GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper:—

From E. TURNER, Esq., I.C.S., Chairman, Harbour Trust Board, Madras, to the Chief Secretary to Government, dated 3rd August 1894, No. 1700.

I have the honour to submit, for the information of Government, a report from the Board's Engineer on the progress made upon the Madras Harbour during the quarter ending 30th June 1894, the usual returns of imports and exports, and statements of receipts and charges, Revenue Account, from 1st April to 30th June.

2. The opening cash balance amounted to Rs. 11,68,742 against Rs. 11,65,852 in 1893, and from Port funds an available cash balance was received of Rs. 57,607 against Rs. 20,000 in 1893. Harbour dues collections amounted to Rs. 97,309 against Rs. 93,040 in 1893, porterage receipts to Rs. 25,898 against Rs. 28,671, and interest upon Government securities to Rs. 5,274 against Rs. 5,059.

3. These items show improvement, the total receipts from all sources being Rs. 1,86,088–3–4 against Rs. 1,46,769–14–0, or Rs. 39,318 more during the first quarter of 1894–95 than were received in the corresponding period of 1893–94. The usual refund of Rs. 1,00,000 was made to Government on account of capital advances, and interest was paid up to date upon the first banking day in April.

Details of the comparative receipts and charges are given on page 5.

4. The principal variations in the expenditure to be noted are as follows:—

Interest on capital advances + Rs. 4,435, the figures being Rs. 2,22,913 against Rs. 2,18,478 last year; law charges nothing against Rs. 1,198; miscellaneous charges Rs. 1,775 less than in 1893–94; new works Rs. 3,831 more, being payment for a new iron yard constructed in 1893–94 to accommodate the Collector of Sea Customs and to provide more space for coal; coolie labour Rs. 1,045 more, due to larger imports of coal; refunds Rs. 898 more, also due to the coal traffic; arrangements having been made to load parts of two cargoes direct into railway vehicles thereby effecting a large saving to the importers, cooly hire paid for stacking being refunded. The item Rs. 523 extra for lighting the screw pile pier and the yards is due to a supply of cera wax having been obtained shortly before the close of the quarter.

5. While cash receipts upon cargo landed and shipped increased, tonnage shows a falling off, 172 vessels having entered the harbour with a net register tonnage of 295,882 against 179 vessels with a tonnage of 318,593 in the corresponding quarter of 1893–94. Outside the harbour only 12 vessels anchored, their tonnage being 2,649 against 19 vessels, tonnage 37,171, last year.

Port dues received have been Rs. 28,767 against Rs. 29,165.

6. Pilotage Fund receipts have amounted to Rs. 9,276 against Rs. 7,592 as follows :—

—	Pilotage fees.	Stern fast boat hire.	Fees for shifting berths.	Harbour Master's fees.	Miscellaneous.	Total.
1893.	Rs.	Rs.		Rs.		Rs.
April	1,732	174	..	660	..	2,566
May	2,098	204	..	580	..	2,882
June	1,574	150	..	420	..	2,144
Total ..	5,404	528	..	1,660	..	7,592
1894.						
April	2,710	267	..	960	..	3,937
May	1,330	126	..	500	..	1,956
June	2,187	216	..	980	..	3,383
Total ..	6,227	609	..	2,440	..	9,276

7. The returns of imports given by the Traffic Manager are interesting and instructive.

From foreign ports decrease is to be noticed in almost every item of importance, due, it is believed, to low and uncertain exchange. The items which show the largest deficits are iron — 4,438 tons, hardware — 2,008 packages, nails — 2,523 kegs; all other descriptions of iron and steel also show considerable reduction in quantity; piece-goods — 2,094 bales and cases, twist — 858 bales, sugar — 2,441 bags; provisions and oilman's stores are less by 2,366 cases, the imports 2,527 against 4,893 being only little more than half those in the corresponding quarter of 1893–94.

On the other hand the following items show large increases: Coal + 7,139 tons, dynamite + 1,031 cases, cement + 1,312 casks, candles + 1,221 cases, machinery + 328 tons. These items point to the growing importance of the gold mining industry. Kerosine oil in bulk has increased by 1,741 tons, but imports of case oil have decreased by 85,977 cases.

8. Railway stores show large decreases except in timber, of which the Madras Railway Company imported 853 tons more than in the first quarter of 1893–94.

9. Imports from coast ports show a considerable and satisfactory increase in nearly all items, chief amongst which is coal + 3,767 tons, while the decrease in the imports of gram, peas, paddy and seeds appears to point to continued prosperity in the surrounding districts.

10. The exports to foreign ports have been largely in excess of those during the corresponding quarter of the past financial year: Coffee + 3,292 bags, cotton + 5,552 bales, ground-nuts + 8,456 bags, tanned hides + 2,398 bales, tanned skins + 3,253 bales, indigo + 3,382 chests, rice + 14,486 bags, seeds + 17,049 bags; jaggery alone shows a heavy deficit — 13,156 bags.

11. Exports to coast ports also show healthy activity: Ground-nuts + 22,107 bags, gram, peas, &c. + 1,762, kerosine-oil + 5,337 cases, seeds + 11,917 bags, and turmeric + 8,659 bags.

The following items show decreases :—

Onions — 6,861 bags and baskets, poonac — 5,714 bags, and tamarinds — 1,934 bundles.

12. The Engineer's report gives full details of the progress made upon harbour construction; the very small actual advance made during the quarter is disappointing.

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ENCLOSURES.

STATEMENT of receipts and charges from 1st April to 30th June 1894 (Madras Harbour Trust).

	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Opening balance—									
Government securities (par value Rs. 8,20,000)	...			8,16,547	10	10			
1. Cash in the Bank of Madras ...	3,51,356	14	1						
2. General cash in office	337	10	8						
3. Advance for contingencies ...	500	0	0						
				3,52,194	8	9			
							11,68,742	3	7
Receipts.									
I. Contributions from Port funds ...	...			...			57,607	5	6
II. Beach imports: dues under section 45 (*a*) I (i), (ii), (iii)	39,939	2	7						
Pier do. do. do. ...	14,732	11	5						
Beach exports do. do. ...	8,968	5	10						
Pier do. do. do. ...	14,080	10	10						
Wharfage do. do. II	1,765	0	0						
Cranage do. do. III	11,673	2	1						
Storage do. do. IV	425	10	1						
Demurrage do. do. V	136	6	1						
Dues for entry of vehicles under section 45 (*c*) VI	3,841	5	11						
Provisions: dues on, under section 45 (*a*) I (i)	178	6	6						
Rent of properties	169	10	9						
Water: charge for, delivered at pier head	1,398	0	0						
Penalties under section 84	...								
Sundries	0	0	4						
				97,308	8	5			
III. Porterage under section 45 (*a*) I (iv)—									
Beach	18,300	15	3						
Pier	7,504	6	7						
Miscellaneous	92	13	4						
				25,898	3	2			
							1,23,206	11	7
IV. Interest on Government of India 4 per cent. promissory notes				...			5,274	2	3
Total				...			13,54,830	6	11
Charges.									
I. Interest (under section 30) ...				2,22,912	8	1			
II. Repayment of loan for construction of harbour under section 31 ...				1,00,000	0	0			
							3,22,912	8	1
III. Refunds				176	15	4			

Charges—cont.

	RS. A. P.	RS. A. P.	RS. A. P.
IV. Establishment, &c.—			
1. Chairman's salary	1,200 0 0		
2. Secretary's do.	2,400 0 0		
3. Correspondence department ...	930 9 1		
4. Accounts department ...	1,630 0 0		
5. Cash department	1,112 1 2		
6. Traffic department (Shore staff).	6,780 12 1		
7. Preventive service	3,154 5 11		
8. Do. boatmen ...	282 11 4		
9. Exchange compensation allowance	...		
10. Contribution to Government for pensions	213 12 8		
11. Contribution to Provident fund.	11 8 2		
12. Fees to Trustees	1,710 0 0		
		19,425 12 5	
V. Contingencies—			
(*a*) Subject to regular audit—			
Postage	20 6 6		
Receipt stamps	58 8 0		
Telegrams	23 14 0		
Furniture	31 12 0		
Fees for audit	...		
Law charges	...		
Stationery and printing ...	1,073 0 3		
Advertisement charges ...	230 0 0		
Uniform for Preventive service, &c.	791 8 0		
		2,229 0 9	
(*b*) Admissible without detailed audit—			
Overtime fees to establishment.	1,404 2 1		
Do. to Preventive service and boatmen	968 1 4		
Miscellaneous	974 11 0		
		3,346 14 5	
VI. Petty construction and repairs—			
New works	3,831 8 3		
Repairs	936 10 2		
Tools and plant	887 3 5		
		5,655 5 10	
			30,834 0 9
VII. Porterage—			
1. Coolies, Beach	11,113 10 1		
2. Do. Pier	4,064 11 9		
3. Do. Custom-house	2,223 3 3		
4. Coasting cargo	382 13 1		
5. Engine charges	350 8 5		
6. Steam crane charges	367 11 8		
7. Refunds	960 11 11		
8. Claims for losses and damage ...	273 10 6		
9. Provident fund deductions from coolies' wages ...	285 0 5		
10. Do. Contributions by the Trust	285 0 5		
		20,307 1 6	
(*a*) Contingencies subject to regular audit—			
Postage	...		
Receipt stamps	0 14 0		
Telegrams	...		
Furniture	...		
Tarpaulins	946 4 4		
Law charges	...		
Stationery and printing ...	125 6 2		
Advertisement charges ...	...		
Lighting pier and yards ...	943 7 2		
		2,015 15 8	

Charges—cont.

	RS. A. P.	RS. A. P.	RS. A. P.
(*b*) Contingencies admissible without detailed audit—			
Miscellaneous	...	446 6 6	
VIII. Advances to construction account.	...	...	22,769 7 8
Total Expenditure ...	...	...	...
Closing balance on the 30th June 1894—	...	...	3,76,516 0 6
Government securities (par value Rs. 9,60,000)	...	9,61,574 14 10	
Cash in the Bank of Madras ...	16,026 6 5		
General cash in office	213 1 2		
Advance for contingencies	500 0 0		
		16,739 7 7	
			9,78,314 6 5
		Total ...	13,54,830 6 11

(Signed) H. E. HOPE-ROSS,
Chief Accountant, Harbour Trust.

COMPARATIVE statement of receipts and charges of the Madras Harbour Trust under Act II of 1886 for the quarters ending 30th June 1893 and 1894.

Items.	Actuals from 1st April to 30th June 1893.	Actuals from 1st April to 30th June 1894.	Plus or minus.
	RS.	RS.	RS.
Opening balances	11,65,852	11,68,742	...
Receipts.			
I. Contributions from Port funds	20,000	57,607	+ 37,607
II. Beach imports: dues under sec. 45 (*a*) I (i),(ii),(iii)	39,344	39,939	+ 595
Pier do. do. do. ...	15,849	14,733	— 1,116
Beach exports do. do. ...	8,535	8,968	+ 433
Pier do. do. do. ...	12,557	14,081	+ 1,524
Wharfage do. II ...	1,930	1,765	— 165
Cranage do. III ...	12,581	11,673	— 908
Storage do. IV ...	676	426	— 250
Demurrage do. V. ...	...	136	+ 136
Dues for entry of vehicles under sec. 45 (*c*) VI.	3,108	3,841	+ 733
Provisions: dues on, under sec. 45 (*a*) I (i) ...	152	178	+ 26
Rent of properties	287	170	— 117
Water: charge for, delivered at pier head ...	1,129	1,398	+ 269
Penalties under section 84	...	...	...
Sundries	...	...	...
III. Porterage under section 45 (*a*) I (iv)—			
Beach	16,207	18,301	+ 2,094
Pier	9,172	7,505	— 1,667
Miscellaneous	184	93	— 91
IV. Interest realised on Government of India 4 per cent. promissory notes	5,059	5,274	+ 215
Total ...	1,46,770	1,86,088	...
Total including the opening balance ...	13,12,622	13,54,830	...
Charges.			
I. Interest (under section 30)	2,18,478	2,22,913	+ 4,435
II. Repayment of loan for construction of harbour under section 31	1,00,000	1,00,000	...
III. Refunds	916	177	— 739
IV. Establishment, &c.—			
1. Chairman's salary	1,200	1,200	...
2. Secretary's do.	2,400	2,400	...
3 Correspondence department	913	931	+ 18
4. Accounts department	1,526	1,630	+ 104
5. Cash department	1,099	1,112	+ 13
6. Traffic department (Shore staff) ...	6,291	6,781	+ 490

Comparative statement of receipts and charges of the Madras Harbour Trust, &c.—*cont.*

Items.	Actuals from 1st April to 30th June 1893.	Actuals from 1st April to 30th June 1894.	Plus or minus.
	Rs.	Rs.	Rs.
IV. Establishment, &c.—*cont.*			
7. Preventive service	3,045	3,154	+ 109
8. Do. boatmen	293	283	— 10
9. Exchange compensation allowance	...	...	...
10. Contribution to Government for pensions.	89	214	+ 125
11. Do. to Provident fund	13	11	— 2
12. Fees to Trustees	1,590	1,710	+ 120
V. Contingencies—			
(*a*) Subject to regular audit—			
Postage	20		
Receipt stamps	56	20	
Telegrams	7	58	+ 2
Furniture	...	24	+ 17
Fees for audit	...	32	+ 32
Law charges	1,198	...	...
Stationery and printing	639	...	— 1,198
Advertisement charges	215	1,073	+ 434
Uniform for Preventive service, &c.	659	230	+ 15
(*b*) Admissible without detailed audit—		791	+ 132
Overtime fees to establishment	1,045		
Do to Preventive service and boatmen		1,404	+ 359
Miscellaneous	715		
VI. Petty Construction and repairs—	2,750	968	+ 253
New works		975	— 1,775
Repairs	...		
Tools and plant	900	3,831	+ 3,831
VII. Porterage—	384	937	+ 37
1. Coolies, Beach		887	+ 503
2. Do. Pier	9,803		
3. Do. Custom-house	3,985	11,114	+ 1,311
4. Coasting cargo	2,569	4,065	+ 80
5. Engine charges	287	2,223	— 346
6. Steam crane charges	285	383	+ 96
7. Refunds	202	351	+ 66
8. Claims for losses and damage	63	368	+ 166
9. Provident Fund deductions from coolies' wages	67	961	+ 898
10. Provident Fund contributions by the Trust.	...	274	+ 207
(*a*) Contingencies subject to regular audit—	262		
Postage		285	+ 285
Receipt stamps	...	285	+ 23
Telegrams	4	...	
Furniture	...	1	— 3
Tarpaulins	...	...	...
Law charges	708	...	...
Stationery and printing	...	946	+ 238
Advertisement charges	30	...	...
Lighting pier and yards	...	125	+ 95
(*b*) Contingencies admissible without detailed audit—	420	...	...
Miscellaneous		943	+ 523
	369	446	+ 77
Total	3,65,495	3,76,516	...
Closing Balance	9,47,127	9,78,314	...
Total	13,12,622	13,54,830	...

(Signed) H. E. HOPE-ROSS,
Chief Accountant, Harbour Trust.

I.—STATEMENT of goods imported from Foreign Ports.

—	Packages.	1891–92.	1892–93.	1893–94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Apparel and effects.	Packages ..	1,347	1,068	1,017	146	180	+ 34
Alum	Barrels ..	326	686	910	477	50	— 427
Asphalte, tar and pitch	Casks ..	4,439	2,329	2,638	592	251	— 341
Acids	Cases ..	1,854	1,408	1,560	821	236	— 585
Arms and guns ..	,, ..	442	221	250	106	14	— 92
Arrack	Casks ..	884	833	1,031	199	224	+ 25
Blankets ..	Bales ..	119	168	28	3	..	— 3
Beef and pork ..	Cases ..	36	..	..	..	..	..
Bricks	100 ..	1,021	551	1,550	50	30	— 20
Beer	Cases ..	6,123	8,710	7,013	1,755	1,839	+ 84
	Barrels ..	1,140	1,707	1,401	274	117	— 157
	Hogsheads ..	6,808	8,210	4,310	915	1,410	+ 495
Boiler	No. ..	51	32	48	19	4	— 15
Corks	Bundles ..	88	72	50	3	8	+ 5
Canvas	Bales ..	121	193	615	47	66	+ 19
Candles	Cases ..	16,637	31,017	27,463	4,508	5,729	+ 1,221
Colours	,, ..	3,838	3,286	2,998	1,098	874	— 224
Confectionery, provisions and oilmanstores ..	,, ..	23,395	22,129	20,829	4,893	2,527	— 2,366
Crockery and glassware.	Crates and casks ..	4,538	3,817	5,300	913	684	— 229
Chalk	Barrels ..	370	140	134	10	13	+ 3
Cement	Casks ..	14,522	7,369	8,904	1,325	2,637	+ 1,312
Cast-iron pipes and tubes	Tons ..	335	1,436	989	606	171	— 435
Camphor ..	Tubs ..	4,739	4,349	5,765	1,623	1,400	— 223
Coal, coke and fuel.	Tons ..	..	..	..	..	..	..
Coal	,, ..	33,686	49,508	58,179	15,641	22,780	+ 7,139
Coke	,, ..	578	778	1,018	183	488	+ 305
Fuel	,, ..	..	2,953	..	..	..	..
Crackers	Cases ..	470	840	327	..	1	+ 1
Copper-plates and tiles	No. ..	4,802	521	7,260	784	1,456	+ 672
Corrugated iron ..	Packages ..	805	2,512	2,688	1,040	443	— 597
Dynamite ..	Cases ..	13,040	8,035	10,598	1,412	2,443	+ 1,031
Earthenware ..	Crates ..	2,318	1,886	2,168	510	287	— 223
Fire clay ..	Casks ..	2,768	272	312	..	20	+ 20
Flour	Bags and barrels ..	1,317	821	1,251	202	147	— 55
Flannel	Bales ..	54	30	64	14	..	— 14
Gunpowder ..	Packages ..	6,667	5,987	5,883	1,869	399	— 1,470
Harmonium ..	Cases ..	30	27	24	19	3	— 16
Hardware ..	,, and casks ..	8,234	6,783	8,189	2,476	468	— 2,008
Hops	Packages ..	129	64	297	31	7	— 24
Iron	Tons ..	13,737	17,929	18,627	6,870	2,432	— 4,438
Iron safes ..	No. ..	296	150	167	40	26	— 14
Kerosine-oil ..	Cases ..	397,862	251,320	342,671	86,000	23	— 85,977
	Tons ..	..	3,361	5,455	..	1,741	+ 1,741
Malt	Bags ..	445	407	22	6	4	— 2
Millinery and haberdashery ..	Cases ..	1,609	1,566	1,370	213	192	— 21
Matches ..	,, ..	10,665	9,125	8,927	2,404	1,650	— 754
Machinery ..	Tons ..	3,099	3,241	4,817	697	1,025	+ 328
Nails	Kegs ..	13,744	10,547	14,022	3,460	937	— 2,523
Oil and turpentine.	Drums ..	7,225	15,500	4,581	734	1,613	+ 879
Piece-goods.	Piece-goods } Cases and twist .. } bales.	85,079	51,551	57,676	14,237	12,143	— 2,094
Paper	Bales ..	6,546	18,664	24,071	5,595	4,737	— 858
Piano	No. ..	153	5,518	6,038	2,123	1,201	— 922
Printing types ..	Cases ..	492	99	112	27	86	+ 59
Pig lead ..	No. ..	2,198	727	346	80	51	— 29
Paint	Kegs ..	7,758	1,098	2,612	1,074	..	— 1,074
Rattan	Bundles ..	3,823	10,257	5,770	3,018	1,498	— 1,520
Soaps	Cases ..	1,650	5,669	2,362	296	297	+ 1
Salt	,, ..	383	970	2,172	459	275	— 184
Steel	,, and casks ..	864	329	153	5	42	+ 37
Steel bundles and bars ..	No. ..	11,261	3,343	794	426	21	— 405
Steel hoop ..	Bundles ..	5,567	10,401	10,768	1,827	1,459	— 368
Shovels ..	,, ..	275	1,597	4,930	3,386	2,230	— 1,156
Sodawater bottles ..	Crates ..	1,395	499	29	2	12	+ 10
Sulphur	Casks ..	752	1,768	1,570	241	547	+ 306
Shot	Kegs ..	177	435	1,128	225	10	— 215
Sundries ..	Packages ..	48,408	56	248	70	34	— 36
			33,606	56,235	11,803	16,758	+ 4,955

