

Works in Progress—Docks.

With respect to the basins and quays in course of construction at the city, these are on the whole well devised. I should remark, however, with regard to the large "New Tidal Basin," that, according to Plan 5, the water space will be about $68\frac{1}{2}$ acres, and the lineal feet of quayage 5,700 feet; I presume it is intended that further quayage shall eventually be provided, and I would recommend that such jetties as may be introduced into the basin for this purpose should be so arranged as to admit of the ultimate formation of a total of not less than about 15,000 feet of quayage. The steamers' basin immediately to the south of Rattray Street should also eventually have a jetty introduced into it, so as to give, say, from 1,500 to 1,800 feet lineal of additional quayage.

So far as I can gather from two or three of the plans, and more especially from Drawing No. 1, it would seem that the whole of the area to be reclaimed on the north-east side of the "New Tidal Basin" is intended to be ultimately appropriated for buildings and streets, apparently for an extension of the city. If I am correct in the assumption that this is contemplated, I would suggest that this proposal should be very carefully reconsidered, and would recommend that the entire area lying to the northward of the basin—namely, between the line of Frederick Street and the south side of the channel to be left for the passage of the "Water of Leith," eastward of Logan's Point, should be strictly reserved for purposes in connection with dock and harbour traffic.

New Channel between Dunedin and Port Chalmers.

The adoption by Mr. Simpson of the northern, in preference to the southern, channel between Dunedin and Port Chalmers as that in which the works of improvement should be carried out, is, I consider, judicious, seeing that this line will give the shorter route: it will afford easier curves in the sailing course or track of vessels, and at the same time will form a better approach to and passage from the docks at the city.

With respect to the precise line or track for the improved channel, the documents sent to me do not furnish definite information as to the quantity of dredging that had been actually executed, or the exact line on which it was being carried on at the time the papers were sent from the colony. I can therefore only say that I should still give the preference to the line which I indicated as an approximation when in the colony; but this was understood to be dependent in some degree upon the results of the borings to be made in the positions which I then defined. These borings have shown this line to be free from objection or obstacle, in so far as regards the absence of materials that would be difficult or costly to remove by dredging. Its general direction does not differ very materially from that proposed by Mr. Simpson; the difference between the two consists mainly in the positions of the south-eastern low-water margin of the channel, which I consider should be brought nearer to the north-western shore.

The following tabular statement will show the line I should certainly have proposed were the dredging operations now to be undertaken *ab initio*; and if in the dredging now remaining to be carried out a nearer approach to this line can be attained, even if only in a portion of the length, without any serious sacrifice of work already executed, I would recommend that this should be done. I have assumed that the ultimate bottom width of the channel would be 300 feet, that the depth in the first instance would be 18 feet at low-water of spring tides, to be ultimately increased to 21 feet, and that the side slopes would take an average inclination of 8 to 1:—

Points at which the distances are taken.	Distance of south-east training bank from the low-water edge on the north-west shore.
Opposite Curle's Point, at west end of Arden Bay	900 feet
Opposite Whitestone Point, which divides Shag Point from Burke's Bay	950 feet
Opposite Green Point, <i>i.e.</i> , at 600 yards below old lighthouse at Ravensbourne	700 feet
Opposite Black Jack's Point, at south-west end of Ravensbourne Bay	650 feet

If the south-eastern training bank were placed as above indicated, a similar bank on the north-western side would not, in my opinion, be necessary, unless perhaps it might be for a length of, say, 2,000 yards below Whitestone Point, at the lower end of Shag Bay.

The advantage to be gained by the adoption of the line I have here described would be the utilization to the greatest practicable extent of the natural shore, as a guiding or training bank for the tidal currents.

It should be understood that I do not go so far as to say that, in the absence of a second or north-western training-bank, the line as originally laid out will certainly require an undue amount of dredging to maintain the navigable depth: but there can, I consider, be no doubt or question whatever that the line I have suggested would have a very decided advantage in this respect, seeing that its adoption would render it certain that a second training-bank would not be required for at least the greatest part if not the whole of the length; whereas with the line originally proposed the maintenance of the depth without dredging in the absence of a second training-bank would, to say the least, be problematical.

As already mentioned there is not sufficient information at present available here to enable me to say precisely upon what line and to what extent dredging may have been done; but, seeing that the adoption of the line I have indicated by the measurement in the foregoing tabular statement would effect a reduction in the quantity of dredging of somewhere about 1,800,000 yards (or say 25 per cent.) as compared with the line shown in red on Drawing No. 1 (cloth tracing) forwarded to me from the colony, it may still be open to consideration whether my suggestion on this head could not be advantageously adopted, even if it were only in part. The decision on this point should, as I have previously intimated, be determined by the extent of dredging which may have been executed up to this time upon the line originally proposed.