



Laying 1½ inch pipe during installation of Calabasas Golf Course. Contract for entire course design, construction, and irrigation totaled more than \$350,000.

# Calabasas Course

## Exemplifies Design and Installation Technology

**G**OLFERS hitting into the rough at Calabasas Golf Course in Southern California should keep a look-out for Cowboys, Indians or possibly even Robin Hood and his Merry Men.

The Calabasas Golf Course, scheduled to open in early summer this year, is located on the scenic, 3000-acre Warner Brothers Studio Ranch. The former filming locale of many westerns and swashbuckling Robin Hood adventures, now called Calaba-

sas Park, is nestled in the Santa Monica Mountains north of Los Angeles.

Today's Men of the West, designers, contractors and irrigation experts have transformed 150 acres of native Calabasas Park scenery into a gourd-green championship golf course.

The course, part of a large development of fine homes and recreational facilities is a project of Calabasas Park Company, a partnership of Associated South-

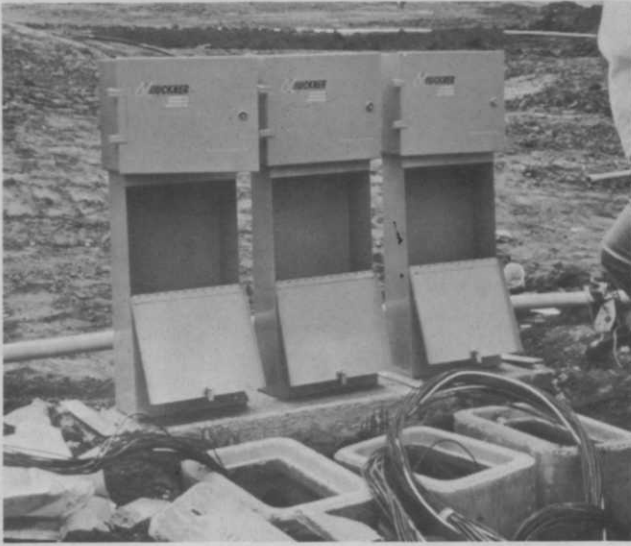
ern Investments and Bechtel International.

It was constructed on rolling hills covered with virgin vegetation that included holly oak, white oak, mesquite, thistle, poison oak and a great deal of rock.

The native ground cover is picturesque from a distance, but comes-up lacking as a championship golf course fairway. A major objective of the course designer Robert Trent Jones, Inc. Palo Alto, Calif., was to retain

Automatic irrigation system is set to operate during all summer daylight hours. Superintendent John Little irrigated 2 minutes per hour with misting throughout the germination period.





More than 100 miles of control wire was laid to provide the automatic control between pressure regulator control valves and controllers.

the wild-west flavor and beauty of the surroundings, while creating a controlled beauty of fairways, greens, tees and roughs.

Irrigation technology played a highly important part in the development of the construction plan and the ultimate maintenance plan for the course.

#### Course Can Be Irrigated In 10-Hour Period

The irrigation system for the 6,600 yard par 72 course was designed by Robert Trent Jones Irrigation Consultant John A. McPherson. His ultimate irrigation objective was to have a system capable of automatically irrigating the complete 150-acre course

Typical end of line is this 3-inch main line and valve. From the main lines, 15 miles of lateral line pvc pipe was pulled into place by Lowe Hydro crews using a vibratory plow.



within a single 10-hour period.

Intermediate steps along the way called for planned stages of installation of the irrigation system so that germination of the turf could be handled by quarters of the course at a time.

The complex contract, which totaled more than \$350,000 was concluded successfully through careful advance planning and continual communication between McPherson, Lowe Hydro of La Habra, Calif., the irrigation contractor-installer, and the major equipment supplier Buckner Sprinkler Company of Fresno, California.

Following rough and final grading, a total of five miles of transite main line 6 inches in diameter was trenched in. These traverse the course and run to the pumping station. The station is capable of supplying 1800 cpm from three 550 gpm pumps and one 150 gpm pump. The pumping units operate on a pressure call or demand system, and are fed from two lakes constructed on the golf course. The system operates at 150 psi.

Water is supplied by a 16-inch main from the Los Virgines water district to the two lakes. The water supply is automatically controlled to keep a constant lake elevation, an approximate 3 million gallon reservoir.