I.—Statement of goods imported from Foreign Ports—*cont.*

—	Packages.	1891–92.	1892–93.	1893–94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease	
Specie	No. ..	1,229	888	768	191	110	—	81
Sugar	Bags ..	2,152	1,196	4,198	2,571	130	—	2,441
Slates and pencils..	Cases ..	1,242	848	1,333	407	490	+	83
Spelter	Cakes ..	836	8,786	22,921	3,601	2,128	—	1,473
Saw	Cases ..	70	48	79	22	10	—	12
Twine and rope ..	Bales and coils ..	438	455	458	375	28	—	347
Tin plates ..	Boxes ..	5,608	4,649	6,669	2,321	621	—	1,700
Wine and spirits.	Cases ..	37,877	44,739	36,048	9,819	5,699	—	4,120
	Casks ..	863	658	514	112	695	+	583
	Puncheons ..	369	733	1,058	208	60	—	148
Window glasses ..	Cases ..	5,972	12,000	10,425	5,874	975	—	4,899
White and red lead.	Kegs ..	681	951	737	201	95	—	106
Yellow metal ..	Cases ..	3,076	3,361	2,784	633	1,706	+	1,073
Zinc sheets ..	Packages ..	2,749	1,690	1,761	311	447	+	136
Horses	No. ..	816	959	835	..	..	..	..
Ponies	,, ..	70	112	131	..	..	..	..
Cows	,, ..	59	15	7	..	..	..	..
Dogs	,, ..	13	14	3	..	..	..	..
Elephants ..	,, ..	10	7	6	6	4	—	2
Two-wheeled carriage	..	..	8	9	2	1	—	1

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II.—Statement of stores imported by the Madras Railway Company.

—	Packages.	1891–92.	1892–93.	1893–94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.	
Stores ..	Packages ..	82,105	72,434	47,040	10,730	947	—	9,783
	Tons ..	3,605	499	156	6	..	—	6
Fuel	,, ..	..	..	..	..	..	..	..
Coke	,, ..	1,437	544	716	417	452	+	35
Coal	,, ..	27	300	237	..	..	..	..
Timber ..	,, ..	2,477	2,083	1,448	..	853	+	853
Fire brick ..	100 ..	115	330	..	..	368	+	368

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III.—Statement of stores imported by the South Indian Railway Company.

—	Packages.	1891–92.	1892–93.	1893–94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.	
Stores ..	Packages ..	68,282	22,171	28,640	1,268	1,337	+	69
	Tons ..	.. 14	..	992	22	220	+	198
Coke	,, ..	..	..	..	..	..	..	..
Coal	,, ..	..	..	..	..	..	..	..
Timber	,, ..	.. 4	.. 12	.. 10	.. 10	..	—	10
Boiler	No. ..					160	+	160
Fire bricks ..	100 ..	..	..	..	..			

IV.—Statement of goods imported from Coast Ports.

—	Packages.	1891–92.	1892–93.	1893–94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.	
Apparel and effects.	Packages ..	451	343	527	103	121	+	18
Alum	Barrels ..	10	187	7	4	4	—	4
Acids	Cases ..	89	125	269	71	123	+	52
Animals	No. ..	..	10	..	..	..	..	..
Arms and guns ..	Cases ..	45	12	13	2	29	+	27
Boilers	No. ..	2	..	..	..	..	..	..
Bricks and tiles ..	100 ..	1,396	57	837	517	..	—	517
Coffee	Bags ..	379	595	575	236	168	—	68
Candles	Cases ..	..	..	11	..	1	+	1
Colours	,, ..	1,225	1,531	1,591	376	56	—	320
Crockery and glassware	,, ..	322	466	426	97	382	+	285
Coal	Tons ..	13,249	13,792	22,152	3,750	7,517	+	3,767
Coke	,, ..	..	..	..	..	..	..	..
Carpets	Bales ..	77	94	99	25	24	—	1
Camphor and benjamin	Tubs ..	682	1,306	432	300	47	—	253
Copra	Bags ..	32	..	122	122	16	—	106
Crackers ..	Cases ..	..	..	..	..	..	..	..
Copper	,, ..	1,667	936	557	32	52	+	20
Do. ..	Tiles and ingots ..	96	421	2,180	245	2,589	+	2,344
Cutch and lac ..	Packages ..	4,415	3,191	3,554	1,255	1,476	+	221
Cocoanuts ..	No. ..	3	415	2,023	19	..	—	19
Earthenware ..	Crates ..	392	2,941	407	75	16	—	59
Do. ..	Pipes ..	2,626	6,315	950	614	150	—	464
Firewood ..	Tons ..	..	..	..	..	..	..	..
Flour	Bags and barrels ..	7,248	11,682	12,270	2,992	3,848	+	856
Gunnies ..	Bales ..	7,930	9,661	9,755	2,268	2,565	+	297
Gram and peas, &c.	Bags ..	271,682	380,145	395,249	92,145	81,736	—	10,409
Garlic	,, ..	2,945	1,215	6,007	1,097	2,130	+	1,033
Hardware ..	Cases ..	641	1,197	1,507	141	109	—	32
Horns	Bundles ..	880	980	511	130	249	+	119
Hides	Bales ..	6,127	9,539	6,013	1,587	1,702	+	115
Iron	Tons ..	231	293	155	37	66	+	29
Iron-safes ..	No. ..	31	38	34	5	5	..	..
Kerosine-oil ..	Cases ..	..	..	500	500	..	—	500
Leaves	Bundles ..	6,508	3,742	5,113	1,576	162	—	1,414
Liquor	Cases ..	..	..	2,193	917	558	—	359
Machinery ..	Tons ..	158	79	49	14	31	+	17
Millinery and haberdashery ..	Cases ..	208	245	144	45	45	..	..
Oil and turpentine.	Drums ..	8,340	6,369	5,941	1,787	1,201	—	586
Paddy	Bags ..	..	75,980	23,737	7,688	5,085	—	2,603
Piece-goods ..	Cases and bales ..	3,802	4,756	3,499	1,095	1,322	+	227
Paper	Bales ..	3,128	4,898	5,420	1,886	1,145	—	741
Paint	Kegs ..	224	693	247	49	52	+	3
Piano	No. ..	15	12	5	2	3	+	1
Rice	Bags ..	1,147,048	205,176	110,181	26,328	27,398	+	1,070
Rose-water ..	Cases ..	1,434	1,815	1,357	413	340	—	73
Seeds	Bags ..	30,406	25,747	13,916	6,942	3,595	—	3,347
Skins	Bales ..	6,199	50,502	6,807	1,591	1,588	—	3
Silk	,, ..	1,051	699	290	67	75	+	8
Sandalwood ..	Bundles ..	143	121	42	32	82	+	50
Sugar	Bags ..	1,381	866	1,333	468	192	—	276
Specie	No. ..	202	190	193	14	3	—	11
Sundries ..	Packages ..	47,533	47,137	48,614	912	15,634	+	14,722
Soap	Cases ..	445	40	147	5	352	+	347
Sulphur ..	Casks ..	471	544	506	216	265	+	49
Spice	Packages ..	359	740	640	47	19	—	28
Sodawater bottles..	Crates ..	..	..	241	2	303	+	301
Twine and rope ..	Bales and coils ..	839	775	1,063	708	204	—	504
Tin plates ..	Boxes ..	1,807	912	858	234	406	+	172
Twist	Bales ..	1,126	1,147	1,206	208	168	—	40
Turmeric ..	Bags ..	7,224	4,977	5,433	1,517	1,857	+	340
Timber	Tons ..	15,137	10,595	15,264	3,272	3,422	+	150
Tea	Cases ..	1,321	3,411	37	2	30	+	28
Tamarind ..	Bundles ..	..	..	140	32	58	+	26
Yellow metal ..	Cases ..	6	542	1,078	1	25	+	24
Horses	No. ..	1	15	8	..	..	..	..
Two-wheeled carriages ..	,, ..	..	4	5	..	2	+	2
Four-wheeled carriages ..	,, ..	..	3	19	4	..	—	4

V.—Statement of goods exported to Foreign Ports.

—	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Beer and ale ..	Cases ..	18	2	13	1	..	— 1
	Casks ..	60	7	..	..	..	..
	Hogsheads ..	3	..	..	..	..	..
Cinchona bark ..	Bales ..	471	529	411	194	..	— 194
Chillies	Bags and bundles ..	2,760	9	816	117	503	+ 386
Cigars	Cases ..	1,249	556	643	118	229	+ 111
Coffee	Bags ..	23,764	34,613	17,737	2,655	5,947	+ 3,292
Cotton	Bales ..	48,202	26,140	56,768	9,411	14,963	+ 5,552
Do. twist ..	,, ..	4,229	5,266	1,946	412	567	+ 155
Coriander and omum seeds ..	Bags ..	8,218	1,814	7,377	2,131	2,809	+ 678
Carpets	Bales ..	418	288	391	87	40	— 47
Coal	Tons ..	905	313	599	135	152	+ 17
Deer horns ..	Packages ..	1,574	1,549	767	176	267	+ 91
Explosive ..	Cases ..	21	1	..	..	5	+ 5
Firewood ..	Tons ..	..	..	..	..	..	..
Four-wheeled carriages	No. ..	8	2	3	..	..	..
Ground-nuts ..	Bags ..	93,132	26,209	138,211	53,149	61,605	+ 8,456
Gram, peas, &c. ..	,, ..	519	161	1,662	1,604	17	— 1,587
Horns, cow and buffalo ..	Tons ..	62	29	1,026	13	8	— 5
Hides, tanned ..	Bales and bundles ..	21,848	21,812	11,149	1,351	3,749	+ 2,398
Indigo	Cases and chests ..	14,622	29,933	25,008	1,262	4,644	+ 3,382
Iron	Tons ..	2	11	17	13	2	— 11
Jaggery	Bags ..	28,985	56,672	52,668	29,713	16,557	— 13,156
Myrabolams ..	,, ..	235	91	563	563	..	— 563
Miscellaneous ..	Packages ..	37,808	28,547	36,531	6,039	9,958	+ 3,919
Onions	Bags and baskets ..	21,964	5,617	17,517	4,753	1,481	— 3,272
Oil	Casks ..	434	56	208	5	21	+ 16
Piece-goods ..	Bales and cases ..	6,205	4,857	7,305	1,663	1,335	— 328
Potatoes ..	Bags and baskets ..	2,437	282	1,716	773	922	+ 149
Poonac	Bags ..	33,880	16,127	31,311	7,641	9,479	+ 1,838
Piano	No. ..	41	10	15	3	1	— 2
Paddy	Bags ..	..	5	22	2	..	— 2
Rice	,, ..	1,138	3,229	16,915	3,936	18,422	+ 14,486
Redwood ..	Tons ..	699	1,654	733	178	278	+ 100
Seeds, gingelly and castor	Bags ..	1,313	12,654	14,777	172	16,543	+ 16,371
Skins, sheep and goat, tanned ..	Bales ..	32,194	34,063	31,535	6,470	9,723	+ 3,253
Sandalwood ..	Bundles ..	1,534	330	699	459	219	— 240
Spirits and wine.	Cases ..	332	41	67	19	7	— 12
	Casks ..	977	65	40	..	9	+ 9
	Puncheons ..	..	..	..	..	..	..
Sugar	Bags ..	599	161	1,197	102	927	+ 825
Specie	Boxes ..	94	48	29	2	28	+ 26
Tamarind ..	Bundles ..	6,445	5,331	3,076	309	1,729	+ 1,420
Turmeric ..	Bags ..	2,159	941	1,562	606	1,883	+ 1,277
Tea	Cases ..	2,265	1,769	1,649	546	611	+ 65
Two-wheeled carriages	No. ..	1	..	3	..	..	..
Wool	Bales ..	1,021	1,470	1,532	498	294	— 204
Yellow metal ..	Tons ..	107	100	417	67	½	— 66½

VI.—Statement of goods exported to Coast Ports.

—	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Beer and ale ..	Cases ..	352	294	305	56	143	+ 87
	Casks ..	159	94	91	..	33	+ 33
	Hogsheads ..	7	41	161	79	23	— 56
Boiler	No. ..	..	..	1	1	..	— 1
Cinchona bark ..	Bales ..	395	84	80	..	..	..

VI.—Statement of goods exported to Coast Ports—*cont.*

—	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Chillies ..	Bags and bundles ..	2,064	2,907	9,207	956	1,144	+ 188
Cigars ..	Cases ..	1,418	1,136	789	155	190	+ 35
Coffee ..	Bags ..	507	1,449	541	183	28	— 155
Cotton ..	Bales ..	5,721	4,245	7,080	1,875	1,115	— 760
Do. twist ..	,, ..	4,638	6,138	3,220	524	742	+ 218
Coriander and Omum seeds ..	Bags ..	2,970	7,002	6,894	898	399	— 499
Cement	Casks ..	..	8,908	132	54	14	— 40
Carpets	Bales ..	68	51	41	8	3	5
Coal	Tons ..	275	450	157	30	30	..
Deer horns ..	Packages ..	108	151	52	23	19	— 4
Explosive ..	Cases ..	2,668	1,331	1,067	16	17	+ 1
Eggs	Pots ..	1,165	1,125	1,198	244	260	+ 16
Firewood ..	Tons ..	2	..	..	..	..	..
Four-wheeled carriages	No. ..	21	31	27	10	8	— 2
Ground-nuts ..	Bags ..	27,790	17,839	16,116	5,046	27,153	+ 22,107
Gram, peas, &c. ..	,, ..	521	1,226	233	66	1,828	+ 1,762
Horns, cow and buffalo ..	Tons ..	310	307	166	27	32½	+ 5½
Hides	Bales and bundles ..	379	526	535	179	155	— 24
Indigo	Cases and chests ..	165	816	1,162	512	46	— 466
Iron	Tons ..	1,244	2,611	755	197	241	+ 44
Jaggery	Bags ..	258	1,448	336	76	38	— 38
Kerosine oil ..	Cases ..	10,327	659	1,117	404	5,741	+ 5,337
Myrabolams ..	Bags ..	1,054	291	1,112	199	..	— 199
Miscellaneous ..	Packages ..	50,510	69,584	61,706	12,504	9,528	— 2,976
Onions ..	Bags and baskets ..	22,442	53,406	47,062	9,119	2,258	— 6,861
Oil	Casks ..	807	637	346	142	265	+ 123
Piece-goods ..	Bales & cases.	5,615	8,651	6,368	1,154	1,832	+ 678
Potatoes ..	Bags and baskets ..	23,637	24,388	30,592	384	259	— 125
Poonac	Bags ..	4,770	22,181	9,853	6,097	383	— 5,714
Piano	No. ..	23	16	17	1	..	— 1
Paddy	Bags ..	..	8,806	8,400	250	500	+ 250
Rice	,, ..	5,448	31,893	11,083	1,816	2,479	+ 663
Redwood ..	Tons ..	119	693	4	2	2	..
Seeds, gingelly and castor	Bags ..	16,803	2,787	36,799	7,035	19,451	+ 12,416
Skins, sheep and goat, tanned ..	Bales ..	721	1,046	871	239	211	— 28
Sandalwood ..	Bundles ..	153	256	2,786	466	92	— 374
Spirits ..	Cases ..	2,982	3,783	3,045	771	610	— 161
	Casks ..	727	716	992	304	188	— 116
	Puncheons ..	13	189	214	64	4	— 60
Sugar	Bags ..	773	1,419	473	221	77	— 144
Specie	Boxes ..	236	510	47	13	38	+ 25
Tamarind ..	Bundles ..	3,624	8,253	5,090	2,959	1,025	— 1,934
Turmeric ..	Bags ..	19,258	17,883	38,147	13,047	21,706	+ 8,659
Tea	Cases ..	341	62	50	7	19	+ 12
Two-wheeled carriages	No. ..	15	16	12	1	6	+ 5
Wool	Bales ..	769	603	463	219	177	— 42
Yellow metal ..	Tons ..	53	67	256	67	13	— 54

VII.—Statement of stores, &c., imported by Government.

Department.	Description.	Class.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Accountant-General.	Specie, silver	Boxes.	403	582	533	90	267	+ 177
	,, copper	,,	5,100	710	780	560	100	— 460
	Silver and copper ..	,,	..	..	..	..	10	+ 10
	Notes ..	,,	32	19	30	..	2	+ 2
	Packages ..	No.	27	1	..	..	..	..

