invert plates of the sewer. The tube was then completed, and the trough enclosed before it was taken to pieces, and the sewage ultimately turned into its permanent channel.

From the Sloane-square Station to the Fulham-road the line passes through brickwork-covered way, except for a few lengths of open, not amounting altogether to more than 300 ft. Near the end of Osnabrook-terrace the covered way just mentioned terminates, the end being made with a bell-mouth opening on the Cromwell-road Station-yard, between retaining walls. At the works near the Fulham-road, a greater quantity of water was met with than at any other part of the line. The level of the rails is here 24 ft., and the foundations of the wall 29 ft. below the surface, whilst the water was met with at a depth of 9 ft.

The South Kensington Station is situated near Thurloe-square, and a broad new road constructed from the Cromwell-road gives free access to it. At South Kensington Station the Metropolitan District joins the Metropolitan Extension Railway, and at the same point commences the southern of the two branches of the Metropolitan District line, giving communication from the "inner circle" to the West London Railway. Between the South Kensington and Gloucester-road Stations, the branch and "extension" lines run side by side. From the South Kensington Station to that at Gloucester-road, the four lines of rail pass through a double covered way, consisting of two lines of the ordinary brickwork-covered way placed side by side with a 4 ft. 9 in. pier between them.

The Gloucester-road Station is 308 ft. long by 83 ft. 11 in. wide, this width giving space for one 16 ft. and two 14 ft. platforms, besides the four lines of rails. The booking-office is at the end of the station, and access to the platform is obtained by staircases leading from a transverse gallery. Beyond the station the double-covered way crosses under the Cromwell-road at a considerable skew, the angle being 25°. The face wall at the end of the covered way is also on the skew, but its angle is not quite so acute as that at which the Cromwell-road crosses, whilst to prevent the skew arch at the end of the covered way from being too flat, the shape of the covered way is near this point slightly altered, the rise of the arch being made greater. At the station there are, as we have already stated, three platforms, and as the central comes between the branch and inner circle lines, these lines, of course, are wider apart, and the covered ways containing them are separated from each other as they approach the station. This separation thickens the intermediate pier, and where this is the case the latter is formed of a pair of side walls, supported by concrete counterforts, 3 ft. thick, introduced between them at intervals of 11 ft. from centre to centre.

The spaces between the counterforts are filled in with the excavated material, which consists principally of gravel.

From the crossing of the extension of the Cromwell-road to its junction with the West London line, the branch of the Metropolitan District Railway is carried in open cutting, that portion reaching from the end of the covered way to Earl's-court, where a station is now constructed. At a short distance from the end of the covered way the branch line leaves the "extension," and tends to the west to join the West London Railway, and here it is again crossed on the skew by the extension of the Cromwell-road. A little further on, the branch of which we are speaking is joined by the northern branch which commences at Kensington, and the two run side by side through Earl's-court, eventually dividing again to join the West London line. Over this branch an experimental bridge of concrete, since removed, proved conclusively the reliable character of concrete exposed to compressive strains. The structure experimented upon crossed the open cutting between the Gloucester-road Station and Earl's-court road. It was an arch of 75 ft. span, 12 ft. wide, and 7 ft. 6 in. rise in the centre, where the concrete was 3 ft. 6 in. in thickness, increasing towards the haunches, which abutted upon concrete skewbacks. The material of which the bridge was made was formed of gravel and Portland cement blended in the proportions of six to one, carefully laid in mass upon close boarding set upon the centering, and enclosed at the sides.

The amount of concrete employed in the bridge was about 4600 cubic feet, which, weighing one hundred weight and a quarter per cubic foot, develops a gross weight of 300 tons from the structure alone. The centre of gravity in the half-span being 16 ft. 6 in. from the abutment, the weight of the half-span 150 tons, and the rise of the arch 7 ft. 6 in., the thrust at the crown was equal to 330 tons.

The arch being 3 ft. 6 in. deep in the centre, and 12 ft. wide, a sectional area of 42 square feet was available to resist the thrust, which was consequently equal to 7 tons 17 cwt. per square foot. The additional strain imposed upon the bridge per foot run for every ton of distributed load was equal to 24 tons per square foot, and the maximum strain for a rolling was about 34 tons per square foot with the load at five-eighths of the span.

In testing the bridge, rails were laid upon sleepers over the arch, which brought a load of $\frac{5}{8}$ of a ton per