

Clearing.—All trees, stumps, roots, bushes, vines, stones, stone walls, interior fence lines, and other obstructions coming in the line of play, exclusive of buildings, shall be removed to the satisfaction of the architect. Removal of buildings must be disposed of under separate contract.

Practice Field.—The practice driving field shall be plowed and prepared similar to the fairways, except the amounts of material may be reduced at the option of the architect, and shall be seeded with a mixture of four parts Kentucky bluegrass and one part re-cleaned redtop at the rate of 150 pounds per acre.

The application of manures is generally omitted in preparing the practice field.

Practice Green.—The practice green shown on the plans shall be built identically the same as the other 18 greens and planted similarly.

Grass Seed.—All grass seed used on the course shall be analyzed for purity and germination by the United States Golf Association Green Section or some reliable seed laboratory.

Temporary Ditches.—Temporary ditches shall be installed as indicated by the architect wherever necessary to prevent excessive surface wash on fairways. These ditches shall be left open until the rainy season is over in the spring of, at which time they shall be filled up and sodded by the club's organization at the club's expense.

Regardless of what specifications are made for the building of a golf course, the club must depend upon the integrity of its architect for the kind of course they will get.

The club first of all places confidence in the architect, and he would be a poor example of manhood who would take advantage of such a situation.

The same thing applies in the making of a contract for the construction of the course. The club puts itself in the hands of the contractor, after having decided on who is to build the course. No matter how rigid the specification there is always an opportunity to beat it, and no contract has ever been written but what can be driven through with a horse and cart by some smart lawyer.

The most important thing in a contract is for each party to understand the other. The contractor indicates in the contract what he is going to do and the club understands exactly what he means. Boiled down it is nothing more than "faith." If a club finds that an architect or contractor has been unscrupulous in his dealings, they should not hesitate to tell the world. On the other hand, when relations have been amicable and a good job has resulted, the club should not hesitate to pass the word along.

* In view of the fact that amounts of materials vary with the course these have been omitted in this specification in order to avoid confusion.

Lime carbonate in sand.—A number of clubs are submitting samples of sand to chemists for analysis and are having more complete analyses made than are necessary. Determinations of the content of silica, iron, alumina, etc., are unnecessary. It is only the amount of lime carbonate, the so-called calcium carbonate equivalent, which affects the reaction of the soil, because it is lime in this form

which makes the soil less acid. This determination is quickly made and the cost should not exceed several dollars. Sands containing more than several percent of lime carbonate should be looked upon with suspicion, if clover control is desired in greens.

If samples of representative sand are sent to O. J. Noer, 304 Breeze Terrace, Madison, Wis., lime carbonate determination will be made without charge, and results will be reported in a future issue of THE BULLETIN.

“Most of the areas in front of a green should be level and true; but there are holes where slight ridges, little swales and swells, the latter often barely raising their heads, may be used to call forth a variety of fine shots.”—*The Links*.

Drainage adds no plant food to the soil, except the nitrogen that certain plants gather from the air, which replaces the water drained away. But the presence of air and the higher temperature induce the growth of bacteria that release certain food elements from insoluble compounds and make them available for the use of plants. In this way does drainage increase the fertility of soils. Moreover, a drained soil offers a deeper feeding ground for the plants. The roots of most cultivated crops will not go into a saturated soil, and will die if kept in water without air for more than a short time.

“To make great holes, hazards need not be numerous. A few well placed are quite sufficient to arouse any amount of lively interest and to call forth shots of which the best golfer may well be proud.”—*The Links*.

QUESTIONS AND ANSWERS

All questions sent to the Green Section will be answered in a letter to the writer as promptly as possible. The more interesting of these questions, with concise answers, will appear in this column each month. If your experience leads you to disagree with any answer given in this column, it is your privilege and duty to write to the Green Section.

While most of the answers are of general application, please bear in mind that each recommendation is intended specifically for the locality designated at the end of the question.

Pig manure as a fertilizer.—We have difficulty here locating or procuring any other kind of fertilizer than pig manure. Can it be used at all on the golf course? (Illinois.)

ANSWER.—Inasmuch as pig manure is somewhat difficult to handle we would suggest that you compost it with top soil and use it after the mixture reaches a consistency where it can be spread easily. Pig manure is a very valuable fertilizer. The only objection to it is the difficulty of handling it.

Copper sulfate in water.—We have just completed installing 18 grass greens. We have also just built a swimming pool. The water for the 18 greens is furnished through a pressure system from the