VII.—Statement of stores, &c., imported by Government—*cont.*

Department.	Description.	Class.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Public Works Department.	Boilers ..	No.	2	..	..	..	..	..
	Coal ..	Tons.	50	20	..	..	..	..
	Iron ..	,,	271	9	..	..	..	..
	Stores ..	Pkgs.	15,148	6,494	10,812	..	77	+ 77
Ordnance ..	Coal ..	Tons.	..	..	1,450	308	76	— 232
	Ammunition.	Boxes.	2,148	..	109	..	..	..
	Stores ..	Pkgs.	13,017	28,566	21,057	..	4,667	+ 4,667
Madras Harbour Works.	Cement ..	Casks.	1,869	..	..	6,569	5,494	— 1,075
	Stores ..	Pkgs.	3,869	..	..	..	..	..
	Coal ..	Tons.	..	..	..	..	..	..
Clothing ..	Packages ..	No.	1,983	2,324	2,176	..	..	..
Police	,, ...	,,	122	167	196	507	143	— 364
Salt Revenue ..	,, ...	,,	272	291	109	64	106	+ 42
Post office ..	,, ...	,,	1,119	858	742	13	58	+ 45
Medical	,, ...	,,	1,779	1,007	1,920	138	814	+ 676
Telegraph ..	,, ...	,,	34,768	24,126	9,129	897	149	— 748
Stationery ..	,, ...	,,	732	1,197	1,156	2,336	1,115	— 1,221
Stamps	,, ...	,,	1,961	1,122	1,861	69	211	+ 142
Commissariat ..	,, ...	,,	8,588	7,420	2,562	960	321	— 639
Gazette Press ..	,, ...	,,	161	149	97	1,274	716	— 558
Marine	,, ...	,,	729	880	806	64	285	+ 221
Revenue Survey ..	,, ...	,,	297	208	25	77	2	— 75
Agriculture ..	,, ...	,,	380	320	140	8	13	+ 5
Government Central Museum ..	,, ...	,,	15	10	9	10	6	— 4
Under Secretary to Government ..	,, ...	,,	235	504	85	2	3	+ 1
Superintendent of Prisons ..	,, ...	,,	1	17	7	17	13	— 4
Revenue Board ..	,, ...	,,	424	33	9	6	14	+ 8
Forests	,, ...	,,	1,196	10	3	3	19	+ 16
Presidency College.	,, ...	,,	28	15	2	1	..	— 1
School of Arts ..	,, ...	,,	3	1	1	1	1	..
Inspector of Cattle Diseases ..	,, ...	,,	9	100	..	..	..	..
Chemical Examiner.	,, ...	,,	31	31	36	..	..	..
Medical College ..	,, ...	,,	73	31	41	5	6	+ 1
Deputy Collectors..	,, ...	,,	9	15	12	13	2	— 11
Astronomer ..	,, ...	,,	23	13	20	3	..	— 3
Presidency Paymaster ..	,, ...	,,	2	8	4	5	2	— 3
Registration ..	,, ...	,,	7	4	1	..	8	+ 8
Director of Public Instruction ..	,, ...	,,	9	139	4	1	..	..
Superintendent, Remount Depôt, Hosúr ..	,, ...	,,	..	600	214	150	..	— 150
Resident, Mysore, in Bangalore ..	,, ...	,,	..	2	9	3	1	— 2
Quarter Master General ..	,, ...	,,	..	3	14	1	3	+ 2
Registrar of High Court ..	,, ...	,,	..	1	4	1	1	..
Curator, Government Garden, Ootacamund ..	,, ...	,,	..	..	40	..	68	+ 68
Civil Engineering College ..	,, ...	,,	..	..	44	..	1	+ 1
Secretary to the Chief Commissioner of Coorg, Bangalore ..	,, ...	,,	..	..	..	..	1	+ 1
Revenue Settlement ..	,, ...	,,	..	..	..	..	6	+ 6
Executive Engineer, Military Works..	,, ...	,,	..	..	..	..	6	+ 6
Controller, Military Accounts ..	,, ...	,,	..	..	..	..	1	+ 1
Agent for Government Consignments ..	,, ...	,,	..	..	..	..	76	+ 76
Government Botanical Gardens ..	,, ...	,,	..	..	..	..	40	+ 40
Steam Dredge Wenlock ..	,, ...	,,	..	..	..	..	3	+ 3

VIII.—STATMDNET of stores, &c., exported by Government.

Department.	Description.	Class.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or decrease.
Accountant-General ..	Specie, silver.	Boxes.	411	45	95	24	..	— 24
	,, copper.	,,	965	200	163	100	10	— 90
	,, notes.	,,	6	13	8	1	2	+ 1
	,, packages.	No.	4	1	1	..	..	..
Bank of Madras	,, silver.	Boxes.	34	..	..	..	..	..
	,, copper.	,,	..	62	84	..	..	..
Ordnance	Packages and pieces.	No.	8,595	5,831	9,257	1,958	1,918	— 40
Public Works Department.	,,	,,	1,784	488	3,203	116	137	+ 21
Clothing	,,	,,	1,327	1,096	998	151	165	+ 14
Police	,,	,,	889	974	955	72	288	+ 216
Salt Revenue	,,	,,	591	785	724	118	107	— 11
Medical	,,	,,	1,377	1,610	2,166	400	351	— 49
Telegraph	,,	,,	8,845	4,330	4,945	390	28	— 362
Stationery	,,	,,	693	780	623	155	165	+ 10
Stamps	,,	,,	220	298	236	46	30	— 16
Commissariat	,,	,,	7,971	6,205	5,301	1,399	2,056	+ 657
Gazette Press	,,	,,	526	503	478	142	197	+ 55
Marine	,,	,,	390	366	37	7	7	..
Revenue Board ..	,,	,,	77	37	87	19	25	+ 6
Do. Settlement ..	,,	,,	51	84	53	26	13	— 13
Do. Survey ..	,,	,,	75	452	223	81	20	— 61
Superintendent of Prisons.	,,	,,	69	196	103	9	3	— 6
Registration	,,	,,	66	43	17	1	7	+ 6
Conservator of Forests ..	,,	,,	34	33	5	1	..	— 1
Quarter Master General ..	,,	,,	..	4	..	..	..	..
Government Central Museum ..	,,	,,	10	22	13	7	..	— 7
Deputy Collectors ..	,,	,,	2	9	..	..	..	..
Government Astronomer.	,,	,,	..	18	13	4	2	— 2
Agriculture	,,	,,	15	8	2	2	..	— 2
General Hospital ..	,,	,,	..	..	..	..	..	..
State Railways ..	,,	,,	100	..	..	..	..	..
Inspector of Cattle Diseases	,,	,,	3	1	..	..	..	..
Chemical Examiner ..	,,	,,	..	1	..	..	..	..
Director of Public Instruction	,,	,,	10	6	13	..	..	..
Registrar of University ..	,,	,,	13	10	5	..	..	..
Collectors	,,	,,	10	..	6	6	..	— 6
Curator of Government Garden, Ootacamund ..	,,	,,	11	..	12	2	..	— 2
Engineer, Harbour Trust Board	,,	,,	..	..	2	..	..	..
Crown Officer, High Court.	,,	,,	..	14	18	5	4	— 4
School of Arts	,,	,,	..	..	..	..	..	..
Secretary to Government, Public Department ..	,,	,,	2	..	..	..	..	..
Registrar-General of Births, Deaths and Marriages	,,	,,	..	..	..	..	..	..
Inam Commissioner ..	,,	,,	1	..	..	..	..	..
Consulting Engineer to Government Railways..	,,	,,	20	..	..	..	..	..
Civil Engineering College.	,,	,,	..	1	..	..	..	..
Superintendent, Census Operations	,,	,,	..	4	1	1	..	— 1
Post office	,,	,,	..	2	2	2	..	— 2
Sanitary Commissioner ..	,,	,,	..	2	2	2	..	— 2
Registrar of High Court..	,,	,,	..	..	..	..	5	+ 5

(Signed) S. HUTCHENCE,
Traffic Manager, Harbour Trust Board.

To the Secretary, Harbour Trust Board, Madras.

REPORT of progress on the Madras Harbour Works for the quarter ending 30th June 1894.

1. Accompanying this report are the following plans and statements :—

No. 36 (*a*).—A plan of the harbour to a scale of 200 feet to an inch, showing in red the position and quantity of work done during the quarter. The contours in half fathoms shown on this plan outside the harbour are those of the last complete marine survey of 1889, and the contours inside the harbour are from the latest survey of 1893.

2. The positions of high water marks of the 30th June 1894 and that of the previous twelve months, both to the north of the revetment and south of the harbour, are shown for comparison.

No. 36 (*b*).—A revised plan showing in detail the advance made during the quarter at the pier heads as now being constructed, and the positions of the caissons for completing both the piers of the harbour, with an eastern entrance of 520 feet.

No. 37 (*c*).—A statement comparing the expenditure on different sub-heads of work up to the end of the quarter, with the provisions of the sanctioned estimate.

No. 37 (*d*).—A statement showing work done under different sub-heads and particulars of cement received and issued.

3. The various heads of work, &c., throughout the harbour works are reported as follows.

4. *General.*—During the quarter under review which includes the months of April, May and June, it is necessary to withdraw the titan cranes to shore as precautionary measures to meet the uncertain weather during the S.W. monsoon from the 28th April to the 1st week in June, when diving operations are usually commenced again; but during June this year the sea continued so rough that a diver could not remain below, and although the bed was dredged 9 feet in depth and ready to receive a course of blocks at the south pier, it was impossible to commence to set the course before the 29th June; and due to continued ground swell, the last permanent course of block-work at the south pier head could only be completed on the 11th July 1894. The advance of work was therefore 5′ 4½″ below water, or all the block-work of the south pier completed during the quarter, less the necessary work for setting the south pier caisson.

5. At the north pier, due to the unusual rough state of the sea, the capping and light-house could not be commenced, until certain blocks at the foot of the superstructure had been raised, and as the weather did not improve, and to save time at the south pier, it was decided to raise these blocks with the old north pier titan; and to transfer the all-round titan crane round to the south pier, to enable preparations for setting the south pier caisson being commenced as soon as possible. Therefore, on the 27th May, the all-round titan crane was started from the north pier and travelled along the beach roadway; and within four days, it safely reached the south pier, and commenced dredging the rubble base at the extreme end of the pier head on the 10th June.

6. *North pier head caisson.*—The north pier caisson was filled with concrete *en masse* and completed at 7 feet above water level on the 2nd April; the work from that date to the close of the quarter consisted in uniting the cylindrical mass of concrete formed in the caisson with the bonded block-work behind it by a backing of mass concrete, as shown on plan; and to prevent this portion of concrete between the vertical face of the caisson and the sloping face of the superstructure from forming a wedge of concrete, certain blocks were removed from the superstructure to form steps, so as to bring the weight of this mass of concrete to bear upon the superstructure foundations. The gap so formed between the caisson and the end of the masonry wall was therefore 37 feet long and 38 feet wide at the surface, and to confine the concrete to the required slope and position, during the process of depositing the concrete below water, blocks were set abutting the side of the pier and the caisson, and these blocks were then caulked to form a mould down to 40 feet below sea level, into which the concrete was lowered in specially designed double canvas bags, which, on reaching the bottom, turned inside-out, releasing the concrete on the bottom in still water. This work was completed on the 27th April, when the titan crane was hurried on shore for the monsoon, as the weather was looking suspicious.

7. *Grouting under caisson.*—During April all the special pipes running through the caisson to the rubble base were carefully grouted and the cement passed freely, consolidating the base beneath the caisson, which was forced through, until no more cement would pass. The bottom of the caisson was carefully watched, and no free cement found its way to the open sea.

8. By the 9th May the weather was more settled and the crane was travelled to the pier head on the 11th, 12th and 16th of May, where it recovered 42 of the blocks set and caulked to form the mould for the backing; but due to the monsoon the remaining blocks could not be recovered during the quarter, and until fair weather sets in again and these blocks can be raised, the capping and lighthouse cannot be commenced.

9. *Wave-breaker.*—To prevent unforeseen delay in this direction, the all-round titan crane was, after raising from and replacing 104 blocks in the wave-breaker in the best possible position throughout the north arm on the 24th, 25th and 26th of May, permanently run on shore and arrangements made for its immediate transfer to the end of the south pier head, which position it reached on the 11th June.

10. *Rubble base protection.*—From the 27th May and to the close of the quarter, a Priestman's 5-ton dredging crane took the place of the transferred titan crane, which did good work at dredging up the rubble base around the caisson, necessary for consolidating, or protecting the base with concrete, at 39 feet below water level, as has been done along the inner face of the superstructure, to prevent scour.

11. Fifty-four lineal feet of base along the outer straight portion of the arm was in the same manner paved with concrete to a width of 20 feet.

12. On the 22nd June, the old titan crane was travelled out to the end of the north pier head and upon the caisson, to take the place of the transferred all-round titan; where it remained in position awaiting fair diving weather, to raise the remaining blocks which were set and caulked to form the above mould; after which the capping will be commenced, and the north pier completed.

13. The completed length of the north pier is now 3,816 feet 9 inches from shore, with a depth of 39 feet of water alongside the pier head and caisson, at DeHavilland's mean sea level, as designed.

14. *South pier head.*—The total working days available for sub-marine work during the quarter, at the south pier head, after deducting Sundays and holidays and the period the crane was on shore for the monsoon due to rough sea, and its unsuitability to the work, was only 16 working days, against 38 days in the same quarter in the previous year.

15. *Wave-breaker.*—The old titan crane at the south pier remained in position at the pier head dredging when possible until the 12th April, by which date nothing further could be done on account of its limited overhang; hence the urgency for the transfer of the better crane from the north pier. This old crane was therefore permanently run on shore, and the wave-breaker crane was shunted in front of the titan and run out daily from the 4th to 9th May during the monsoon when 29-30 ton blocks were dropped into position, extending the wave-breaker screen to the full width of 40 feet. This was done so as to leave the north pier all-round titan crane, as soon as it could be transferred to the south pier, available for block-setting and the caisson work.

16. On the 12th of May the wave-breaker work was completed, and this second old crane, being no longer required, was permanently travelled on shore to allow the all-round north pier titan crane to pass on its way to the south pier head, which was safely reached on the 11th June where it commenced dredging, and at the close of the quarter 9 feet of rubble base had been dredged, and the last permanent course of block-work commenced to be set on the 29th June, and completed on the 11th July 1894, advancing the south pier superstructure by 5′ 4½″, which was good progress during the short working quarter, notwithstanding the unusual rough state of the sea and limited working days due to the monsoon and unsuitable old titan crane.

17. The total length of the south pier on the 30th June was 3,884¼ feet from shore and the last permanent course of block-work, No. 216, had been set.

18. At the south pier head there only now remains the six temporary courses to be set before October, when the south pier caisson will be launched and set in March and the south pier completed in July 1895.

19. *Rubble base protection.*—The rubble base protection along the inner face of the pier, could not be concreted as the sea was too rough, but 50 feet of the base was levelled up and ready to receive concrete, as soon as weather would permit.

20. *Blockmaking yard.*—During the quarter, the blockmaking machinery was at work crushing stone and mixing the concrete for the caisson work, and the outturn was 790⅓ cubic yards of concrete; 2,080 tons of chips were received and stacked towards the quantity of stone required for the concrete for the north pier capping.

21. *Protective works north of the harbour.*—The first line of revetment to the north of the harbour had settled considerably at the original gap known as "Masula Boat bay," leaving the line of rails and sleepers suspended, and near Carlton house further settlement had taken place; consequently 881¾ tons of large rubble boulders were received from the quarries and deposited at the weakest points along the old line of the revetment.

22. The high water mark at the close of the quarter had not advanced or accumulated sand along the line of revetment this year as hitherto, and it may therefore be taken that the sand which did accumulate along this revetment after its construction has now permanently passed northwards and that the stone revetment will now permanently be exposed to the sea, which is the cause of the further settlement in the old work.

23. The bay at the extreme end of the new line of revetment has also considerably increased and the high water mark has receded 275 feet from June 1893 to June 1894, while the erosion or increase of the bay during the quarter has been 125 feet.

24. *Foreshore south of the harbour.*—Upon the plan attached to this report, are shown the high water marks of 30th June 1893 and 30th June 1894, and the advance of sand near the pier has been 65 feet; but the latest high water mark is still inshore, or short of the recorded high water mark of the 30th September 1893 by 50 feet.

25. *Sea bottom within the harbour.*—The high water mark inside the harbour has generally receded, and the high water marks of June 1893 and June 1894 show on the south side of the iron pier 28 feet less foreshore near the south arm, and 48 feet less immediately south of the screw pile pier, while to the north side of the iron pier the high water mark has receded 78 feet

in the 12 months June 1893–94 or 75 feet during the quarter. The high water mark of the 30th June is also 25 feet nearer inshore, than it was in September 1892, or identical with that of June 1891.

26. *Titan and Railway Lines.*—The realignment of the Beach Railway lines was nearing completion.

27. A length of 810 lineal feet of the titan crane roadway, consisting of 4-75 lb. steel rails, was removed from the north pier and 9,320 lineal feet of block road lines was taken up preparatory to commencing the north pier capping; and the transfer of the all-round titan crane to the south pier due to its different gauge necessitated 3,687 lineal feet of the old titan crane roadway being removed, and the above 4 rail roadway being relaid along the south pier for a distance of 3,873½ lineal feet which was also built in concrete and completed by the 1st June.

28. A length of 4,000 feet of the same roadway was also laid along the beach road and removed as soon as the crane had passed on its way from the north to the south pier of the 27th to 30th June.

29. *Summary of Progress.*—The following statement is the summary of progress made on the harbour works during the quarter under review.

30. *Expenditure.*—The expenditure to the end of the quarter including establishment, tools and plant and contingencies is Rs. 1,22,68,980 out of the total estimated cost of Rs. 1,23,83,386, leaving a balance of Rs. 1,14,406 to be spent for completion.

31. *Miscellaneous.*—The usual repairs and the upkeep of all machinery, cranes, railway lines, &c., and all haulage of coal and other traffic was done by the harbour works locomotives for the Traffic department as usual.

32. The two steam cranes in use by the Traffic department upon the iron pier were thoroughly overhauled and tested during the quarter. Twenty-four hand trucks and 4 mooring buoys were repaired for the Traffic and the Deputy Conservator's Departments, and the outlet to the Municipal drain to the north of Fort St. George was being extended to within 50 feet of high water mark.

25th July 1894.

(Signed) A. LEE-POGSON,
Engineer, Harbour Trust Board.

PROGRESS STATEMENT No. 37 (d).

MADRAS HARBOUR WORKS.

STATEMENT showing progress during quarter ending 30th June 1894 as shown on accompanying tracings Nos. 36 (*a*) and 36 (*b*).

