often very expensive project. With the cost of land constantly going higher, the object is to do the most possible with the least land. This involves considerable study of contour maps and aerial photos, the establishment by surveys of course perimeters, and the selection of a clubhouse site on the basis of accessibility, visibility and availability of parking space. (Continued on page 106)



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Before coming to Algonquin, Milon Marusic worked as an assistant for several years at clubs in California. His introduction to the pro shop, however, came at Wolfert's Roost CC in Albany, N.Y., where personable Jack Gormley presided immediately after World War II as pro-supt. Jack, in fact, induced Milon to study turf management at the University of Massachusetts. However, when Marusic moved to the West Coast he concentrated only on the pro side of the business, probably figuring that he'd be farther ahead to cultivate women golfers and their purchasing potential than turf-grass. His success at the St. Louis club leaves no doubt that this was a wise choice. Milon is not a stay-at-home professional, by the way. He manages to play a dozen tournaments a year, winging down to Central and South America every spring for the PGA's Caribbean circuit events and making Mexico City in the fall for the Mexican Open. He has played in ten PGA Championships and four Opens.

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Countering Corrosion

(Continued from page 40)

The final major problem was that of irrigation. Since my introduction to golf back in 1925 consisted of being paid \$4 a night for watering the Annadale golf course in Pasadena, I have always realized the importance of irrigation. In the Far West, every aspect of course design is complicated by water — either too much of it or not enough. In the majority of cases, it is the latter.

I feel that a golf course can be no better than its irrigation system and the materials used for it. It is a waste of time and money to design and construct a course only to have it burn up during the first dry spell.

Design and installation of the irrigation system for the Shore course offered problems that were consistent with the other aspects of our work. Proximity to the Pacific, and being situated in a forested area, meant that we were working in extremely corrosive soil. Piping, valves,

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and other equipment must be resistant to this kind of soil condition to assure that the irrigation system will operate without requiring replacement. Also, because of budgetary considerations, all materials, while of the highest quality, must offer maximum economy.

Pipe Combination

A combination of asbestos-cement pipe for mains, and ABS plastic pipe for sprinkler supply lines seemed the most logical way to overcome the prevalent corrosive soil conditions. Both being non-metallic, the problem of rust was non-existent. Installation of both types of pipe was an extremely simple matter, requiring a minimum of labor and offering maximum economy.

A total of almost two miles of Johns-Manville Transite pipe, in 3, 4, and 6-in. diameters was used, along with about eight miles of J-M ABS plastic irrigation pipe, ranging from 1¼ to 2½-in. in diameter. The system was installed by the Sunshine Landscaping Co. of Fresno.

Transite and ABS are light in weight. They require no heavy equipment for installation or transportation. In addition, laying the pipe is so simple and fast that a course job can be finished in a minimum of time.

Semi-Automatic Sprinklers

Fairways and greens at the Shore are irrigated. The fairways incorporate three rows of semi-automatic sprinklers that are sufficient to allow each fairway to be watered every four days. Quick-coupling valves are spaced in 60-ft by 80-ft triangles, requiring a total of 690 Buckner No. 15 valves. Sprinklers that cover a 110-ft diameter circle are plugged in early in the evening. Through an automatic clock device, a battery of sprinkler heads will be turned on automatically and run for a predetermined time. Following this, a second battery is turned on. In the morning sprinklers are removed, and re-located the following evening in another area requiring watering. Sprinklers on greens and tees are operated manually as needed.

Water is supplied by the Del Monte Water Company to an elevated reservoir. This eliminates the need for pumps.

Installation of the pipe was complicated by the native wire grass. Cutting through a mat of roots, four to six inches deep finally was solved by use of plows, followed by brush cutting discs after farm-type discs proved inadequate for the job.

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Irrigation at the Shore

Automatic system — Fairways only. Manual system — Greens and Tees

Three Row System — 60' Centers each sprinkler on Freeways — 600 outlets on Fairways

Greens — 5-6 sprinklers each

Tees — 2-3 sprinklers each

125 valves operated each night on fairways.

Valves — Buckner #14 Quick Coupling. Sprinklers — Bucknew #865 — $\frac{1}{4}$ x $\frac{5}{32}$ nozzle. Each sprinkler output — 17 gpm.

Automatic Valves — 75 Moody automatic valves controlling stations — quick coupling valves.

General Information — 90 ft. difference of elevation required two time clocks — one clock at high elevation required normally open valves. Time clocks are Moody ten station clocks.

Pressure supplied by gravity with water originating from reservoir located at an elevation higher than golf course. Pressure at sprinkler varied from 90 psi at low point and 45 psi at high point.

Pipe sizes reduced through automatic design providing positive control of output. Cost savings made on material basis as well as labor saving in operation.

Volume of Water — 350 gpm on fairways with 12-18 sprinklers running at one time. Greens and tees watered separately.

Cost of System — Materials and installation \$77,000.00.

Pipe sizing reduced resulting in pipe cost reduction affording monies to be applied to cost of automatic equipment.

False Economy

(Continued from page 28)

the shots; what is fair through the green and on the putting greens, and what conditions or design lead to interesting play. Also, he should know the limitations of players of all ages and degrees of skill to make the shots required.

From the technical standpoint, the golf course architect must know enough about soils to work with the problems of texture and structure, drainage, aeration, and fertility. He should have enough technical background to understand the environmental needs of plants and be particularly well advised on the playing qualities and cultural requirements of fine turf. Of

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