Wharf street front of the building. The southern end of the doorsill next the corner, is used as a city bench-mark. Its level is identical with the point above described.

This datum is thus 9.60 feet below the level for high water, \mathcal{S} which was taken as nine feet on the standard tide scale placed by the Public Works Department, and which was made 100.00 feet in establishing the City datum. The Tidal Survey datum is thus at elevation 90.40 feet above the City datum.

Royal Engineers' Datum at Victoria.—This datum is defined as Mean Sea level. Its relation to the City datum has been obtained from seven of the bench-marks established in Victoria by the Royal Engineers, for which elevations were determined by Mr. Wilmot in his sewerage levels. The seven differences are as follows:—3.88, 3.88, 3.77, 3.70, 3.74, 3.76, and 3.75 feet. The resulting mean value is 3.78 feet below elevation 100.00, which places the Royal Engineers' datum at 96.22 feet above the City datum. The reason for the considerable variation in the difference is not evident. Mr. Wilmot's levels are always carefully checked, no total closing error of more than 0.03 being found in his notes; and the residual error would be half of this. It is equally difficult to admit the error to be actual, in bench-marks established by the Royal Engineers. In any case, the resulting mean value must be very close to the truth.

The question of the true elevation of Mean Sea level, we will discuss later, in the light of other determinations.

DATUM PLANES AT ESQUIMALT.

Some valuable planes of reference exist at Esquimalt, more especially the Low Water datum for the tidal observations which the Public Works Department is taking there. As the harbours of Victoria and Esquimalt both open on the Strait of Fuca at a distance of only three miles from each other, the tide levels at both places must coincide closely. The only reason apparent for any want of correspondence in the data, is their determination in different years. To correlate the Esquimalt data with Victoria the Tidal Survey in the spring of 1905, arranged with Mr. G. Hargreaves to connect the bench-marks at Victoria by instrumental levels with the Esquimalt dry dock. These were run both ways, and checked.

At the Dry Dock, there are two scales of feet cut on the masonry, one inside and the other outside the dock gate. These consist of Roman numerals, six inches high, the lower edges of the numerals being the even feet. The lowest figure is V, where the arc of the invert meets the side of the dock. The zero of both