No. of item.	Particulars and quantity of work, &c.	Sub-heads of work.	North Pier. Rubble base.	North Pier. Pier head.	North Pier. Wave-breaker.	North Pier. Concrete capping.	North Pier. Base protection.	South Pier. Rubble base.	South Pier. Pier head.	South Pier. Wave-breaker.	South Pier. Concrete capping.	South Pier. Base protection.	At works.	At quarries.	Railway Lines. Sand line.	Railway Lines. Beach improvements.	Railway Lines. Pallávaram quarries outturn.	Railway Lines. Concrete block-making.	Protective works.	Total expenditure during the quarter.
	NOTE.—The figures in block type denote for comparison progress and quantity of work done in the quarter ending 30th June 1893.																			
		Column.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Rubble stone deposited from boats ..	Tons.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	Do. do. from wagons ..	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8,352	..	8,352	..
3	Total quantity rubble stone received on works ..	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8,352 + 881½ = 3,895½	..	881¼	..
4	Do. blasted chips do. ..	,,	..	..	.. 23	2,080	..	..	..	..	..	..	..	..	..	..	2,080	..	..	..
5	Concrete blocks—set by divers ..	No.	..	..	104	..	..	..	9	.. 41	..	..	..	..	..	..	..	..	..	..
6	Do. raised and re-deposited in wave-breaker	,,	..	..	..	..	..	..	..	29	..	..	..	..	..	..	..	..	..	..
7	Do. made for superstructure ..	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	Do. do. Pier head between caisson and superstructure	C. yds.	..	790⅓	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	Wrought iron cramp fixed in position ..	,,	..	...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	Total outturn of concrete	,,	..	790⅓	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	Advance or progress of completed superstructure	Ry. ft.	..	..	..	..	..	..	5′ 4½″	..	..	..	..	..	..	..	..	..	..	..
12	Rubble base protected with concrete along piers around caisson	,,	..	..	..	..	40 54 40	..	..	..	..	..	..	..	..	..	..	..	..	..
13	Metre gauge, 40 lb. per yard, laid new.	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	Do. do. relaid or renewed.	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	Do. do. taken up.	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	Broad gauge, 50 lb. per yard, laid new.	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	Do. do. relaid or renewed.	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	Do. do. taken up ..	,,	..	930	..	..	..	..	..	..	..	..	4,000	..	..	..	..	..	..	..
19	Titan gauge, 75 lb. per yard, laid new.	,,	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	Do. do. relaid or renewed.	,,	..	..	..	..	..	..	3,873½	..	..	..	4,000	..	..	..	..	..	..	..
21	Do. do. taken up ..	,,	..	810	..	..	..	..	3,687	..	..	..	..	..	..	..	..	..	..	..
22	....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	Approximate expenditure under sub-heads of work	Rs.	..	23,886		10,620	..	..	19,614		812	..	1,264	..	..	..	3,787	..	165	60,148

		TONS.	CWTS.	QRS.	LBS.
Nil	casks of cement received on works during quarter ending 30th June 1894 containing ..		*Nil.*		
2,818	do. issued for do. do. do. do.	503	4	2	17
2,945¼	do. balance in store at end of do. do. do.	525	6	0	9

	TONS.	CWTS.	QRS.	LBS.
Quantity due on indents, dated February 1894 ..	1,000	..	..	..

(Signed) A. LEE-POGSON,
Engineer, Harbour Trust Board.

MADRAS,
25th July 1894.

COMPARISON of expenditure to date with sanctioned estimate for the quarter ending 30th June 1894.

Sub-head of work.	As per estimate sanctioned in Secretary of State's despatch No. 1, dated 7th January 1892.					As executed.					Arrears not paid.	Value of work done up to date, columns 11 and 12.
	Quantity.	Rate.	Per.	Cost.	Total.	Quantity.	Rate.	Expenditure. Total up to end of last quarter.	Expenditure. During the quarter.	Expenditure. Up to date.		
1	2	3	4	5	6	7	8	9	10	11	12	13
		RS. A. P.		RS.	RS.		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Expenditure up to 31st Dec. 1884.												
1. Works	..	..	..	55,09,324		..	..	55,09,324 8 10	..	55,09,324 8 10	..	55,09,324 8 10
2. Establishment	..	..	..	5,29,904		..	..	5,29,904 0 0	..	5,29,904 0 0	..	5,29,904 0 0
3. Tools and plant	..	..	..	5,15,262		..	..	5,15,262 6 0	..	5,15,262 6 0	..	5,15,262 6 0
Total ..	..	..	..	..	65,54,490	..	..	65,54,490 14 10	..	65,54,490 14 10	..	65,54,490 14 10
Revised Estimate.												
4. Alteration and extension of block ground .. Prely.	..	..	..	5,892	5,892	..	..	5,892 0 11	..	5,892 0 11	..	5,892 0 11
North Pier.												
5. Ordinary rubble deposited from breakwater .. Tons.	13,930	1 12 0	Ton.	24,378		13,930	1 12 0	24,377 9 0	..	24,377 9 0	..	24,377 9 0
6. Ordinary rubble deposited from boats .. .. ,,	206,896	2 0 5	,,	4,19,218		205,477	2 8 0	4,31,285 13 3	—16,153 4 5	4,15,132 8 10	4,085 7 2	4,19,218 0 0
7. Concrete blocks for building .. .. C. yds.	51,320	11 8 0	C.yd	5,90,110		51,320	11 8 0	5,84,376 12 11	5,733 3 1	5,90,110 0 0	..	5,90,110 0 0
8. Setting blocks at commencement of new work .. ,,	2,615	2 1 1	,,	5,415		2,615	2 1 1	5,414 11 2	..	5,414 11 2	..	5,414 11 2
9. Setting blocks from 2,200 to 3,600 feet .. ,,	36,520	2 14 3	,,	1,05,569		36,520	2 14 3	1,12,056 14 8	— 6,487 14 8	1,05,569 0 0	..	1,05,569 0 0
10. Setting blocks at pier head ,,	12,185	9 8 11	,,	1,16,424		12,185	9 8 11	1,31,577 6 1	—1,517 5 7	1,16,403 0 6	20 15 6	1,16,424 0 0
11. Concrete in mass for filling .. .. ,,	263	4 8 3	,,	1,188		263	4 8 3	1,188 0 7	..	1,188 0 7	..	1,188 0 7
12. Wavebreaker blocks .. ,,	288	9 5 7	,,	2,692		288	9 5 7	2,692 0 0	..	2,692 0 0	..	2,692 0 0
13. Wavebreaker concrete blocks .. .. ,,	77,355	10 14 11	,,	8,45,591		69,863	12 0 5	7,81,746 15 2	58,387 7 0	8,40,134 6 2	..	8,40,134 6 2
14. Depositing concrete blocks ,,	77,932	1 0 0	,,	77,928		70,457	1 1 8	71,238 0 7	6,660 2 3	77,898 2 10	29 13 2	77,928 0 0
15. Concrete in protection to rubble base .. .. ,,	1,986	10 4 1	,,	20,358		1,986	10 4 0	20,793 1 0	— 435 1 0	20,358 0 0	..	20,358 0 0
16. Cramps, iron .. .. No.	331	9 10 1	Each.	3,188		313	10 3 0	2,422 0 2	765 15 10	3,188 0 0	..	3,188 0 0
17. Concrete capping .. C. yds.	16,352	11 3 10	C.yd.	1,83,798		573	..	11,652 11 2	11,209 8 4	22,862 3 6	2,227 13 10	25,090 1 4
18. Cost of north pier caisson and setting in position and filling same as items 26, 27, 33 and 34 .. ,,	..	..	,,	84,750		..	..	85,809 5 6	—1,280 8 4	84,528 13 2	221 2 10	84,750 0 0
Total for North Pier ..	..	..	..	..	24,80,607	..	..	22,66,631 5 3	43,225 2 6	23,09,856 7 9	6,585 4 6	23,16,441 12 3
South Pier.												
19. Ordinary rubble deposited from boats .. Tons.	175,078	2 9 0	Ton.	4,49,052		173,659	2 9 4	4,41,668 9 0	2,457 8 4	4,44,126 1 4	4,925 14 8	4,49,052 0 0
20. Large rubble deposited from breakwater .. ,,	8,615	1 12 0	,,	15,076		8,615	1 12 0	15,075 13 0	..	15,075 13 0	..	15,075 13 0
21. Concrete blocks for building .. .. C. yds.	45,066	11 3 1	C.yd.	5,04,510		43,106	11 10 0	4,87,464 4 9	13,652 1 9	5,01,116 6 6	..	5,01,116 6 6
22. Setting blocks at commencement .. ,,	2,556	3 1 6	,,	7,912		2,556	3 1 6	7,911 13 3	..	7,911 13 3	..	7,911 13 3
23. Setting blocks from 2,550 to 3,700 feet .. ,,	30,160	3 7 11	,,	1,05,461		30,160	3 7 11	1,08,704 9 4	— 3,243 9 4	1,05,461 0 0	..	1,05,461 0 0
24. Setting blocks at pier head .. .. ,,	12,350	11 1 3	,,	1,36,845		12,350	11 1 3	1,49,604 3 0	—17,831 5 2	1,31,772 13 10	5,051 11 8	1,36,824 9 6
25. Concrete in mass for filling .. .. ,,	602	7 9 1	,,	4,555		602	7 9 1	4,554 14 4	..	4,554 14 4	..	4,554 14 4
26. Concrete in cylindrical pier head .. .. ,,	2,355	15 0 0	,,	35,325		..	..	5,960 13 9	..	5,960 13 9	..	5,960 13 9
27. Concrete in filling in between coursed blockwork and caisson .. ,,	184	15 0 0	,,	2,760		..	..	..	..	..	..	..
28. Wavebreaker concrete blocks .. .. ,,	47,231	11 1 6	,,	5,24,070		40,497	11 10 1	4,45,969 15 1	25,027 6 11	4,70,997 6 0	..	4,70,997 6 0
29. Depositing concrete blocks .. .. ,,	47,714	1 5 8	,,	64,708		40,497	1 7 3	57,711 2 6	1,036 7 8	58,747 10 2	20 5 4	58,767 15 6
30. Concrete in protection to rubble base .. ,,	1,700	9 10 6	,,	16,420		1,108	13 7 7	14,932 9 1	..	14,932 9 1	..	14,932 9 1
31. Cramps, iron .. No.	259	11 7 7	Each.	2,972		220	13 8 1	2,345 8 6	626 7 6	2,972 0 0	..	2,972 0 0
32. Concrete capping .. C. yds.	16,247	11 5 8	C.yd.	1,84,495		669	..	14,301 11 9	811 12 4	15,113 8 1	..	15,113 8 1
33. Iron caisson .. .. No.	1	..	,,	18,000		..	..	21,750 6 1	—3,750 6 1	18,000 0 0	..	18,000 0 0
34. Preparing base for and setting cylindrical pier head .. .. ,,	..	..	,,	28,665		..	..	..	5,671 14 11	5,671 14 11	..	5,671 14 11
Total for South Pier ..	..	..	..	..	21,00,826	..	..	17,77,956 5 5	24,458 6 10	18,02,414 12 3	2,997 15 8	18,12,412 11 11
Extending the Rubble Revetment protecting the Foreshore north of Harbour.												
35. Rubble stone revetment. Tons.	70,600	2 1 0	Ton.	1,45,613		91,051	1 8 8	1,38,910 9 7	27 6 6	1,38,938 0 1	1,253 13 1	1,40,191 13 2
36. Railway lines	..	..	..	9,849	1,55,462	..	..	11,655 7 10	..	10,665 7 10	..	11,665 7 10
Total ..	..	..	..	..		..	..	1,50,576 1 5	27 6 6	1,50,603 7 11	1,253 13 1	1,51,857 5 0
37. Tools and plant	..	..	..	..	6,11,656	..		6,57,503 3 6	—46,793 12 1	6,10,709 7 5	946 8 7	6,11,656 0 0
38. Contingencies	..	..	..	..	2,17,415	..		1,99,918 0 7	11,795 12 2	2,11,713 12 9	576 15 4	2,12,290 12 1
39. Establishment	..	..	..	..	5,34,369	..		5,63,601 13 1	9,568 12 7	5,73,170 9 8	..	5,73,170 9 8
40. Materials at site (concrete blocks in yards). C. yds.	..	..	..	..	..	5,702	14 6 5	90,068 11 7	—12,183 4 6	77,885 7 1	4,242 13 1	82,128 4 2

Comparison of expenditure to date with sanctioned estimate for the quarter ending 30th June 1894—*cont.*

Sub-head of work.	As per estimate sanctioned in Secretary of State's despatch No. 1, dated 7th January 1892.						As executed.					
							Expenditure.			Arrears not paid.	Value of work done up to date, columns 11 and 12.	
	Quantity.	Rate.	Per.	Cost.	Total.		Total up to end of last quarter.	During the quarter.	Up to date.			
1	2	3	4	5	6		7	8	9	10	11	12
Extending the Rubble Revetment protecting the Foreshore north of Harbour—cont.		Rs. A. P.		Rs.	Rs.		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
41. Advances to work-people ..	..	..	..	..	..		78 6 2	— 28 7 0	49 15 2	..	49 15 2	
Total of estimate and value of work done	..	..	..	..	61,06,227		57,12,225 15 11	30,070 1 0	57,42,296 0 11	23,603 6 3	57,65,899 7 2	
Deduct probable recoveries due to sales of tools and plant ..	..	..	..	..	2,77,331		— 74,612 7 5	46,805 9 5	— 27,806 14 0	..	— 27,806 14 0	
Total ..	..	..	..	..	58,28,896		56,37,613 8 6	76,875 10 5	57,14,489 2 11	22,663 6 3	57,38,092 9 2	
Total of revised estimate sanctioned in Secretary of State's despatch *plus* expenditure before 31st Dec. 1884	..	..	..	..	1,23,83,386		1,21,92,104 7 4	76,875 10 5	1,22,68,980 1 9	23,603 6 3	1,22,92,583 8 0	
Estimated cost of additional works found necessary up to end of last quarter	..	..	..	..	..		..	..	..	..	..	
Estimated cost of additional works found necessary during quarter ending	..	..	..	..	..		..	..	..	..	..	
Total estimated cost for completion of works	..	..	..	..	1,23,83,386		..	..	..	..	..	
Deduct total expenditure as per column 11	..	..	..	..	1,22,68,980		..	..	..	..	..	
Total estimated cost of completing work after year ending 31st March 1894	..	..	..	..	1,14,406		..	..	..	..	..	

	Rs.	A.	P.
Expenditure up to 31st March 1894 from commencement of works	1,21,92,104	7	4
Do. during current official year from 1st April 1894 to 30th June 1894	76,875	10	5
Total outlay to 30th June 1894	1,22,68,980	1	9

Grant for 1894-95, Rs. 1,50,000.

(Signed) A. LEE-POGSON,
Engineer, Harbour Trust Board.

MADRAS,
3rd August 1894.

No. 1628, Marine.

Transferred to the Public Works Department.

(Signed) J. F. PRICE,
Chief Secretary.

15th August 1894.

Endorsement in Marine Department, dated 23rd August 1894, No. 1688, on letter from the Chairman, Harbour Trust Board, Madras, dated 20th August 1894, No. 1880.

ORDER—dated 19th September 1894, No. 2362 W., Public Works.

Ordered to be forwarded for the information of the Secretary of State and the Government of India.

2. It is observed that no progress report for the quarter ending 31st March 1894 has been submitted. The Chairman, Harbour Trust Board, will be requested in the Marine Department to explain the omission.

[Here enter No. 2363 W., dated 19th September 1894.]

(True Extract.)

(Signed) J. PENNYCUICK, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Chairman, Harbour Trust Board.
„ Marine Department.

ENDORSEMENT—dated 19th September 1894, No. 2363 W., Public Works.

Copy of the above, with two plans showing the progress of the work, forwarded to the Government of India.

(By Order.)

Colonel, R.E.,
Secretary to Govt., P.W.D.

Exd. C. A. Munisawmy.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1894} Madras.

PUBLIC WORKS.

Dated September, 19th.

Read. *Encl.*

G.O., 19th Sept. 1894, Nos. 2362, 2363 W.

SEPTEMBER.

Madras Harbour Works

Forwarding copy of Proceedings embodying the progress report of the — for the quarter ending 30th June 1894, together with plans showing the progress of the work.

MADRAS HARBOUR TRUST,
SECRETARY'S OFFICE,
3rd August, 1894.

No. 1700.

From

EDWARD TURNER, ESQ., I.C.S.,

CHAIRMAN, HARBOUR TRUST BOARD,

Madras.

To

THE HON'BLE MR. J. F. PRICE, C.S.I., I.C.S.,

CHIEF SECRETARY TO GOVERNMENT,

Marine Department.

SIR,

I have the honour to submit for the information of Government, a report from the Board's Engineer on the progress made upon the Madras Harbour during the quarter ending 30th June 1894; the usual returns of Imports and Exports, and statements of receipts and charges, Revenue Account, from 1st April to 30th June.

2. The opening Cash balance amounted to Rs. 11,68,742: against Rs. 11,65,852 in 1893; and from Port Funds, an available Cash balance was received of Rs. 57,607, against Rs. 20,000 in 1893. Harbour Dues collections amounted to Rs. 97,309, against Rs. 93,040 in 1893; Porterage receipts to Rs. 25,898, against Rs. 28,671, and interest upon Government Securities to Rs. 5,274, against Rs. 5,059.

3. These items show improvement: the total receipts from all sources being Rs. 1,86,088-3-4 against Rs. 1,46,769-14-0 or Rs. 39,318 more during the first quarter of 1894-95, than were received in the corresponding period of 1893-94. The usual refund of Rs. 1,00,000 was made to Government on account of Capital advances: and interest was paid up to date upon the first banking day in April.

Details of the comparative receipts and charges are given on page 6.

4. The principal variations in the expenditure to be noted are as follows:—

Interest on Capital advances + Rs. 4,435: the figures being Rs. 2,22,913 against Rs. 2,18,478 last year. Law charges nothing, against Rs. 1,198. Miscellaneous charges Rs. 1,775 less than in 1893-94; new works Rs. 3,831 more, being payment for a new iron yard constructed in 1893-94 to accommodate the Collector of Sea Customs, and to provide more space for coal; coolie labour Rs. 1,045 more, due to larger imports of coal; refunds Rs. 898 more,

also due to the coal traffic: arrangements having been made to load parts of two cargoes direct into Railway vehicles, thereby effecting a large saving to the importers, cooly hire paid for stacking being refunded. The item Rs. 523 extra for lighting, the screw pile pier and the yards, is due to a supply of cera wax having been obtained shortly before the close of the quarter.

5. While cash receipts upon cargo landed and shipped increased, tonnage shows a falling off: 172 vessels having entered the Harbour, with a net register tonnage of 295,882, against 179 vessels with a tonnage of 318,593 in the corresponding quarter of 1893-94. Outside the Harbour only 12 vessels anchored, their tonnage being 2,649, against 19 vessels tonnage 37,171 last year.

Port Dues received have been Rs. 28,767 against Rs. 29,165.

