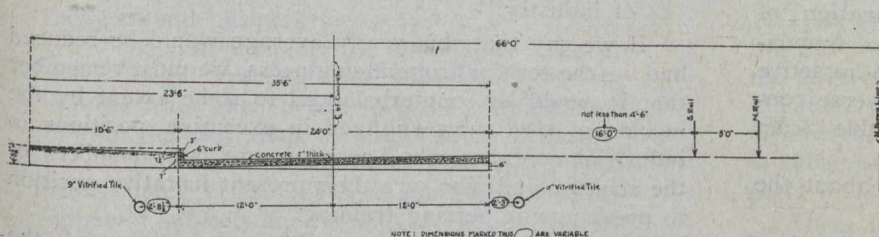


The accompanying illustration shows the section adopted for the 24-foot highway. This includes a curb and is quite different from the design of the remainder of the highway.

Four bridges are required on the highway, namely, at Mimico, Etobicoke, Port Credit and Bronte, and these will cost a total of about \$100,000, but tenders will not be called for them until fall, owing to an application before the Ontario Railway and Municipal Board to determine just how the cost of these bridges is to be divided



Proposed Cross-section of 24-ft. Road

between the commission, the interested municipalities and the province. Meanwhile, the old bridges will be used, but they are too narrow and are also unsafe, and should be rebuilt before another summer.

The concrete work has been divided into four sections and while it is hoped that two mixing plants will be sufficient to finish the work by the second week in September, the commission has divided the work into four sections and will, if necessary, put four separate plants at work. The commission owns five mixing plants and has one under lease from the provincial government. One mixing plant is now working east from the Etobicoke River and will finish at the yard near Mimico about the third week in August. A second mixing plant will work



On the Route of the Toronto-Hamilton Highway Near New Toronto. Photo in May, 1917. The farmers along this road will be glad to see the concrete mixers

west from Church Street, Mimico, beginning next week, and will finish at the yard about the same time. These two mixing plants will then be transferred to the easterly portion of the road, but if weather interferes, additional plants will be utilized.

The commission's whole plant, both mixing and transportation, cost about \$80,000, and it is expected that if

the war continues, the commission will be able to realize on the plant the full purchase price, as much of the equipment has increased greatly in value. Four miles of 20-lb. track was recently sold by the commission for more than was paid for it, and it has been offered higher prices for its locomotives and cars than were paid for the equipment when new.

A number of dangerous sharp curves and one "S" curve, as shown in the accompanying illustrations, are being eliminated on the five-mile stretch being laid this year. No curve of this stretch will have a radius of less than 500 feet. At Etobicoke it will be necessary to excavate 20,000 cubic yards of material, and about 10,000 yards have been taken out on the other curves.

A number of slabs which were laid in 1915 were found to be cracked in the spring of 1916. It was thought that this was due chiefly to the very unusual weather conditions during the previous winter. Also some of the joints had raised; this was thought to be due in part to the fact

that all the joints were not truly vertical, some of them having ridden up one upon the other. The expansion joint used for the 1915 work was a layer of felt about 3/16 inch thick, and in the light of the experience gained in that season's work, it was thought advisable, particularly in work done late in the season, to allow a much wider expansion joint, and in the work done since then a 3/8 inch premoulded expansion joint has been used with greater satisfaction. Very few of the slabs laid in 1916 have cracked and hardly any of them have heaved. In the 1916 work every effort was made to obtain truly vertical joints. Elastite, Pittsburgh and Sarco joints were used on the work last year. The thicker and heavier joint stands up better, and while it costs a little more both in point of initial cost and maintenance, it is an added safeguard to the pavement, and it has been found to be desirable.

The maintenance on the highway last year, not including patrol and some other items which the commission classes as maintenance, but including merely the material used in repairing the road surface and the labor, amounted to \$315.71, or about \$20 per mile. This did not include the special item of chipping raised joints, which cost \$326.78.

Very little reinforcing was used in the highway during 1915 and 1916, only a light mesh over the fills and in cuts. This year's work will be reinforced with Kahn road mesh, size No. 20, .053 sq. in. sectional area, 6-in. width x 12-in. length diamond. The reinforcing sheet will be placed about 2 ins. below the surface. In Mimico and New Toronto, where water and sewer lines have been recently installed, both top and bottom of the road will be reinforced. The reinforcement is being added on account of the increased width of the slabs.

The failure of the Mammoth dam of the Price River Irrigation Co., Utah, on June 24-25, was due to the following causes, according to a report by George F. McGonagle, state engineer: "This dam failed (1) because the flume portion of the spillway was improperly and inadequately constructed; (2) because the horizontal reinforcement of the corewall had been stopped 12 ft. above the base instead of being carried to the top of the core; (3) the first section of the corewall to fall sheared off at a point 5 ft. below the top, indicating that the bond between the older section of the wall and the 5-ft. raise made last year was not what it should have been; (4) because the management deliberately permitted the level of the water in the reservoir to rise to within 10 in. of the top of the core, contrary to all precedent.