

(1) Number of pages _____

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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2125	(Ry)	Press
B.P. No.			Mis.
Dated	16-8		1876

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
16th August 1876. No. 2,125.*

No. 344. Read the following letter from Colonel H. DRUMMOND, R.E., Deputy Secretary to the Government of India, Public Works Department, (Railway,) to Major-General G. W. WALKER, R.E., Secretary to the Government of Madras, Public Works Department, (Railway,) dated Simla, 25th July 1876, No. 1,908 $\frac{1}{2}$ R. :—

I am directed to acknowledge the receipt of your letter, No. 972, dated the 11th April 1876, forwarding papers containing the results of the investigations into the several projects which have presented themselves for inquiry in connection with the terminal arrangements of the South Indian Railway.

2. In reply, I am to say that the Government of India are pleased to approve of the action of His Grace the Governor in Council in stopping the main line at Egmore, pending further experience as to the requirements of the traffic.

3. The estimates and plans received with your letter are herewith returned.

No. 345. ORDER THEREON, 16th August 1876, No. 2,125.

RAILWAY, No. 40.

ORDERED to be recorded.

(True Ex act.)

Colonel,
Offg. Under Secy. to Govt., P.W.D.

To the Consulting Engineer for Railways.

Exd. E. C. Shunker.
Spare Copies

bridge to Madras Terminal Station - including terminal works.

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED BY PARTMENT	TO BE DRAWN FROM STORES	TOTAL	TOTAL
<u>III. Construction of line</u>								
<u>1 Earthwork</u>								
	In embankments	Cyd	20368	1/24	5782 ..			
	Extra earthwork where required	"	900	1/24	155 ..			
	Contingencies				297 ..		6234 ..	
<u>2 Bridgework</u>								
	Minor Bridges & Culverts							
	Bridge of 10 feet Girders at 1 mile 36 chains as per drawing No 12							
	Excavation of foundations	Cyd	28	1/4	32 ..			
	Masonry	"	175	10/6	1750 ..			
	Leak Timber	Cft	26	4/4	104 ..			
	Wrought Iron Girders	Tons	8.0	243/6		243 ..		
	Fixing do do	Bag	1	35/6	35 ..			
	Carriage of materials per cart L.M.		3	1/4	1 ..			
	Laying	Sq yds	50	12/6	6 ..			
	Contingencies				106 ..	12 ..		
					2234 ..	255 ..	2489 ..	
	Bridge of 10 feet Girders at 2 miles 51 chains as per drawing No 12				797 ..	255 ..	1052 ..	
	Bridge of 14 feet Girders at 0 miles 25 chains as per drawing No 9				668 ..	36 ..	704 ..	
<u>Culverts</u>								
	Single 2 feet Culverts	Cyd	281	8/6	2408 ..			
	Contingencies				140 ..		2548 ..	
	Carried Over						12584 ..	

DIS: N°

S . I . R
ENGINEERING DEPARTMENT
NORTHERN EXTENSION
DETAILS of ESTIMATE

LENGTH M' 6'

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXCLUDED DE PARTICULARS	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						12584 ..	
	<u>4 Level Crossing</u>							
	24 feet gates	Pair	6	424/4	2568 ..			
	Check rails	Set	6	102/4		612 ..		
	12 feet gates	Pair	1	156/4	150 ..			
	9 feet gates	Pair	2	156/4	312 ..			
	Footpath crossings where required	"	2	78/4	225 ..			
	Earthwork in road approaches	Cyds	2260	4/4	560 ..			
	Metalling	"	900	2/4	1350 ..			
	Culvert cut road	"	60	4/4	480 ..			
	Earthwork in road diversions	"	2545	2/4	1005 ..			
	Metalling of roads	"	930	4/4	1400 ..			
	Platelayers' tools	Pair	1		218 ..			
	Gate keepers' lodges	"	1	208/4	180 ..			
	Mile stones	"	2	4/4	16 ..			
	Grade posts	"	7	4/4	47 ..			
	Contingencies				511 ..	31 ..		
					10721 ..	643 ..	11364 ..	
	<u>5 Fencing</u>							
	Earthwork	Cyds	169	4/4	90 ..			
	Brick wall fencing from							
	suburban road to tunnel road	"	72	4/4	67/8 ..			
	Fencing	Miles	3	656/4	1968 ..			
	Contingencies				452 ..			
					9486 ..		9486 ..	
	<u>III Construction of Line</u>							33434 ..
	<u>IV Ballast from Permanent Way</u>							
	<u>1 Ballasting</u>							
	In main line	Cyds	7652	4/4	284 ..			
	" Sidings	"	16126	4/4	2718 ..			
	Contingencies				1279 ..		26558 ..	
	<u>2 Permanent Way</u>							
	Materials in main line	L' yds	6512	7/4		6663 ..		
	Laying do	"	612	4/4	3256 ..			
	Carriage of Materials	L' M	1200	4/4	300 ..			
	Materials in siding	L' yds	8043	7/4		8238 ..		
	Laying do including laying							
	of switches & crossings	"	8463	4/4	2744 ..			
	Carried over							