6. Pilotage Fund receipts, have amounted to Rs. 9,276, against Rs. 7,592, as follows:—

——	Pilotage Fees.	Stern fast Boat Hire.	Fees for Shifting Berths.	Harbour Master's Fees.	Miscellaneous.	Total.
1893.	Rs. A. P.	Rs. A. P.		Rs. A. P.		Rs. A. P.
April	1,732 0 0	174 0 0	.....	660 0 0	.....	2,566 0 0
May	2,098 0 0	204 0 0	.....	580 0 0	.....	2,882 0 0
June	1,574 0 0	150 0 0	.....	420 0 0	.....	2,144 0 0
Total	5,404 0 0	528 0 0	.....	1,660 0 0	.....	7,592 0 0
1894.						
April	2,710 0 0	267 0 0	.....	960 0 0	.....	3,937 0 0
May	1,330 0 0	126 0 0	.....	500 0 0	.....	1,956 0 0
June	2,187 0 0	216 0 0	.....	980 0 0	.....	3,383 0 0
Total	6,227 0 0	609 0 0	.....	2,440 0 0	.....	9,276 0 0

7. The returns of imports given by the Traffic Manager are interesting and instructive:—

From Foreign ports decrease is to be noticed in almost every item of importance, due it is believed to low and uncertain exchange. The items which show the largest deficits are iron—4,438 tons. Hardware—2,008 packages. Nails—2,523 kegs. All other descriptions of iron and steel also show considerable reduction in quantity. Piecegoods—2,094 bales and cases. Twist—858 bales. Sugar—2,441 bags. Provisions and oilman's stores are less by 2,366 cases, the imports 2,527 against 4,893 being only little more than half those in the corresponding quarter of 1893-94.

On the other hand the following items show large increases:—coal + 7,139 tons, Dynamite + 1,031 cases, Cement + 1,312 casks, Candles + 1,221 cases, Machinery + 328 tons. These items point to the growing importance of the gold mining industry. Kerosine oil in bulk has increased by 1,741 tons: but imports of case oil have decreased by 85,977 cases.

8. Railway stores show large decreases, except in timber of which the Madras Railway Company imported 853 tons more than in the first quarter of 1893-94.

9. Imports from Coast ports show a considerable and satisfactory increase, in nearly all items: chief amongst which is coal + 3,767 tons; while the decrease in the imports of gram, peas, paddy and seeds, appears to point to continued prosperity in the surrounding districts.

10. The exports to Foreign ports have been largely in excess of those during the corresponding quarter of the past financial year. Coffee + 3,292 bags, Cotton + 5,552 bales, Groundnuts + 8,456 bags, Tanned hides + 2,398 bales, Tanned skins + 3,253 bales, Indigo + 3,382 chests, Rice + 14,486 bags, Seeds + 17,049 bags; Jaggery alone shows a heavy deficit—13,156 bags.

11. Exports to Coast ports also show healthy activity. Ground nuts + 22,107 bags, Gram, peas, &c. + 1,762, Kerosine oil + 5,337 cases, Seeds + 11,917 bags and Turmeric + 8,659 bags.

The following items show decreases:—

Onions — 6,861 bags and baskets, Poonac — 5,714 bags, and Tamarinds — 1,934 bundles.

12. The Engineer's report gives full details of the progress made upon Harbour Construction; the very small actual advance made during the quarter is disappointing.

I have the honour to be,

Sir,

Your obedient Servant,

Chairman, Harbour Trust Board.

Madras Harbour Trust, Statement of Receipts and Charges from 1st April to 30th June 1894.

Opening balance—					
Government Securities (Par value 8,20,000)			8,16,547 10 10		
1. Cash in the Bank of Madras	3,51,356 14 1				
2. General Cash in Office	337 10 8				
3. Advance for Contingencies	500 0 0				
			3,52,194 8 9		
					11,68,742 3 7
RECEIPTS.					
I. Contributions from Port Funds					57,607 5 6
II. Beach Imports: dues under Section 45 (*a*) I (i) (ii) (iii)	39,939 2 7				
Pier do. do. do.	14,732 11 5				
Beach Exports do. do.	8,968 5 10				
Pier do. do. do.	14,080 10 10				
Wharfage do. II.	1,765 0 0				
Cranage do. III.	11,673 2 1				
Storage do. IV.	425 10 1				
Demurrage do. V.	136 6 1				
Dues for entry of Vehicles under Section 45 (*c*) VI	3,841 5 11				
Provisions:—Dues on under Section 45 (*a*) I (i)	178 6 6				
Rent of Properties	169 10 9				
Water: charge for—delivered at pier head	1,398 0 0				
Penalties under Section 84	... ...				
Sundries	0 0 4				
			97,308 8 5		
III. Porterage under Section 45 (*a*) I (iv)	... ...				
Beach	18,300 15 3				
Pier	7,504 6 7				
Miscellaneous	92 13 4				
			25,898 3 2		
					1,23,206 11 7
IV. Interest on Government of India, 4 per cent. Promissory Notes					5,274 2 3
Total Rupees					13,54,830 6 11

Charges.

I. Interest (under Section 30)			2,22,912 8 1		
II. Repayment of Loan for Construction of Harbour under Sec. 31			1,00,000 0 0		
					3,22,912 8 1
III. Refunds			176 15 4		
IV. Establishment, etc.—					
1. Chairman's salary	1,200 0 0				
2. Secretary's do.	2,400 0 0				
3. Correspondence Department	930 9 1				
4. Accounts Department	1,630 0 0				
5. Cash Department	1,112 1 2				
6. Traffic Department (Shore Staff)	6,780 12 1				
7. Preventive Service	3,154 5 11				
8. Do. Boatmen	282 11 4				
9. Exchange Compensation Allowance	... ...				
10. Contribution to Govt. for Pensions	213 12 8				
11. Do. to Provident Fund	11 8 2				
12. Fees to Trustees	1,710 0 0				
			19,425 12 5		

V. Contingencies—					
(*a*) Subject to Regular Audit.—	RS. A. P.				
Postage	20 6 6				
Receipt Stamps	58 8 0				
Telegrams	23 14 0				
Furniture	31 12 0				
Fees for Audit	... ...				
Law Charges	... ...				
Stationery and Printing	1,073 0 3				
Advertisement Charges	250 0 0				
Uniform for Preventive Service, &c.	791 8 0				
				2,229 0 9	
(*b*) Admissible without Detailed Audit.—					
Overtime Fees to Establishment	1,404 2 1				
Do. Preventive Service and Boatmen	968 1 4				
Miscellaneous	974 11 0				
				3,346 14 5	
VI. Petty Construction and Repairs—					
New Works	3,831 8 3				
Repairs	936 10 2				
Tools and Plant	887 3 5				
				5,655 5 10	30,834 0 9
VII. Porterage—					
1. Coolies, Beach	11,113 10 1				
2. Do. Pier	4,064 11 9				
3. Do. Custom House	2,223 3 3				
4. Coasting Cargo	382 13 1				
5. Engine Charges	350 8 5				
6. Steam Crane Charges	367 11 8				
7. Refunds	960 11 11				
8. Claims for Losses and Damage	273 10 6				
9. Provident Fund Deductions from Coolies' wages	285 0 5				
10. Do. Contributions by the Trust	285 0 5				
				20,307 1 6	
(*a*) Contingencies Subject to Regular Audit—					
Postage	... ...				
Receipt Stamps	0 14 0				
Telegrams	... ...				
Furniture	... ...				
Tarpaulins	946 4 4				
Law Charges	... ...				
Stationery and Printing	125 6 2				
Advertisement Charges	... ...				
Lighting Pier and Yards	943 7 2				
				2,015 15 8	
(*b*) Contingencies Admissible without Detailed Audit—					
Miscellaneous				446 6 6	22,769 7 8
VIII. Advances to Construction Account				... ...	... ...
Total Expenditure					3,76,516 0 6
Closing Balance on the 30th June 1894—					
Government Securities (Par value 9,60,000)				9,61,574 14 10	
Cash in the Bank of Madras	16,026 6 5				
General Cash in Office	213 1 2				
Advance for Contingencies	500 0 0			16,739 7 7	
					9,78,314 6 5
Total Rupees					13,54,830 6 11

H. E. HOPE-ROSS,
Chief Accountant, Harbour Trust.

Comparative Statement of Receipts and Charges of the Madras Harbour Trust under Act II of 1886 for the Quarters ending 30th June 1893 and 1894.

Items.	Actuals from 1st April to 30th June 1893.	Actuals from 1st April to 30th June 1894.	Plus or Minus.	Remarks.
	Rs.	Rs.	Rs.	
Opening Balances.	11,65,852	11,68,742		
Receipts.				
I. Contributions from Port Funds	20,000	57,607	+ 37,607	
II. Beach Imports: dues under Section 45 (*a*) I (i) (ii) (iii)..	39,344	39,939	+ 595	
Pier do. do. do....	15,849	14,733	— 1,116	
Beach Exports do. do....	8,535	8,968	+ 433	
Pier do. do. do....	12,557	14,081	+ 1,524	
Wharfage do. II ...	1,930	1,765	— 165	
Cranage do. III ...	12,581	11,673	— 908	
Storage do. IV ...	676	426	— 250	
Demurrage do. V ...	...	136	+ 136	
Dues for entry of Vehicles under Section 45 (*c*) VI	3,108	3,841	+ 733	
Provisions:—Dues on under Section 45 (*e*) I (i)	152	178	+ 26	
Rent of Properties	287	170	— 117	
Water: charge for—delivered at pier head ...	1,129	1,398	+ 269	
Penalties under Section 84	...	...	...	
Sundries	...	...	...	
III. Porterage under Section 45 (*a*) I (iv)	...	...	...	
Beach	16,207	18,301	+ 2,094	
Pier	9,172	7,505	— 1,667	
Miscellaneous	184	93	— 91	
IV. Interest realized on Govt. of India, 4 per cent Pro. Notes	5,059	5,274	+ 215	
Total...	1,46,770	1,86,088	...	
Total including the opening Balance ...	13,12,622	13,54,830	...	
Charges.				
I. Interest (under Section 30)...	2,18,478	2,22,913	+ 4,435	
II. Repayment of Loan for Construction of Harbour under Sec. 31....	1,00,000	1,00,000	...	
III. Refunds	916	177	— 739	
IV. *Establishment, Etc.*—				
1. Chairman's salary	1,200	1,200	...	
2. Secretary's salary	2,400	2,400	...	
3. Correspondence Department	913	931	+ 18	
4. Accounts Department	1,526	1,630	+ 104	
5. Cash Department	1,099	1,112	+ 13	
6. Traffic Department (Shore Staff) ...	6,291	6,781	+ 490	
7. Preventive Service	3,045	3,154	+ 109	
8. Preventive Service Boatmen	293	283	— 10	
9. Exchange Compensation Allowance ...	...	...	...	
10. Contribution to Government for Pensions	89	214	+ 125	
11. Do. to Provident Fund... ...	13	11	— 2	
12. Fees to Trustees	1,590	1,710	+ 120	
V. Contingencies.				
(*a*)—*Subject to Regular Audit.*—				
Postage	20	20	...	
Receipt Stamps	56	58	+ 2	
Telegrams	7	24	+ 17	
Furniture	...	32	+ 32	
Fees for Audit	...	...	...	
Law Charges	1,198	...	— 1,198	
Stationery and Printing	639	1,073	+ 434	
Advertisement Charges	215	230	+ 15	
Uniform for Preventive Service, &c. ...	659	791	+ 132	
(*b*)—*Admissible without detailed Audit*—				
Overtime Fees to Establishment ...	1,045	1,404	+ 359	
Do. Preventive Service and Boatmen	715	968	+ 253	
Miscellaneous	2,750	975	— 1,775	
VI. *Petty Construction and Repairs.*—				
New Works	...	3,831	+ 3,831	
Repairs	900	937	+ 37	
Tools and Plant	384	887	+ 503	
VII *Porterage*—				
1. Coolies, Beach	9,803	11,114	+ 1,311	
2. Do. Pier	3,985	4,065	+ 80	
3. Do. Custom House	2,569	2,223	— 346	
4. Coasting Cargo	287	383	+ 96	
5. Engine Charges	285	351	+ 66	
6. Steam Crane Charges	202	368	+ 166	
7. Refunds	63	961	+ 898	
8. Claims for Losses and Damage	67	274	+ 207	
9. Provident Fund Deductions from Coolies' wages	...	285	+ 285	
10. Do. Contributions by the Trust ...	262	285	+ 23	
(*a*) *Contingencies, Subject to Regular Audit.*—				
Postage	...	...	...	
Receipt Stamps	4	1	— 3	
Telegrams	...	...	...	
Furniture	...	...	...	
Tarpaulins	708	946	+ 238	
Law Charges	...	...	...	
Stationery and Printing	30	125	+ 95	
Advertisement Charges	...	...	...	
Lighting Pier and Yards	420	943	+ 523	
(*b*) *Contingencies, Admissible without Detailed Audit.*—				
Miscellaneous...	369	446	+ 77	
Total ...	3,65,495	3,76,516	...	
Closing Balance ...	9,47,127	9,78,314	...	
Total ...	13,12,622	13,54,830	...	

H. E. HOPE-ROSS,
Chief Accountant, Harbour Trust.

I. STATEMENT OF GOODS IMPORTED FROM FOREIGN PORTS.

—	Packages.	1891-92.	1892-93.	1893-94	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease
Apparel and Effects ...	Packages...	1,347	1,068	1,017	146	180	+ 34
Alum	Barrels ...	326	686	910	477	50	— 427
Asphalte, Tar, & Pitch.	Casks ...	4,439	2,329	2,638	592	251	— 341
Acids	Cases ...	1,854	1,408	1,560	821	236	— 585
Arms and Guns ...	,, ..	442	221	250	106	14	— 92
Arrack	Casks ..	884	833	1,031	199	224	+ 25
Blankets... ...	Bales ...	119	168	28	3	...	— 3
Beef and Pork ...	Cases ...	36	...	...	...	...	
Bricks ...	100 ...	1,021	551	1,550	50	30	— 20
Beer	Cases ...	6,123	8,710	7,013	1,755	1,839	+ 84
	Barrels ...	1,140	1,707	1,401	274	117	— 157
	Hogsheads	6,808	8,210	4,310	915	1,410	+ 495
Boiler	No. ...	51	32	48	19	4	— 15
Corks	Bundles ...	88	72	50	3	8	+ 5
Canvas	Bales ...	121	193	615	47	66	+ 19
Candles	Cases ...	16,637	31,017	27,463	4,508	5,729	+ 1,221
Colours	,, ...	3,838	3,286	2,998	1,098	874	— 224
Confectionery Provisions and Oilmanstores	,, ..	23,395	22,129	20,829	4,893	2,527	— 2,366
Crockery & Glassware.	Crates & Casks.	4,538	3,817	5,300	913	684	— 229
Chalk ...	Barrels ...	370	140	134	10	13	+ 3
Cement ...	Casks ...	14,522	7,369	8,904	1,325	2,637	+ 1,312
Cast Iron Pipes and Tubes ...	Tons ...	335	1,436	989	606	171	— 435
Camphor ...	Tubs ...	4,739	4,349	5,765	1,623	1,400	— 223
Coal, Coke and fuel ...	Tons ...	...	...	...	...	...	...
Coal	,, ..	33,686	49,508	58,179	15,641	22,780	+ 7,139
Coke	,, ...	578	778	1,018	183	488	+ 305
Fuel ...	,, ...	...	2,953	...	...	...	...
Crackers... ...	Cases ..	470	840	327	...	1	+ 1
Copper Plates and Tiles	No. ...	4,802	521	7,260	784	1,456	+ 672
Corrugated Iron ...	Packages...	805	2,512	2,638	1,040	443	— 597
Dynamite ..	Cases ...	13,040	8,035	10,598	1,412	2,443	+ 1,031
Earthenware ...	Crates ...	2,313	1,886	2,168	510	287	— 223
Fire Clay ...	Casks ...	2,768	272	312	...	20	+ 20
Flour	Bags and Barrels.	1,317	821	1,251	202	147	— 55
Flannel ...	Bales ...	54	30	64	14	...	— 14
Gunpowder ...	Packages...	6,667	5,987	5,883	1,869	399	— 1,470
Harmonium ...	Cases ...	30	27	24	19	3	— 16
Hardware ...	Cases & Casks..	8,234	6,783	8,189	2,476	468	— 2,008
Hops ...	Packages	129	64	297	31	7	— 24
Iron ...	Tons ...	13,737	17,929	18,627	6,870	2,432	— 4,438
Iron Safes ...	No. ...	296	150	167	40	26	— 14
Kerosine Oil	Cases ...	397,862	251,320	342,671	86,000	23	— 85,977
	Tons ...	...	3,361	5,455	..	1,741	+ 1,741
Malt ...	Bags ...	445	407	22	6	4	— 2
Millinery and Haberdashery ...	Cases ...	1,609	1,566	1,370	213	192	— 21
Matches	,, ...	10,665	9,125	8,927	2,404	1,650	— 754
Machinery ...	Tons ...	3,099	3,241	4,817	697	1,025	+ 328
Nails	Kegs ...	13,744	10,547	14,022	3,460	937	— 2,523
Oil and Turpentine ...	Drums ...	7,225	15,500	4,581	734	1,613	+ 879
Piece Goods ... { Piece Goods	Cases & Bales {	85,079	51,551	57,676	14,237	12,143	— 2,094
Twist.			18,664	24,071	5,595	4,737	— 858
Paper ...	Bales ...	6,546	5,518	6,038	2,123	1,201	— 922

