



Concrete Manure Pit at Broadmoor Golf Club, Colorado Springs

and 6 inches thick. The sump is $3\frac{1}{2}$ feet deep. At the sump end the concrete wall is surmounted by a vertical stone wall $4\frac{1}{2}$ feet high. At the end opposite the sump end the wall is surmounted by a sloping stone riprap. The sides of the pit above the concrete wall are sloping so as to facilitate unloading. A 4-inch centrifugal pump is used with 4-inch rubber suction hose and 3-inch discharge hose. The capacity of the pit is 2,361 cubic yards; of the sump, 4,875 gallons. The sump is covered by a flooring of oak poles, one end of which rests on an offset in the wall at the sump end. An entrance to the pit was provided by stepping the walls down 2 feet, and supplementing the step with a gang-plank. The top of the pit is natural grade at the end opposite the sump end. A 10-inch by 8-inch sill was bolted to studs set in the wet concrete.

The pit was built entirely by the golf course force, and fortunately the Broadmoor Club is the owner of concrete mixers and such other equipment as was needed for the construction work. The cut was 1,100 cubic yards. We used 655 sacks of cement, 150 feet of triangular reinforcing wire, and form lumber, using one 2-inch expansion joint across the middle of the pit and up through the side walls. Other expansion joints were put in the floor, and after construction the joints were filled with pitch. The cost of the pit including the installation of the pump and suction hose, was about \$2,200, but we have a permanent improvement on our course which will be of immense value under our conditions.

Creeping bent plugs.—Mr. Jones, greenkeeper at the Biltmore-Forest Club, Asheville, North Carolina, has a bent nursery. His greens are seeded, but when he gets ready to change the cups he cuts 18 plugs from his nursery and puts the new plugs in instead of the ones taken out of the green. In this way he is already making quite a start toward covering his greens with vigorous centers of bent.—*L. W. Ellis, Canterbury Golf Club, Cleveland, Ohio.*