<u>FINAL</u> <u>HEAD OF</u> <u>ACCOUNTS</u>	<u>PARTICULARS</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>RATE</u>	<u>TO BE</u> <u>EXPENDED DE</u> <u>PARTIALLY</u>	<u>TO BE</u> <u>DRAWN</u> <u>FROM</u> <u>STORED</u>	<u>TOTAL</u>	<u>TOTAL</u>
	Brought forward						151523 ..	331076 ..
	Carrriage of Materials	F.M.	1500	94/100	375 ..			
	Contingencies				145 ..	7150 ..		
	V Stations and Buildings				820 ..	7150 ..	7970 ..	
	Madrass Terminal Station							
	as per Estimate				111767 ..	68286 ..	210053 ..	
	Madrass Goods station as per do do				44957 ..	106267 ..	27220 ..	
	Chetput Station				7635 ..	187 ..	7822 ..	
								515075 ..
	Total							764860 ..

David Logan
Cape Eugene
Michuap 16. 2. 76

Exhibit G

Scheme No. 4.

DIS. N. 1

S. I. R.
ENGINEERING DEPARTMENT
NORTHERN EXTENSION
DETAILS OF ESTIMATE

LENGTH

ESTIMATE HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	UNIT PRICE	AMOUNT	PERCENTAGE	TOTAL
	For a branch line from the terminal station at the Penitentiary to the Salt Colliery						
	III. Construction of Line						
	I. Earthwork						
	In embankments	cys	9300	73/100	4030		
	In filling in for sidings	"	907 1/4	78/100	4537		9567
	Putting up portion of fencing in Peoples Park	Sq	100	3/100	300		560
	Removing portion of swimming bath Peoples Park and rebuilding on west side	Line			300		300
	B. Bridge work						
	1. Minor Bridges & Culverts						
	Two 3 ft Culverts						
	Excavation	cys	60	7/4	15		
	Masonry		100	5/100	500		
	Bridge of 1-60 ft Girder						
	Excavation		70	7/4	17 50		
	Masonry		67	10/100	670		
	Lake timber	cft	11	4/100	44		
	Wrought Iron girder	Tons	7 1/4	243 1/2	60 13 3		
	Fixing Do	Day	1	15/100	15		
	Carriage of Materials	Tons	1	7/4	4		
	Carried over				1561 12	60 13 3	1622 7 3 9547

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTMENTAL	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						1022 9 8	984 7
	II Large Bridges	Mt						1022 9
	3 Tunnels	Mt						
	4 Level Crossings							
	24 ft. Gates	No	1	428 1/2	428 1/2			
	Chick rails	Mt	1	102 1/2		102 1/2		
	Gatekeepers Lodges	No	1	310 1/2	310 1/2			
					788	102 1/2	840	840
	5 Fencing							
	Ornamental wire							
	fencing	Sp	1700	1 1/2		1912 8		
	Fixing	Do	1700	1 1/2	212 8			
					212 8	1912 8	2125	2125
	III Construction of line							14134 9
	Carried over							14134 9