STATEMENT OF GOODS IMPORTED FROM FOREIGN PORTS—*contd.*

——	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease.
Piano	No.	153	99	112	27	86	+ 59
Printing Types	Cases	492	727	346	80	51	− 29
Pig Lead	No.	2,198	1,098	2,612	1,074	...	− 1,074
Paint	Kegs	7,758	10,257	5,770	3,018	1,498	− 1,520
Rattan	Bundles	3,823	5,669	2,362	296	297	+ 1
Soaps	Cases	1,650	970	2,172	459	275	− 184
Salt	,,	383	329	153	5	42	+ 37
Steel	Cases & Casks	864	3,343	794	426	21	− 405
Steel Bundles and Bars	No.	11,261	10,401	10,768	1,827	1,459	− 368
Steel Hoop	Bundles	5,567	1,597	4,930	3,386	2,230	− 1,156
Shovels	,,	275	499	29	2	12	+ 10
Sodawater Bottles	Crates	1,395	1,768	1,570	241	547	+ 306
Sulphur	Casks	752	435	1,128	225	10	− 215
Shot	Kegs	177	56	248	70	34	− 36
Sundries	Packages	48,408	33,606	56,235	11,803	16,758	+ 4,955
Specie	No.	1,229	888	768	191	110	− 81
Sugar	Bags	2,152	1,196	4,198	2,571	130	− 2,441
Slates and Pencils	Cases	1,242	848	1,333	407	490	+ 83
Spelter	Cakes	836	8,786	22,921	3,601	2,128	− 1,473
Saw	Cases	70	48	79	22	10	− 12
Twine and Rope	Bales & Coils	438	455	458	375	28	− 347
Tin Plates	Boxes	5,608	4,649	6,669	2,321	621	− 1,700
Wine and Spirits	Cases	37,877	44,739	36,048	9,819	5,699	− 4,120
	Casks	863	658	514	112	695	+ 583
	Puncheons	369	733	1,058	208	60	− 148
Window Glasses	Cases	5,972	12,000	10,425	5,874	975	− 4,899
White and Red Lead	Kegs	681	951	737	201	95	− 106
Yellow Metal	Cases	3,076	3,361	2,784	633	1,706	+ 1,073
Zinc Sheets	Packages	2,749	1,690	1,761	311	447	+ 136
Horses	No.	816	959	835	...	...	...
Ponies	,,	70	112	131	...	...	...
Cows	,,	59	15	7	...	...	...
Dogs	,,	13	14	3	...	...	...
Elephants	,,	10	7	6	6	4	− 2
Two-wheeled Carriage	..	...	8	9	2	1	− 1

II. STATEMENT OF STORES IMPORTED BY THE MADRAS RAILWAY COMPANY.

——	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease.
Stores	Packages	82,105	72,434	47,040	10,730	947	− 9,783
	Tons	3,605	499	156	6	...	− 6
Fuel	,,	...	...	...	...	...	...
Coke	,,	1,437	544	716	417	452	+ 35
Coal	,,	27	300	237	...	...	...
Timber	,,	2,477	2,083	1,448	...	853	+ 853
Fire Brick	100	115	330	...	...	368	+ 368

III. STATEMENT OF STORES IMPORTED BY THE SOUTH INDIAN RAILWAY COMPANY.

——	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease.
Stores	Packages	68,282	22,171	28,640	1,268	1,337	+ 69
	Tons	...	...	992	22	220	+ 198
Coke	,,	14	...	...	...	...	...
Coal	,,	...	...	...	...	...	...
Timber	,,	..	...	...	...	...	...
Boiler	No.	4	12	10	10	...	− 10
Fire Bricks	100	...	...	...	...	160	+ 160

IV. STATEMENT OF GOODS IMPORTED FROM COAST PORTS.

——	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease
Apparel and Effects	Packages	451	343	527	103	121	+ 18
Alum	Barrels	10	187	7	4	...	− 4
Acids	Cases	89	125	269	71	123	+ 52
Animals	No.	...	10	...	...	...	...
Arms and Guns	Cases	45	12	13	2	29	+ 27
Boilers	No.	2	...	...	...	...	...
Bricks and Tiles	100	1,396	57	837	517	...	− 517
Coffee	Bags	379	595	575	236	168	− 68
Candles	Cases	...	...	11	...	1	+ 1
Colours	,,	1,225	1,531	1,591	376	56	− 320
Crockery and Glassware	,,	322	466	426	97	382	+ 285
Coke	Tons	13,249	13,792	22,152	3,750	7,517	+ 3,767
Carpets	Bales	...	...	..	...	...	...
Camphor and Benjamin	Tubs	77	94	99	25	24	− 1
Copra	Bags	682	1,806	432	300	47	− 253
Crackers	Cases	32	...	122	122	16	− 106
Copper	,,	...	...	...	...	...	...
Do.	Tiles & Ingots	1,667	936	557	32	52	+ 20
Cutch and Lac	Packages	96	421	2,180	245	2,589	+ 2,344
Cocoanuts	No.	4,415	3,191	3,554	1,255	1,476	+ 221
Earthenware	Crates	3	415	2,023	19	...	− 19
Do.	Pipes	392	2,941	407	75	16	− 59
Firewood	Tons	2,626	6,315	950	614	150	− 464
Flour	Bags & Barrels	...	...	...	...	...	...
Gunnies	Bales	7,248	11,682	12,270	2,992	3,848	+ 856
Gram and Peas, &c.	Bags	7,930	9,661	9,755	2,268	2,565	+ 297
Garlic	,,	271,682	380,145	395,249	92,145	81,736	− 10,409
Hardware	Cases	2,945	1,215	6,007	1,097	2,130	+ 1,033
Horns	Bundles	641	1,197	1,507	141	109	− 32
Hides	Bales	880	980	511	130	249	+ 119
Iron	Tons	6,127	9,539	6,013	1,587	1,702	+ 115
Iron Safes	No.	231	293	155	37	66	+ 29
Kerosine Oil	Cases	31	38	34	5	5	...
Leaves	Bundles	...	...	500	500	...	− 500
Liquor	Cases	6,508	3,742	5,113	1,576	162	− 1,414
Machinery	Tons	...	...	2,193	917	558	− 359
Millinery and Haberdashery	Cases	158	79	49	14	31	+ 17
Oil and Turpentine.	Drums	208	245	144	45	45	...
Paddy	Bags	8,340	6,369	5,941	1,787	1,201	− 586
Piece-goods	Cases and Bales	...	75,980	23,737	7,688	5,085	− 2,603
Paper	Bales	3,802	4,756	3,499	1,095	1,322	+ 227
Paint	Kegs	3,128	4,898	5,420	1,886	1,145	− 741
Piano	No.	224	693	247	49	52	+ 3
Rice	Bags	15	12	5	2	3	+ 1
Rose Water	Cases	1,147,048	205,176	110,181	26,328	27,398	+ 1,070
Seeds	Bags	1,434	1,815	1,357	413	340	− 73
Skins	Bales	30,406	25,747	13,916	6,942	3,595	− 3,347
Silk	,,	6,199	50,502	6,807	1,591	1,588	− 3
Sandalwood	Bundles	1,051	699	290	67	75	+ 8
Sugar	Bags	143	121	42	32	82	+ 50
Specie	No.	1,381	866	1,333	468	192	− 276
Sundries	Packages	202	190	193	14	3	− 11
Soap	Cases	47,533	47,137	48,614	912	15,634	+ 14,722
Sulphur	Casks	445	40	147	5	352	+ 347
Spice	Packages	471	544	506	216	265	+ 49
Soda water Bottles	Crates	359	740	640	47	19	− 28
Twine and Rope	Bales and Coils	...	...	241	2	303	+ 301
Tin Plates	Boxes	839	775	1,063	708	204	− 504
Twist	Bales	1,807	912	858	234	406	+ 172
Turmeric	Bags	1,126	1,147	1,206	208	168	− 40
Timber	Tons	7,224	4,977	5,433	1,517	1,857	+ 340
Tea	Cases	15,137	10,595	15,264	3,272	3,422	+ 150
Tamarind	Bundles	1,321	3,411	37	2	30	+ 28
Yellow Metal	Cases	...	...	140	32	58	+ 26
Horses	No.	6	542	1,078	1	25	+ 24
Two-wheeled Carriages	No.	1	15	8	...	...	...
Four-wheeled Carriages	No.	...	4	5	...	2	+ 2
		...	3	19	4	...	− 4

V. STATEMENT OF GOODS EXPORTED TO FOREIGN PORTS.

—	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease
Beer and Ale ...	Cases	18	2	13	1	...	— 1
	Casks	60	7	...	...	...	...
	Hogsheads ...	3	...	...	...	...	...
Cinchona Bark ...	Bales	471	529	411	194	...	— 194
Chillies	Bags & Bundles.	2,760	9	816	117	503	+ 386
Cigars	Cases	1,249	556	643	118	229	+ 111
Coffee	Bags	23,764	34,613	17,737	2,655	5,947	+ 3,292
Cotton	Bales	48,202	26,140	56,768	9,411	14,963	+ 5,552
Cotton Twist ...	,, ...	4,229	5,266	1,946	412	567	+ 155
Coriander and Omum Seeds ...	Bags	8,218	1,814	7,377	2,131	2,809	+ 678
Carpets	Bales	418	288	391	87	40	— 47
Coal	Tons	905	313	599	135	152	+ 17
Deer Horns ...	Packages ...	1,574	1,549	767	176	267	+ 91
Explosive ...	Cases	21	1	...	...	5	+ 5
Firewood ...	Tons	...	...	...	...	...	...
Four-wheeled Carriages ...	No.	8	2	3	...	...	...
Ground Nuts ...	Bags	93,132	26,209	138,211	53,149	61,605	+ 8,456
Gram, Peas, &c....	,, ...	519	161	1,662	1,604	17	— 1,587
Horns, Cow and Buffalo ...	Tons	62	29	1,026	13	8	— 5
Hides, Tanned ...	Bales & Bundles.	21,848	21,812	11,149	1,351	3,749	+ 2,398
Indigo	Cases & Chests.	14,622	29,933	25,008	1,262	4,644	+ 3,382
Iron	Tons	2	11	17	13	2	— 11
Jaggery	Bags	28,985	56,672	52,668	29,713	16,557	— 13,156
Myrabolams ...	Bags	235	91	563	563	...	— 563
Miscellaneous ...	Packages ...	37,808	28,547	36,531	6,039	9,958	+ 3,919
Onions	Bags & Baskets	21,964	5,617	17,517	4,753	1,481	— 3,272
Oil	Casks	434	56	208	5	21	+ 16
Piece-goods ...	Bales and Cases.	6,205	4,857	7,305	1,663	1,335	— 328
Potatoes	Bags & Baskets.	2,437	282	1,716	773	922	+ 149
Poonac	Bags	33,880	16,127	31,311	7,641	9,479	+ 1,838
Piano	No.	41	10	15	3	1	— 2
Paddy ...	Bags	...	5	22	2	...	— 2
Rice	,, ...	1,138	3,229	16,915	3,936	18,422	+ 14,486
Redwood	Tons	699	1,654	733	178	278	+ 100
Seeds, Gingelly and Castor ...	Bags	1,313	12,654	14,777	172	16,543	+ 16,371
Skins, Sheep and Goat, Tanned...	Bales	32,194	34,063	31,535	6,470	9,723	+ 3,253
Sandalwood ...	Bundles ...	1,534	330	699	459	219	— 240
Spirits and Wine	Cases	332	41	67	19	7	— 12
	Casks	977	65	40	..	9	+ 9
	Puncheons ...	...	...	...	...	...	...
Sugar	Bags	599	161	1,197	102	927	+ 825
Specie	Boxes	94	48	29	2	28	+ 26
Tamarind ...	Bundles ...	6,445	5,331	3,076	309	1,729	+ 1,420
Turmeric... ...	Bags	2,159	941	1,562	606	1,883	+ 1,277
Tea	Cases	2,265	1,769	1,649	546	611	+ 65
Two-wheeled Carriages ...	No.	1	...	3	...	...	...
Wool	Bales	1,021	1,470	1,532	498	294	— 204
Yellow Metal ...	Tons	107	100	417	67	½	— 66½

VI. STATEMENT OF GOODS EXPORTED TO COAST PORTS.

—	Packages.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease.
Beer and Ale ...	Cases ...	352	294	305	56	143	+ 87
	Casks ...	159	94	91	...	33	+ 33
	Hogsheads ...	7	41	161	79	23	— 56
Boiler ...	No. ...	...	...	1	1	...	— 1
Cinchona Bark ...	Bales	395	84	80	...	...	...
Chillies	Bags & Bundles	2,064	2,907	9,207	956	1,144	+ 188
Cigars	Cases ...	1,418	1,136	789	155	190	+ 35
Coffee	Bags ..	507	1,449	541	183	28	— 155
Cotton	Bales ...	5,721	4,245	7,080	1,875	1,115	— 760
Cotton Twist ...	,, ...	4,698	6,138	3,220	524	742	+ 218
Coriander and Omum Seeds	Bags ...	2,970	7,002	6,894	898	399	— 499
Cement ..	Casks ...	...	8,908	132	54	14	— 40
Carpets	Bales ...	68	51	41	8	3	— 5
Coal	Tons ...	275	450	157	30	30	...
Deer Horns ..	Packages ...	108	151	52	23	19	— 4
Explosive ...	Cases ...	2,668	1,331	1,067	16	17	+ 1
Eggs	Pots ...	1,165	1,125	1,198	244	260	+ 16
Firewood... ..	Tons ...	2	...	...	...	...	...
Four-wheeled Carriage	No. ...	21	31	27	10	8	— 2
Groundnuts ...	Bags ...	27,790	17,839	16,116	5,046	27,153	+ 22,107
Gram, Peas, &c. ...	,, ...	521	1,226	233	66	1,828	+ 1,762
Horns, Cow and Buffalo	Tons ...	310	307	166	27	32½	+ 5½
Hides ...	Bales & Bundles	379	526	535	179	155	— 24
Indigo	Cases & Chests..	165	816	1,162	512	46	— 466
Iron	Tons ...	2,244	2,611	755	197	241	+ 44
Jaggery	Bags ...	258	1,448	336	76	38	— 38
Kerosine Oil ...	Cases ...	10,327	659	1,117	404	5,741	+ 5,337
Myrabolams ...	Bags ...	1,054	291	1,112	199	...	— 199
Miscellaneous ...	Packages ...	50,510	69,584	61,706	12,504	9,528	— 2,976
Onions	Bags & Baskets	22,442	53,406	47,062	9,119	2,258	— 6,861
Oil	Casks ...	807	637	346	142	265	+ 123
Piece-goods ...	Bales & Cases	5,615	8,651	6,368	1,154	1,832	+ 678
Potatoes	Bags & Baskets	23,637	24,388	30,592	384	259	— 125
Poonac	Bags ...	4,770	22,131	9,853	6,097	383	— 5,714
Piano	No. ...	23	16	17	1	...	— 1
Paddy	Bags ..	...	8,806	8,400	250	500	+ 250
Rice	,, ...	5,448	31,893	11,083	1,816	2,479	+ 663
Redwood	Tons ...	119	693	4	2	2	...
Seeds, Gingelly and Castor	Bags ...	16,803	2,787	36,799	7,035	19,451	+ 12,416
Skins, Sheep & Goat, Tanned ...	Bales	721	1,046	871	239	211	— 28
Sandalwood ...	Bundles ...	153	256	2,786	466	92	— 374
Spirits ..	Cases	2,982	3,783	3,045	771	610	— 161
	Casks	727	716	992	304	188	— 116
	Puncheons ...	13	189	214	64	4	— 60
Sugar	Bags	773	1,419	473	221	77	— 144
Specie	Boxes	236	510	47	13	38	+ 25
Tamarind ...	Bundles ...	3,624	8,253	5,090	2,959	1,025	— 1,934
Turmeric... ...	Bags	19,258	17,883	38,147	13,047	21,706	+ 8,659
Tea	Cases	341	62	50	7	19	+ 12
Two-wheeled Carriage	No.	15	16	12	1	6	+ 5
Wool	Bales	769	603	463	219	177	— 42
Yellow Metal ...	Tons	53	67	256	67	13	— 54

VII. STATEMENT OF STORES, &c., IMPORTED BY GOVERNMENT.

Department.	Description.	Class.	1891-92.	1892-93.	1893-94.	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease.
Accountant-General.	Specie Silver.	Boxes	403	582	533	90	267	+ 177
	,, Copper.	,,	5,100	710	780	560	100	— 460
	Silver&Copper	,,	...	...	...	...	10	+ 10
	Notes ...	,,	32	19	30	...	2	+ 2
	Packages ...	No.	27	1	...	...	...	...
Public Works Department	Boilers ...	No.	2	...	...	...	...	...
	Coal ...	Tons	50	20	...	...	...	...
	Iron ...	,,	271	9	19	...	77	+ 77
	Stores ...	Pkgs.	15,148	6,494	10,812	308	76	— 232
Ordnance ...	Coal ...	Tons	...	...	1,450	...	...	...
	Ammunition..	Boxes	2,148	...	109	...	4,667	+ 4,667
	Stores ...	Pkgs.	13,017	28,566	21,057	6,569	5,494	— 1,075
Madras Harbour Works	Cement ...	Casks	1,869	...	.	...	...	...
	Stores ...	Pkgs.	3,869	...	...	...	...	...
	Coal ...	Tons.	...	...	...	...	...	...
Clothing ...	Packages ...	No.	1,983	2,324	2,176	507	143	— 364
Police ...	,, ...	,,	122	167	196	64	106	+ 42
Salt Revenue ...	,, ...	,,	272	291	109	13	58	+ 45
Post Office ...	,, ...	,,	1,119	858	742	138	814	+ 676
Medical ...	,, ...	,,	1,779	1,007	1,920	897	149	— 748
Telegraphs ...	,, ...	,,	34,768	24,126	9,129	2,336	1,115	— 1,221
Stationery ...	,, ...	,,	732	1,197	1,156	69	211	+ 142
Stamps ...	,, ...	,,	1,961	1,122	1,861	960	321	— 639
Commissariat ..	,, ...	,,	8,588	7,420	2,562	1,274	716	— 558
Gazette Press ...	,, ...	,,	161	149	97	64	285	+ 221
Marine ...	,, ...	,,	729	880	806	77	2	— 75
Revenue Survey...	,, ...	,,	297	208	25	8	13	+ 5
Agriculture ...	,, ...	,,	380	320	140	19	6	— 4
Government Central Museum ...	,, ...	,,	15	10	9	2	3	+ 1
Under-Secy. to Government ...	,, ...	,,	235	504	85	17	13	— 4
Supt. of Prisons...	,, ...	,,	1	17	7	6	14	+ 8
Revenue Board ...	,, ...	,,	424	33	9	3	19	+ 16
Forests ...	,, ...	,,	1,196	10	3	1	...	— 1
Presidency College	,, ...	No.	28	15	2	1	1	...
School of Arts ...	,, ...	,,	3	1	1	...	...	...
Inspector of Cattle Diseases ...	,, ...	,,	9	100	...	...	...	...
Chemical Examiner	,, ...	,,	31	31	36	5	6	+ 1
Medical College...	,, ...	,,	73	31	41	13	2	— 11
Dy. Collectors ...	,, ...	,,	9	15	12	3	...	— 3
Astronomer ...	,, ...	,,	23	13	20	5	2	— 3
Presidency Pay Master ...	,, ...	,,	2	8	4	...	8	+ 8
Registration ...	,, ...	,,	7	4	1	...	...	...
Director of Public Instruction ...	,, ...	,,	9	139	4	1	...	— 1
Superintendent, Remount Depôt, Hussur.	,, ...	,,	...	600	214	150	...	— 150
Resident, Mysore, in Bangalore.	,, ...	,,	...	2	9	3	1	— 2
Quarter Master Genl.	,, ...	,,	...	3	14	1	3	+ 2
Registrar of High Court ..	,, ...	,,	...	1	4	1	1	...
Curator Govt. Garden, Ooty	,, ...	,,	...	...	40	...	68	+ 68
Civil Engineering College..	,, ...	,,	...	...	44	...	1	+ 1
Secretary to the Chief Commissioner of Croog, Bangalore. ...	,, ...	,,	...	...	...	...	1	+ 1
Revenue Settlement ...	,, ...	,,	...	...	...	...	6	+ 6
Executive Engineer, Military Works ...	,, ...	,,	...	...	...	...	6	+ 6
Controller, Military Accounts ...	,, ...	,,	...	...	...	...	1	+ 1
Agent for Government Consignments ...	,, ...	,,	...	...	...	...	76	+ 76
Government Botanical Gardens ...	,, ...	,,	...	...	...	...	40	+ 40
Steam Dredge Wenlock ...	,, ...	,,	...	...	...	...	3	+ 3