From the main lines, 15 miles of lateral line pvc pipe were

pulled into place by Lowe Hydro crews using a vibratory plow. These service a total of 800 large area pop-up sprinklers and 400 bank erosion control or landscape bank heads. All area pop-up heads on the course were Buckner #1371 sprinklers with 13/32 x 7/32 nozzles.

The carefully planned erosion bank heads were Buckner #860 G full circle and Buckner #560 G part circle heads. The banks were programmed so that adjacent laterals operate alternately to prevent erosion.

More than 100 miles of control wire was also laid and pulled into place to provide the automatic control between 300 Buckner #152 GER pressure regulator control valves and 66 Buckner #611 E controllers.

The basic layout placed the fairway sprinklers in a triangulated pattern 90 feet on center. One canyon at a higher elevation was spaced 80 feet on center. There is an average of 5 heads on each green and an average 4 to 5 heads irrigate each tee. A single controller operates the sprinklers at each green and adjacent tee, and 2 automatic controllers operate each typical fairway system. A Buckner pressure regulator control valve under each head provides uniform coverage and flow regardless of position on the line. All the sprinklers operate at 75 psi at the nozzle.

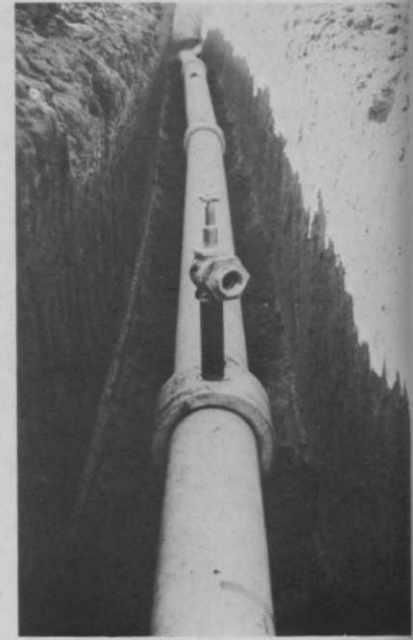
The controllers and the entire system are very adaptable to changing irrigation needs, according to John Little, superintendent of Calabasas Golf Course. "With the controllers placed as they are, we can vary our area control precisely and easily," Little said.

#### Greens Built Up With Sand Base

After sectional installation of the irrigation system, the greens were built up using 12 inches of sand on a graded base. Three inches of loamite (lignified wood shavings) were rototilled into



Pumping station on Calabasas Course is capable of supplying 1800 cpm from three 550 gpm pumps and one 150 gpm pump. Pumping units operate on a pressure call or demand system and are lake fed.



After final grading, 5 miles of transit main line 6-inch pipe such as this was trenched in.

the sand. The greens were planted with Penncross bent grass.

On the fairways the turf was stolonized with Tifway #419 hybrid bermuda and the roughs were seeded with Kentucky blue grass applied in a slurry mixture. The erosion banks were also seeded with the slurry technique.

Germination of the planted turf was an early test of the irrigation system and started June 4, 1967. This crucial period extended through late August. The stolonized turf required roughly 4 times the normal amount of water to maintain an existing turf, and the dependability of the Buckner system proved itself in the resulting turf.

On greens and tees, periodic misting of the areas proved most successful according to Superintendent Little. The system was set to operate during all the summer daylight hours. Little chose to irrigate 2 minutes per hour each day through the germination time, and has reaped a gourd-green, healthy turf from his precisely controlled irrigation.

After the course is open for play, the adaptability of the Buckner Irrigation System will be extremely valuable again, ac-

ording to Little. Quick economical adjustment of irrigation control can be made easily to meet watering requirements of the course according to the amount of play it receives, mowing schedules and the quality of play. Initial plans call for watering greens every night and fairways every other night.

Trees were planted throughout the course from existing trees on the property. There were many conifers — some 25 feet high—and some were a back-

drop for Robin Hood in the films of yesterday.

Nursery trees, eucalyptus, flowering plum, liquid amber, and varieties of oak were also planted as part of the overall landscape design. Along with the lush fairways, greens, tees and roughs they create a green carpet that reaches to rugged background hills. Calabasas Golf Course is truly a magnificent example of the results of combined expert design, irrigation and installation technology in the west.

Once established, lush carpet of fairways, greens, and tees reach to rugged background hills. Course is example of how 150-acre area can be transformed into a championship type golf course.