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTICULARLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward							44,484.92
	IV Ballast & Permanent way							
	1. Ballasting							
	Ballast in main line	cys	22,000	1/12	2,175			
	do Sidings	-	13,285	1/12	1,115			
	2. Permanent way							
	Material in main line	lgs	2,000	9/15		18,625		
	Laying do	-	2,000	1/8	250			
	Carriage of Material to	Tons	4,500	1/4	1,125			
	Material in Sidings	Lgs	200	9/15		2,045		
	Laying Sidings, including							
	Laying of points & crossings	-	200	1/9	22.2			
	Single switches	nos	1	14.5	14.5			
	Crossings	-	1	80	80			
	Carriage of Material to	Tons	56	1/4	14			
					4,762	20,945	25,660	25,660
	V Stations & Buildings							
	1. Stations & offices							
	2. Workshops, store buildings, etc							
	3. Staff Quarters							
	4. Station Machinery							
	Double Semaphore Signal	nos	1	240	240			
	Buffer Stops	nos	1	100	100			
					440		440	440
								42,535.53
								2,026.10
								44,562.10
	III. Ad-hast							
	Construction of Line				152.6			
	IV Ballast & Permanent way				2,694.4			
	V Stations & Buildings				4.62			
					42,562			

Ronald Logan

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE- PARTMENTALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward							48920
11	Ballast & German entrance							
	<u>1 Ballasting</u>							
	In. Main line	Cyds	850	9/2 1/2	638			
	" Siding	"	33760	9/2 1/2	25320		75958	
	<u>2 German entrance</u>							
	Materials in. Main line							
	rails 45 lbs to the line yds							
	with flat sleepers	Cyds	6380	16/8 1/2		105270		
	Laying do	"	6380	9/8	3190			
	Materials in Siding							
	rails 45 lbs to the line yds							
	with flat sleepers	"	850	16/8 1/2		14025		
	Laying of points & crossings	"	850	9/9 1/2	1478			
	Materials in siding							
	rails 40 lbs to the line yds							
	with wooden sleepers	"	10928	9/8 1/2		10176 1/2		
	Laying do including							
	laying of points & crossings	"	10928	9/8 1/2	5160			
	Switches for 45 lbs rails	each	15	230 1/2		3450		
	Crossings for do	"	15	120 1/2		2150		
	Switches for 40 lbs rails	"	7	145 1/2		1018 1/2		
	Crossings for do	"	7	80 1/2		560		
					9132	27833 1/2	237169	
	<u>11 Ballast & German entrance</u>							263127
	Carries over							312327

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTMENTALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward							312317
V	Stations & Buildings							
	1 Station & Offices							
	Good & Sheds at							
	Post Colar station							
	As per Estimate						107110	
	Alteration to Madras							
	Central Station							
	As per Estimate						14734	
	4 Station & Machinery							
	Signals double line each	2	1104	180				
	Do Single Do	3	1104	1260				
	Available Buffers etc				17600		19250	
	V Stations & Buildings							141870
	Contingencies @ 5%							453867
								27693
	Total Reques							1476860

Kichinopoly 3
3rd March 1876 3

Hand B. M. K.
Chief Engineer

Copies by
S.P.
P. M. D.

Constructing a line from the Cornu Bridge at
 Exhibit D 2 Mo. - 76 Ch. - to the Plaquemine Station.