VIII. STATEMENT OF STORES, &c., EXPORTED BY GOVERNMENT.

Department.	Description.	Class.	1891-92	1892-93	1893-94	Quarter ending 30th June 1893.	Quarter ending 30th June 1894.	Increase or Decrease.
Accountant-General	Specie Silver.	Boxes.	411	45	95	24	...	— 24
	,, Copper.	,,	965	200	162	100	10	— 90
	,, Notes...	,,	6	13	8	1	2	+ 1
	,, Packages	No.	4	1	1	...	...	...
Bank of Madras...	,, Silver...	Boxes.	34	...	...	...	...	...
,, ,, ...	,, Copper.	,,	...	62	84	...	...	...
Ordnance ...	Packages & Pieces.	No.	8,595	5,831	9,257	1,958	1,918	— 40
Public Works Department ...	,, ...	,,	1,784	488	3,203	116	137	+ 21
Clothing ...	,, ...	,,	1,327	1,096	998	151	165	+ 14
Police ...	,, ..	,,	889	974	955	72	288	+ 216
Salt Revenue ...	,, ..	,,	591	785	724	118	107	— 11
Medical ...	,, ...	,,	1,377	1,610	2,166	400	351	— 49
Telegraph ...	,, ...	,,	8,845	4,330	4,945	390	28	— 362
Stationery ...	,, ...	,,	693	780	623	155	165	+ 10
Stamps ...	,, ...	,,	220	298	236	46	30	— 16
Commissariat ...	,, ...	,,	7,971	6,205	5,301	1,399	2,056	+ 657
Gazette Press ...	,, ...	,,	526	503	478	142	197	+ 55
Marine ...	,, ...	,,	390	366	37	7	7	...
Revenue Board ...	,, ...	,,	77	37	87	19	25	+ 6
Revenue Settlement	,, ...	,,	51	84	53	26	13	— 13
Revenue Survey...	,, ..	,,	75	452	223	81	20	— 61
Superintendent of Prisons ...	,, ...	,,	69	196	103	9	3	— 6
Registration ...	,, ...	,,	66	43	17	1	7	+ 6
Conservator of Forests ...	,, ...	,,	34	83	5	1	...	— 1
Quarter-Master General ...	,, ..	,,	...	4	...	...	...	...
Government Central Museum ...	,, ...	,,	15	22	13	7	...	— 7
Deputy Collectors	,, ...	,,	2	9	...	...	...	...
Government Astronomer ...	,, ...	,,	...	18	13	4	2	— 2
Agriculture ..	,, ...	,,	15	8	2	2	...	— 2
General Hospital..	,, ...	,,	...	...	...	...	...	...
State Railways ...	,, ..	,,	100	...	...	...	...	...
Inspector of Cattle Diseases ...	,, ...	,,	3	1	...	...	...	...
Chemical Examiner.	,, ...	,,	...	1	...	...	...	...
Director of Public Instruction ...	,, ...	,,	10	6	13	...	...	...
Registrar of University ...	,, ...	,,	13	10	5	...	...	...
Collectors ...	,, ...	,,	10	...	6	6	...	— 6
Curator of Government Garden, Ooty	,, ...	,,	11	...	12	2	...	— 2
Engineer, H. T. Board ...	,, ...	,,	...	...	2	...	...	...
Crown Officer, High Court ..	,, ...	,,	14	18	5	4	...	— 4
School of Arts ...	,, ...	,,	...	...	...	...	...	...
Secretary to Government, Public Department ...	,, ...	,,	2	...	...	...	...	...
Registrar-General of Births, Deaths and Marriages ...	,, ...	,,	...	..	...	...	...	...
Inam Commissioner	,, ...	,,	1	...	...	...	...	...
Consulting Engineer to Government Railways.	,, ...	,,	20	...	...	...	...	...
Civil Engineering College ...	,, ...	,,	...	1	...	...	...	...
Superintendent, Census Operations.	,, ...	,,	...	4	1	1	...	— 1
Post Office ...	,, ..	,,	...	2	2	2	...	— 2
Sanitary Commissioner.	,, ...	,,	...	2	2	2	...	— 2
Registrar of High Court	,, ...	,,	...	...	...	..	5	+ 5

To

THE SECRETARY,
Harbour Trust Board, Madras.

S. HUTCHENCE,
Traffic Manager,
Harbour Trust Board.

MADRAS HARBOUR WORKS

Report of progress on the Madras Harbour Works for the quarter ending 30th June 1894.

1. Accompanying this report are the following plans and statements:—

No. 36 (*a*) A plan of the Harbour to a scale of 200 feet to an inch, showing in red the position and quantity of work done during the quarter. The contours in half fathoms shown on this plan outside the Harbour are those of the last complete Marine Survey of 1889 and the contours inside the Harbour are from the latest Survey of 1893.

2. The positions of High Water Marks of the 30th June 1894 and that of the previous twelve months, both to the north of the revetment, and south of the Harbour, are shown for comparison.

No. 36 (*b*) A revised plan showing in detail the advance made during the quarter at the pier heads as now being constructed, and the positions of the caissons for completing both the piers of the Harbour, with an Eastern Entrance of 520 feet.

No. 37 (*c*) A Statement comparing the expenditure on differentsub-heads of work up to the end of the quarter, with the provisions of the sanctioned estimate.

No. 37 (*d*) A Statement showing work done under different sub-heads and particulars of cement received and issued.

3. The various heads of work, &c., throughout the Harbour Works are reported as follows:—

4. **General.**—During the quarter under review which includes the months of April, May and June, it is necessary to withdraw the Titan Cranes to shore as precautionary measures to meet the uncertain weather during the S. W. Monsoon from the 28th April to the 1st week in June, when diving operations are usually commenced again, but during June this year the sea continued so rough that a diver could not remain below, and although the bed, was dredged 9 feet in depth, and ready to receive a course of blocks at the South Pier, it was impossible to commence to set the course before the 29th June; and due to continued ground swell, the last permanent course of block-work at the South Pier Head could only be completed on the 11th July 1894. The advance of work was therefore 5′ 4½″ below water, or all the block-work of the South Pier completed during the quarter; less the necessary work for setting the South Pier Caisson.

5. At the North Pier, due to the unusual rough state of the sea, the Capping and Light-House could not be commenced, until certain blocks at the foot of the superstructure had been raised, and as the weather did not improve, and to save time at the South Pier, it was decided to raise these blocks with the old North Pier Titan; and to transfer the All-Round Titan Crane round to the South Pier, to enable

preparations for setting the South Pier Caisson, being commenced as soon as possible. Therefore, on the 27th May the All-Round Titan Crane was started from the North Pier, and travelled along the Beach Roadway; and within four days, it safely reached the South Pier, and commenced dredging the rubble base at the extreme end of the Pier Head on the 10th June.

6. **North Pier Head Caisson.**—The North Pier Caisson was filled with concrete "en masse" and completed at seven feet above water level on the 2nd April—the work from that date to the close of the quarter, consisted in uniting the cylindrical mass of concrete formed in the Caisson, with the bonded block-work behind it, by a backing of mass concrete, as shown on plan, and to prevent this portion of concrete, between the vertical face of the Caisson and the sloping face of the superstructure, from forming a wedge, of concrete; certain blocks were removed from the superstructure to form steps, so as to bring the weight of this mass of concrete to bear upon the superstructure foundations. The gap so formed between the Caisson and the end of the masonry wall, was therefore 37 feet long and 38 feet wide at the surface and to confine the concrete to the required slope, and position, during the process of depositing the concrete below water, blocks were set abutting the side of the Pier, and the Caisson, and these blocks were then caulked to form a mould, down to 40 feet below sea level, into which the concrete was lowered in specially designed double canvas bags, which on reaching the bottom, turned inside-out; releasing the concrete on the bottom, in still water. This work was completed on the 27th April, when the Titan Crane was hurried on shore for the monsoon, as the weather was looking suspicious.

7. **Grouting under Caisson.**—During April all the special pipes running through the Caisson to the rubble base, were carefully grouted and the cement passed freely, consolidating the base beneath the Caisson, which was forced through, until no more cement would pass. The bottom of the Caisson was carefully watched, and no free cement found its way to the open sea.

8. By the 9th May the weather was more settled and the Crane was travelled to the Pier Head on the 11th, 12th and 16th of May, where it recovered 42 of the blocks set and caulked to form the mould for the backing; but due to the monsoon the remaining blocks could not be recovered during the quarter, and until fair weather sets in again, and these blocks can be raised the capping and Light House cannot be commenced.

9. **Wave-breaker.**—To prevent unforeseen delay in this direction, the All-Round Titan Crane was, after raising from, and replacing 104 blocks in the wave-breaker in the best possible position throughout the North Arm on the 24th, 25th and 26th of May, permanently run on shore and arrangements made for its immediate transfer to the end of the South Pier Head, which position it reached on the 11th June.

10. **Rubble Base Protection.**—From the 27th May and to the close of the quarter, a Priestman's 5 ton Dredging Crane took the place of the transferred Titan Crane, which did good work at dredging up the rubble base around the Caisson, necessary for consolidating, or protecting the base with concrete, at 39 feet below water level; as has been done along the inner face of the superstructure, to prevent scour.

11. 54 lineal feet of base along the outer straight portion of the arm was in the same manner paved with concrete to a width of 20 feet.

12. On the 22nd June, the old Titan Crane was travelled out to the end of the North Pier Head, and upon the Caisson, to take the place of the transferred All-Round Titan; where it remained in position awaiting fair diving weather, to raise the remaining blocks which were set and caulked to form the above mould; after which the capping will be commenced, and the North Pier completed.

13. The completed length of the North Pier is now 3,816 feet 9 inches from shore, with a depth of 39 feet of water along side the Pier Head and Caisson, at De Havilland's Mean Sea Level, as designed.

14. **South Pier Head.**—The total working days available for Sub-Marine work during the quarter, at the South Pier Head, after deducting Sundays and holidays and the period the Crane was on shore for the monsoon, due to rough sea, and its unsuitability to the work, was only 16 working days, against 38 days in the same quarter, in the previous year.

15. **Wave-breaker.**—The old Titan Crane at the South Pier remained in position at the Pier Head dredging when possible until the 12th April, by which date nothing further could be done on account of its limited overhang, hence the urgency for the transfer of the better Crane from the North Pier. This old Crane, was therefore permanently run on shore, and the Wave-breaker Crane was shunted in front of the Titan, and run out daily from the 4th to 9th May during the monsoon when 29—30 ton blocks, were dropped into position, extending the Wave-breaker screen to the full width of 40 feet. This was done so as to leave the North Pier All-Round Titan Crane, as soon as it could be transferred to the South Pier, available for blocksetting and the Caisson work.

16. On the 12th of May the Wave-breaker work was completed, and this second old Crane, being no longer required, was permanently travelled on shore to allow the All-Round North Pier Titan Crane to pass, on its way to the South Pier Head, which was safely reached on the 11th June where it commenced dredging, and at the close of the quarter 9 feet of rubble base had been dredged, and the last permanent course of block-work commenced to be set on the 29th June, and completed on the 11th July 1894, advancing the South Pier Superstructure by 5′-4½″, which was good progress during the short working quarter notwithstanding the unusual rough state of the sea and limited working days due to the monsoon, and unsuitable old Titan Crane.

17. The total length of the South Pier on the 30th June was 3,884¼ feet from shore and the last permanent course of block-work, No. 216, had been set.

18. At the South Pier Head there only now remains, the six temporary courses to be set before October, when the South Pier Caisson will be launched and set in March and the South Pier completed in July 1895.

19. **Rubble Base Protection.**—The Rubble Base Protection along the inner face of the Pier, could not be concreted as the sea was too rough, but 50 feet of the base was levelled up, and ready to receive concrete; as soon as weather would permit.

20. **Blockmaking Yard.**—During the quarter, the blockmaking Machinery was at work crushing stone, and mixing the concrete for the Caisson work, and the out-turn was 790⅓ cubic yards of concrete, 2,080 tons of chips were received and stacked towards the quantity of stone required for the concrete, for the North Pier capping.

21. **Protective Works North of the Harbour.**—The first line of revetment, to the north of the Harbour, had settled considerably at the original gap known as "Masula Boat Bay," leaving the line of rails and sleepers suspended and near Carlton House, further settlement had taken place consequently 881¾ tons of large rubble boulders were received from the quarries and deposited at the weakest points along the old line of the revetment.

22. The High Water Mark at the close of the quarter had not advanced, or accumulated sand along the line of revetment this year, as hitherto, and it may therefore be taken that the sand which did accumulate along this revetment after its construction, has now permanently passed northwards and that the stone revetment will now permanently be exposed to the sea, which is the cause of the further settlement in the old work.

23. The Bay at the extreme end of the new line of revetment, has also considerably increased, and the High Water Mark has receded 275 feet from June 1893 to June 1894, while the erosion or increase of the Bay during the quarter, has been 125 feet.

24. **Foreshore South of the Harbour.**—Upon the plan attached to this report, are shown the High Water Marks of 30th June 1893 and 30th June 1894 and the advance of sand near the Pier has been 65 feet; but the latest High Water Mark is still, inshore, or short of the recorded High Water Mark of the 30th September 1893, by 50 feet.

25. **Sea bottom within the Harbour.**—The High Water Mark, inside the Harbour, has generally receded and the High Water Marks of June 1893 and June 1894, show on the south side of the Iron Pier, 28 feet less foreshore near the South Arm, and 48 feet less immediately south of the Screw Pile Pier, while to the North side of the Iron Pier the High Water Mark has receded 78 feet in the 12 months June 1893-94 or 75 feet during the quarter. The High Water Mark of the 30th June is also 25 feet nearer inshore, than it was in September 1892 or identical with that of June 1891.

26. **Titan and Railway Lines.**—The realignment of the Beach Railway lines was nearing completion.

27. A length of 810 lineal feet of the Titan Crane roadway consisting of 4-75 lbs. steel rails, was removed from the North Pier and 9,320 lineal ft. of block road lines was taken up preparatory to commencing the North Pier capping; and the transfer of the All-Round Titan Crane to the South Pier due to its different gauge, necessitated 3,687 lineal ft. of the old Titan Crane roadway being removed, and the above 4 rail roadway being relaid along the South Pier for a distance of 3,873½ lineal ft. which was also built in concrete and completed by the 1st June.

28. A length of 4,000 feet of the same roadway was also laid along the Beach Road and removed as soon as the Crane had passed on its way from the North to the South Pier of the 27th to 30th June.

29. **Summary of Progress.**—The following statement is the summary of Progress made on the Harbour Works during the quarter under review.

30. **Expenditure.**—The Expenditure to the end of the quarter including Establishment, Tools and Plant and Contingencies is Rs. 1,22,68,980 out of the total estimated cost of Rs. 1,23,83,386, leaving a balance of Rs. 1,14,406 to be spent for completion.

31. **Miscellaneous.**—The usual repairs and the upkeep of all Machinery, Cranes, Railway lines, &c., and all haulage of coal and other traffic, was done by the Harbour Works Locomotives for the Traffic Department as usual.

32. The two steam cranes in use by the Traffic Department upon the Iron Pier were thoroughly overhauled and tested during the quarter. 24 hand trucks and 4 mooring buoys were repaired for the Traffic, and the Deputy Conservator's Departments and the outlet to the Municipal drain to the North of Fort St. George was being extended to within 50 feet, of High Water Mark.

A. LEE POGSON,
Engineer, Harbour Trust Board.

MADRAS HARBOUR WORKS,
25th July 1894.

Progress Statement No. 37 *(d)*

MADRAS HARBOUR WORKS.

Statement showing Progress during Quarter ending 30th June 1894, as shown on accompanying Tracings, Nos. 36 (a) and 36 (b).

NOTE.—The Figures in **red** denote for comparison progress and quantity of work done in the quarter ending 30th June 1893.

No. of Item.	Particulars and Quantity of Work, &c.	Sub-heads of Work.	North Pier. Rubble Base.	North Pier. Pier Head.	North Pier. Wavebreaker.	North Pier. Concrete Capping.	North Pier. Base Protection.	South Pier. Rubble Base.	South Pier. Pier Head.	South Pier. Wavebreaker.	South Pier. Concrete Capping.	South Pier. Base Protection.	At Works.	At Quarries.	Railway Lines. Sand Line.	Railway Lines. Beach Improvements.	Railway Lines. Pallavaram Quarries Outturn.	Railway Lines. Concrete Blockmaking.	Protective Works	Total Expenditure during the Quarter.
		Columns	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Rubble Stone deposited from boats ... Tons...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Do. do. from waggons... „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Total quantity Rubble Stone received on Works „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	8,352 881¾ 3,835½	...	8,352 881¾	... ...
4	Do. Blasted Chips do. „ ...		...			2,080	...	...	...	...		...	...	...	...	...	2,080	...	...	...
5	Concrete Blocks—Set by Divers ... Number.		...	...	23 104	...	...	...	9	...		...	...	...	...	...	...	...	...	...
6	Do. raised and re-deposited in Wave-breaker „ ...		...	...	...	...	...	...	...	41 29	...	...	...	...	...	...	...	...	...	...
7	Do. made for Superstructure „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	Do. do. Pier Head between Caisson and Superstructure Cubic yds.		...	790⅓	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	Wrought Iron Cramp fixed in position „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	Total out-turn of Concrete „ ...		...	790⅓	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	Advance or progress of completed superstructure ... Ry. feet.		...	...	...	...	...	...	5'-4½"	...	...	...	...	...	...	...	...	...	...	...
12	Rubble Base protected with Concrete along Piers around Caisson Ry. feet		...	...	...	...	40 54 40	...	...	...	...	...	...	...	...	...	...	...	...	...
13	Metre Gauge, 40 lbs. per yard laid new „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	Do. do. relaid or renewed „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	Do. do. taken up „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	Broad Gauge, 50 lbs per yard laid „		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	Do. do. relaid or renewed „ ...		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	Do do. taken up „ ...		...	930	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	Titan Gauge, 75 lbs. per yard laid new „ ...		...	...	...	...	...	...	...	...	...	...	4,000	...	...	...	...	...	...	...
20	Do. do. relaid or renewed „ ...		...	...	...	...	...	...	3,873½	...	...	...	...	...	...	...	...	...	...	...
21	Do do. taken up „ ...		...	810	...	...	...	...	3687	...	...	...	4,000	...	...	...	...	...	...	...
22																				
23																				
24	Approximate Expenditure under Sub-heads of Work ... Rupees...		...	23,886		10,620	...	...	19,614		812	...	1,264	...	...	...	3,787	...	165	60,148

				Tons.	Cwts.	Qrs.	lbs.	Quantity due on Indents.	Tons.	Cwts.	Qrs.	lbs.
Nil	Casks of Cement received on Works during Quarter ending 30th June 1894 containing	...	...	Nil.	...	...	...					
2,818	Do. do. issued for do.	do.	do.	do.	do.	...	...	503	4	2	17	dated February 1894	1,000	...	...	...
2,945½	Do. do. Balance in Store at end of	do.	do.	do.	...	...	...	525	6	0	9					

MADRAS, *25th July* 1894

A. LEE POGSON,
Engineer, Harbour Trust Board

MADRAS HARBOUR WORKS.

