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four-berth scheme at the Inner Harbour, as against a two-berth scheme at the Inner Harbour or

the completion of the Breakwater Harbour.

In evidence Mr. Holmes stated (on page 104) that his unit costs included plant. Messrs. Cullen and Keele in their 1925 report do not include the plant in their dredging-costs, but they estimate the dredging, plant, and pipe-lines at £98,300, which at Mr. Holmes's estimate of 3,518,350 cubic yards to be dredged (including the quantity behind deflectors) would absorb 0.5617 of 1s. per yard of his unit prices. The average of the unit prices adopted by Mr. Holmes is about 1s. 3d. Deducting the unit cost of plant—viz., 0.56 of 1s.—leaves 0.7 of 1s., or approximately  $8\frac{1}{2}$ d. per cubic yard to pay for all costs of dredging, including interest, sinking fund, and repairs to plant. Under the Napier conditions I am satisfied that the works cannot be done at this price. In my estimates I have not included any cost of plant. My unit prices include the cost of dredging, interest, sinking fund, and repairs to plant. The unit prices I have adopted are—Dredging at outer channel, 1s. 3d. per cubic yard; between moles, 2s. per cubic yard; basin, 1s. and 1s. 3d. per cubic yard.

Messrs. Cullen and Keele's scheme, 1912 and 1925, provide for a tide-deflector and dredging on the north side of same. We have seen no detailed designs for this, so have included Mr. Holmes's estimated cost. Forming and making roads Mr. Holmes includes under reclamation. For comparative purposes I provide an amount in each estimate to cover this item, and also for railways,

which Mr. Holmes does not mention.

r. Holmes does not mendor					D. Holmes:	Commissioners Four Berths.
T) - 1-1					£	£
Dredging outer channel	• •	• •	• •		61,500	104,575
Dredging between moles	• •		• •		46,175	42,963
Dredging basin			• • •		61,080	151,250
Dredging north of tide-defl	ector				42,500	42,500
Rebuilding and removing a	nole				26,300	34,000
Protecting banks between	$_{ m moles}$					4,000
Quay-wall	)				(81,200)	(162,400)
Cargo-sheds			0	1 (1	19,800 4	
Cranes	· · · · ·	• •	2	berths	4,000 bert	1 s = 8,000
Concrete floors, sheds of qu	iav				10,000	20,000
Buoys	•••				1,000	1,000
Roads, at back of wharf or	nlv				9,000	18,000
Railways, at back of wharf					2,500	5,000
Moles to reduce range			, ,		40,000	40,000
Mole to tide-deflectors	• •				23,600	23,600
					${428,655}$	$\frac{-}{696,888}$
Contingencies, 5 per cent.			, ,		21,433	34,844
, ,						
				ć	£450,088	£731,732
Cost per berth	.,				£225,044	£182,933
•	_					_ '

Or, correcting what we consider is an underestimate by Mr. Holmes for dredging and mole, the totals become—

				£	£	
Total cost			 	 598,908	731,732	
Cost per berth			 	 299,454	182,933	

It will be seen that the estimate of Mr. F. W. Furkert, Engineer to the Public Works, who only provides for two cargo-sheds and cement floors for same, is £660,000. By adding the cost of two additional cargo-sheds and floors to same, plus roads and railways, his total cost, exclusive of dredging plant, is £708,800. This is in close agreement with my estimate. I am of the opinion that, including plant, an approximate estimate of the cost of this work may be taken as £830,032. My opinion is, further, that if these works were carried out the port may at any time be closed owing to the silting of the Outer Channel wholly or in part, and that, at the best, overseas vessels drawing 26 ft. could only enter or leave the port in moderate weather, during daylight, at high-water slack tide, and would require the assistance of a tug to do so.

In estimating the annual overhead charges I have adopted the following rates: Interest on capital,  $5\frac{1}{2}$  per cent.; Sinking fund,  $\frac{1}{2}$  per cent.; Renewals, 1 per cent.; Maintenance,  $2\frac{3}{4}$  per cent. As I have provided for interest and sinking fund and repairs in my unit cost of dredging, the

additional annual charge will be-

Dredging—				£	£
Maintenance dredging: £341,288 at $2\frac{3}{4}$	per	cent		9,385	
Renewals of plant: £98,300 at 1 per co	ent.			983	
					10,368
Wharves, sheds, and structures—					
Interest: £731,732 at $5\frac{1}{2}$ per cent.				40,245	
Sinking fund: £731,732 at $\frac{1}{2}$ per cent.				3,658	
Renewals: £731,732 at 1 per cent.				7,317	
Maintenance: £731,732 at $2\frac{3}{4}$ per cent.			٠ .	20,123	
					71,343
					£81,711