COMPARISON OF EXPENDITURE TO DATE WITH SANCTIONED ESTIMATE FOR THE QUARTER ENDING 30TH JUNE 1894.

Sub-head of Work.	As per Estimate Sanctioned in Secretary of State Despatch No. 1, dated 7th January 1892.				As Executed.					Arrears not paid.	Value of work done up to date, columns 11 and 12.	Remarks.
	Quantity.	Rate.	Per.	Cost.	Total.	Quantity.	Rate.	Expenditure. Total up to end of last Quarter.	Expenditure. During the Quarter.	Expenditure. Up to date.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Rs. A. P.		Rs.	Rs.		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Expenditure up to 31st December 1884.													
1 Works	.....	... ...	...	55,09,324	...	...	... ...	55,09,324 8 10	... ...	55,09,324 8 10	... ...	55,09,324 8 10	
2 Establishment	.....	... ...	...	5,29,904	...	...	... ...	5,29,904 0 0	... ...	5,29,904 0 0	... ...	5,29,904 0 0	
3 Tools and Plant	.....	... ...	...	5,15,262	...	...	... ...	5,15,262 6 0	... ...	5,15,262 6 0	... ...	5,15,262 6 0	
Total ...	.....	... ...	...		65,54,490	...	... ...	65,54,490 14 10	... ...	65,54,490 14 10	... ...	65,54,490 14 10	
Revised Estimate.													
4 Alteration and extension of block ground ... Prely...	.....	... ...	...	5,892	5,892	...	... ...	5,892 0 11	... ...	5,892 0 11	... ...	5,892 0 11	
North Pier.													
5 Ordinary rubble deposited from breakwater. Tons	13,930	1 12 0	Ton	24,378		13,930	1 12 0	24,377 9 0	... ...	24,377 9 0	... ...	24,377 9 0	
6 Do from boats ... ,,	2,06,896	2 0 5	,,	4,19,218		2,05,477	2 0 8	4,31,285 13 3	—16,153 4 5	4,15,132 8 10	4,085 7 2	4,19,218 0 0	
7 Concrete blocks for building ... C. yds.	51,320	11 8 0	C. yd.	5,90,110		51,320	11 8 0	5,84,376 12 11	5,733 3 1	5,90,110 0 0	... ...	5,90,110 0 0	
8 Setting blocks at commencement of new work ,,	2,615	2 1 1	,,	5,415		2,615	2 1 1	5,414 11 2	... ...	5,414 11 2	... ...	5,414 11 2	
9 Do. from 2,200 to 3,600 feet ... ,,	36,520	2 14 3	,,	1,05,569		36,520	2 14 3	1,12,056 14 8	—6,487 14 8	1,05,569 0 0	... ...	1,05,569 0 0	
10 Do. at Pierhead ... ... ,,	12,185	9 8 11	,,	1,16,424		12,185	9 8 11	1,31,577 6 1	—15,17 5 7	1,16,403 0 6	20 15 6	1,16,424 0 0	
11 Concrete in mass for filling ... ... ,,	263	4 8 3	,,	1,188		263	4 8 3	1,188 0 7	... ...	1,188 0 7	... ...	1,188 0 7	
12 Wavebreaker blocks ... ... ,,	288	9 5 7	,,	2,692		288	9 5 7	2,692 0 0	... ...	2,692 0 0	... ...	2,692 0 0	
13 Do. concrete blocks ... ... ,,	77,355	10 14 11	,,	8,45,591		69,863	12 0 5	7,81,746 15 2	58,387 7 0	8,40,134 6 2	... ...	8,40,134 6 2	
14 Depositing do. ... ... ,,	77,932	1 0 0	,,	77,928		70,457	1 1 8	71,238 0 7	6,669 2 3	77,898 2 10	29 13 2	77,928 0 0	
15 Concrete in protection to Rubble Base ... ,,	1,986	10 4 1	,,	20,358		1,986	10 4 0	20,793 1 0	— 435 1 0	20,358 0 0	... ...	20,358 0 0	
16 Cramps, Iron ... ... No.	331	9 10 1	Each	3,188		313	10 3 0	2,422 0 2	765 15 10	3,188 0 0	... ...	3,188 0 0	
17 Concrete capping ... ... C. yds.	16,352	11 3 10	C. yd.	1,83,798		573	... ...	11,652 11 2	11,209 8 4	22,862 3 6	2,227 13 10	25,090 1 4	
18 Cost of North Pier Caisson and setting in position and filling same as items 26, 27, 33 and 34 ... ... ,,	.....	... ...	,,	84,750		...	... ...	85,809 5 6	—1,280 8 4	84,528 13 2	221 2 10	84,750 0 0	
Total for North Pier ...	.....	... ...	...	...	24,80,607	...	... ...	22,66,631 5 3	43,225 2 6	23,09,856 7 9	6,585 4 6	23,16,441 12 3	
South Pier.													
19 Ordinary rubble deposited from boats ... Tons.	1,75,078	2 9 4	Ton	4,49,052		1,73,659	2 9 4	4,41,668 9 0	2,457 8 4	4,44,126 1 4	4,925 14 8	4,49,052 0 0	
20 Large do. deposited from breakwater... ,,	8,615	1 12 0	,,	15,076		8,615	1 12 0	15,075 13 0	... ...	15,075 13 0	... ...	15,075 13 0	
21 Concrete blocks for building ... C. yds.	45,066	11 10 0	C. yd.	5,04,510		43,106	11 10 0	4,87,464 4 9	13,652 1 9	5,01,116 6 6	... ...	5,01,116 6 6	
22 Setting blocks at commencement ... ,,	2,556	3 1 6	,,	7,912		2,556	3 1 6	7,911 13 3	... ...	7,911 13 3	... ...	7,911 13 3	
23 Do. from 2,550 to 3,700 feet ... ,,	30,160	3 7 11	,,	1,05,461		30,160	3 7 11	1,08,704 9 4	—3,243 9 4	1,05,461 0 0	... ...	1,05,461 0 0	
24 Do. at Pierhead ... ... ,,	12,350	11 1 3	,,	1,36,845		12,350	11 1 3	1,49,604 3 0	—17,831 5 2	1,31,772 13 10	5,051 11 8	1,36,824 9 6	
25 Concrete in mass for filling ... ... ,,	602	7 9 1	,,	4,555		602	7 9 1	4,554 14 4	... ...	4,554 14 4	... ...	4,554 14 4	
26 Do. in Cylindrical Pierhead ... ,,	2,355	15 0 0	,,	35,325		...	... ...	5,960 13 9	... ...	5,960 13 9	... ...	5,960 13 9	
27 Do. in filling in between Coursed Block-work and Caisson ... ... ,,	184	15 0 0	,,	2,760		...	... ...	... ...	... ...	... ...	... ...	... ...	
	47,231	11 1 8	,,	5,24,070		40,497	11 10 1	4,46,969 15 1	25,027 6 11	4,70,997 6 0	... ...	4,70,997 6 0	
28 Wavebreaker concrete blocks ... ,,	47,714	1 5 8	,,	64,708		49,497	1 7 3	57,711 2 6	1,036 7 8	58,747 10 2	20 5 4	58,767 15 6	
29 Depositing do. do. ... ... ,,	1,700	9 10 6	,,	16,420		1,108	13 7 7	14,932 9 1	... ...	14,932 9 1	... ...	14,932 9 1	
30 Concrete in protection to Rubble Base ... ,,	259	11 7 7	Each	2,972		220	13 8 1	2,845 8 6	626 7 6	2,972 0 0	... ...	2,972 0 0	
31 Cramps, Iron ... ... No.	16,247	11 5 8	C. yd.	1,84,495		669	... ...	14,301 11 9	811 12 4	15,113 8 1	... ...	15,113 8 1	
32 Concrete capping ... ... C. yds.	1	... ...	,,	18,000		...	... ...	21,750 6 1	—3,750 6 1	18,000 0 0	... ...	18,000 0 0	
33 Iron Caisson ... ... No.													
34 Preparing Base for and setting Cylindrical Pierhead... ... ... ,,	.....	... ...	,,	28,665		...	... ...	... ...	5,671 14 11	5,671 14 11	... ...	5,671 14 11	
Total for South Pier ...	.....	... ...	...	...	21,00,826	...	... ...	17,77,956 5 5	24,458 6 10	18,02,414 12 3	9,997 15 8	18,12,412 11 11	
Extending the Rubble Revetment protecting the foreshore North of Harbour.													
35 Rubble Stone Revetment ... ... Tons	70,600	2 1 0	Ton	1,45,613		91,051	1 8 8	1,38,910 9 7	27 6 6	1,38,938 0 1	1,253 13 1	1,40,191 13 2	
36 Railway Lines	.....	... ...	...	9,849		..	... ...	11,665 7 10	... ...	11,665 7 10	... ...	11,665 7 10	
					1,55,462			1,50,576 1 5	27 6 6	1,50,603 7 11	1,253 13 1	1,51,857 5 0	
37 Tools and Plant	.....	... ...	...	...	6,11,656	...	... ..	6,57,503 3 6	—46,793 12 1	6,10,709 7 5	946 8 7	6,11,656 0 0	
38 Contingencies	.....	... ...	...	...	2,17,415	...	... ..	1,99,918 0 7	11,795 12 2	2,11,713 12 9	576 15 4	2,12,290 12 1	
39 Establishment	.....	... ...	...	...	5,34,369	...	... ..	5,63,601 13 1	9,568 12 7	5,73,170 9 8	... ...	5,73,170 9 8	
40 Materials at site (concrete blocks in yards)... C. yds.	.....	... ...	...	...	...	5,702	14 6 5	90,068 11 7	—12,183 4 6	77,885 7 1	4,242 13 1	82,128 4 2	
41 Advances to work-people	.....	... ...	...	...	61,06,227			78 6 2	— 28 7 0	49 15 2	... ...	49 15 2	
Total of Estimate and value of work done ...								57,12,225 15 11	30,070 1 0	57,42,296 0 11	23,603 6 3	57,65,899 7 2	
Deduct Probable recoveries due to sales of Tools and Plant	.....	... ...	...	...	2,77,331			—74,612 7 5	46,805 9 5	—27,806 14 0	... ...	—27,806 14 0	
Total ...	.....	... ...	...	...	58,28,896			56,37,613 8 6	76,875 10 5	57,14,489 2 11	22,603 6 3	57,38,092 9 2	
Total of revised Estimate sanctioned in Secretary of State Despatch, plus expenditure before 31st December 1884	.....	... ...	...	...	1,23,83,386			1,21,92,104 7 4	76,875 10 5	1,22,68,980 1 9	23,603 6 3	1,22,92,583 8 0	
Estimated Cost of additional works found necessary up to end of last Quarter	.....	... ...	...	...	...								
Estimated Cost of additional works found necessary during Quarter ending	.....	... ...	...	...	...								
Total Estimated Cost for Completion of Works ...	.....	... ...	...	...	1,23,83,386								
Deduct Total Expenditure as per column 11 ...	.....	... ...	...	...	1,22,68,980								
Total Estimated Cost of Completing Work after Year ending 31st March 1894	.....	... ...	...	...	1,14,406								

Expenditure up to 31st March 1894 from commencement of works ... Rs. 1,21,92,104-7-4
Do. during current official year from 1st April 1894 to 30th June 1894 ... " 76,876-10-5. Grant for 1894-95 Rs. 1,50,000.
Total outlay to 30th June 1894. " 1,22,68,980-1-9.

MADRAS,
3rd August 1894.

G. MOOTHOOSAWMY NAIDU,
Accountant,
M. H. Works Office.

A. LEE POGSON,
Engineer, Harbour Trust Board.

MARINE DEPARTMENT.

FROM

THE CHAIRMAN,

HARBOUR TRUST BOARD,

MADRAS.

To

THE CHIEF SECRETARY TO GOVERNMENT,

Marine Department.

DATED 3*rd August* 1894.

DESPATCHED 11*th* „

RECEIVED „

ENCLOSURES :—Two tracings of Harbour and Pier Heads.

No. 1700.

SUBJECT.

MADRAS HARBOUR.

Report for the Quarter—1st April to 30th June 1894.

LAWRENCE ASYLUM PRESS, MADRAS.

P. R. CURRENT No. 6633

MARINE DEPARTMENT.

FROM

THE CHAIRMAN,
HARBOUR TRUST BOARD,
MADRAS.

To

THE CHIEF SECRETARY TO GOVERNMENT,
Marine Department.

DATED 3rd *August* 1894.

DESPATCHED 11th „

RECEIVED 12th
Registered 13th
ENCLOSURES:—Two tracings of Harbour and Pier Heads.

See at Ofo 17/8/94
Regd to 5th Sec

No. 1700.

SUBJECT.

MADRAS HARBOUR.

Report for the Quarter—1st April to 30th June 1894.

LAWRENCE ASYLUM PRESS, MADRAS.

Transferred

2nd
End. No. 1628 dy 15th Augt 1894
Transferred to the Public Works Department
Rd Chief Secy
Chief Secretary

7.B.B
14/8

UNDER SECRETARY
RECD 20 AUG 94
PUBLIC WORKS DEPT

CURRENT NO. 718

Madras Harbour Trust.
SECRETARY'S OFFICE,
20th August 1894.

No. 1880

From Edward James Esqre D. lo. S.
CHAIRMAN, HARBOUR TRUST BOARD,
MADRAS.

To The Hon'ble Mr. J. F. Price C.S.I: I.C.S.
Chief Secretary to Government,
Marine Department.

SIR,

End. No. 1630
15-8-94

In continuation of my letter No. 1700 dated 3rd instant, — Submitting report of progress made on the Harbor for the quarter Ending 30th June, I have now the honour to forward herewith, duplicate copies of the two plans Enclosures thereto.

I have the honour to be
Sir
Your obedt Servant
Chairman
Harbor Trust Board

2nd

P. W. CURRENT No. 6634

CURRENT No. 1878

MARINE DEPARTMENT.

FROM

THE CHAIRMAN,
HARBOUR TRUST BOARD,
MADRAS.

To

THE CHIEF SECRETARY TO GOVERNMENT,
Marine Department.

Rec'd P.W.D. 24/8/94.

DATED 20th August

DESPATCHED 21st ——— 1894.

RECEIVED 23 AUG 1894 CHIEF SECRETARY TO GOVERNMENT

Enclosure Plan 660 Sheet 1

Regd 23d

ENCLOSURE ~~2 By Book Post~~
Regd: 4. S. Sec^t
No. 1880

SUBJECT.

Submitting duplicate Copies of two plans accompanied the Quarterly Report ending 30th June 1894.—

Transferred

P.W.Cur. 6633 Sanctioned 4-9-94

End^t No. 1688

Transferred to the Public Works Department in continuation of Endorsement, No. 1630, dated 15th August, 1894

O/Received 23rd Aug^t 1894 } Stevens 23/8/94

Ag. Asst Secretary.

38B/23/8.

PUBLIC WORKS DEPARTMENT.

X

No. 2362 W dated 19th September 1894

PROCEEDINGS OF THE MADRAS GOVERNMENT.

27

READ the following

Endorsement in Marine Dept^t on letter from the Chairman, Harbour Trust B^d, Madras, No. 1700 dated 3rd August 1894. (H.T. No. 1628 d/15/8/94)

Do — on letter from the Ch: H.T.B^d, Madras No. 1880 d/20 Aug: 1894 ——— (" " 1688 d/23/8/94)

Ordered to be forwarded for the information of the Secy of State and the Govt of India.

2. It is observed that no progress report for the quarter ending 31 March 1894 has been submitted. The Chairman Harbour Trust Board will be requested in the Marine Dept^t to explain the omission.

(H.T. No. 2363 W d/19-9-94.)

Copy of the above, with two plans shewing the progress of the work

To Secy to Govt Marine Dept^t

Chairman H.T.B^d Marine Dept^t

DESPATCHED 27 SEP. 94

(10—1,000—22-9-94.)

forwarded to the Govt of India.

(H.E. No. 8 / 2362 W. dated 19th Septr/94)

To,
The Right Honorable
The Secy: of State for India

Sir,

In continuation of our despatch No. 4 / 1985 dated 20th March 1894, we have the honor to forward the progress report of the Madras Harbour Works for the quarter ending 30th June 1894.

2. The report is accompanied by two plans shewing the position and quantity of work done during the quarter.

3. No report has been received for the quarter ending 31st March 1894 and the Chairman Harbour Trust Board has been requested to explain the omission.

Progress report of the Madras Harbour Works for the q.e. 30th June/94

H.C.

W
30 Aug

23

1

Note from the Chief Secretary for forms of communications with reference to para 2 of the order.

DESPATCH
27 SEP 94

24.9

N.S.

P. W. CURRENT No. 6933

CPO 6633

Govt. of 1894 Madras.

PUBLIC WORKS.

Dated 6/9/94

Read. Encl.

G.O. 19 Sept: 1894 No. 2362-63

Madras Harbour Works.

The progress report of the — for the quarter ending 30-6-94, ordered to be forwarded for the information of the Secy: of State & the Govt: of India.

Madras Harbour Works

~~Copy of Proc: on~~ Copy of Proc: embodying forwarding the progress report of the — for the quarter ending 30-6-94, together with plans shewing the progress of the works.

with remarks,

Forwarding the progress report of the Madras Harbour works for the quarter ending 30-6-94 together with plans, shewing the position & quantity of work done during the quarter.

80/4

20/2

P/9

D.C.C 19/9