FIG. NO. 1 ENGINEERING DEPARTMENT
 Scheme 123. NORTHERN EXTENSION
 DETAILS OF ESTIMATE LENGTH 10 00

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	UNIT PRICE	AMOUNT	PERCENTAGE	TOTAL
III	<u>Construction of Line</u>						
	<u>1 Earthworks</u>						
	Exc. Embankments	cfs	4500	92/9	8250 ..		
	Extra Earthworks when required	cfs	900	92/9	165 ..		
	Contingencies				491 ..		8836 ..
	<u>2 Bridgework</u>						
	<u>1 & 2-10 ft Bridge (Girders)</u>						
	Bridge of 2-10 ft Girders as per drawing No 11.						
	Excavation of foundations	cfs	200	94/6	50 ..		
	& Masonry	"	200	104/6	3670 ..		
	Seals Similar	cft	100	104/6	208 ..		
	Wrought Iron Girders	Tons	5	243/8	1217 ..		
	Tracing do	Boys	2	100/6	200 ..		
	Carriage of materials per cart	Tons	30	94/6	8 ..		
	Travelling	Sq yds	200	94/6	25 ..		
	Contingencies				210 ..	61 ..	
					1441 ..	1278 ..	5689 ..
	<u>Bridge of 1-10 ft Girders</u>						
	as per drawing No 12						
	Excavation of foundations	cfs	60	94/6	15 ..		
	& Masonry	"	76	104/6	460 ..		
	Seals Similar	cft	20	94/6	101 ..		
	Wrought Iron Girders	Tons	1.0	243/8	243 ..		
	Tracing do	Boys	1	35/6	35 ..		
	Carriage of materials per cart	Tons	2	94/6	2 ..		
	Travelling	Sq yds	30	92/6	6 ..		
	Contingencies				46 ..	12 ..	
					968 ..	258 ..	1223 ..

Carried over 16748 ..

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PAYMENT ALL	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						18748	
	Bridge of 1-10 ft Girders as per drawing No 12							
	Excavation of foundations	Cy	51	9/4	18			
	Masonry	"	60	10/4	600			
	Teak Timbers	Cft	26	9/4	104			
	Wrought Iron Girders	Tons	1	245/5		2112		
	Staking do	Bag	1	35/4	35			
	Carriage of Materials per cart	Tons	8	5/4	2			
	Landing	Sq ft	50	9/12	6			
	Contingencies				58	12		
					<u>798</u>	<u>255</u>	1053	
	Bridge of 1-6 ft Girders as per drawing No 11							
	Excavation of foundations	Cy	50	9/4	18			
	Masonry	"	57	10/4	570			
	Teak Timbers	Cft	11	9/4	44			
	Wrought Iron Girders	Tons	2.20	245/5		58		
	Staking do	Bag	1	15/4	15			
	Carriage of Materials per cart	Tons	4	5/4	1			
	Contingencies				33	3		
					<u>696</u>	<u>61</u>	757	
	Bridge of 1-4 ft Opening as per drawing No 9							
	Excavation of foundations	Cy	49	9/4	12			
	Masonry	"	57	10/4	570			
	Teak Timbers	Cft	10	9/4	40			
	Wrought Iron Girders	Tons	0.14	245/5		34		
	Staking do	Bag	1	10/4	10			
	Carriage of Materials per cart	Tons	3	5/4	1			
	Contingencies				32	2		
					<u>665</u>	<u>36</u>	701	
	Carried over							18257

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTICULARS	TO BE DRAWN FROM STOCKS	TOTAL	TOTAL
	Brought-forward.						18259	
	<u>Culverts.</u>							
	Single 2 feet	Cyds	251	8 1/2	2008			
	Contingencies				100		2108	
	Masonry in retaining walls when required	Cyds	70	8 1/2	560			
	Contingencies				28		588	
	<u>Syphon sluice</u> under line							
	Excavation of foundation	Cyds	2000	5 1/8	1000			
	Masonry	"	2000	10 1/2	21000			
	Concrete	"	100	9	900			
	Contingencies				1295		24195	
	<u>14 Level Crossings</u>							
	24 feet Gates	Pairs	2	478 1/2	957			
	Checks Rails	Sets	2	102 1/2	205	2016		
	18 feet Gates	Pairs	2	320 1/2	641			
	Checks Rails	"	2	80 1/2	161	2400		
	12 feet Gates	Pairs	2	150 1/2	301			
	Foot path crossings when required	No	6	70 1/2	423			
	Earthwork in road approaches	Cyds	10920	1 1/2	16380			
	Metalling of Road	"	1800	1 1/8	2100			
	Culverts under Road approaches	Cyds	300	8 1/2	2550			
	Platelayers Huts	No	1	208 1/2	208			
	Gate Keepers Lodge	"	1	300 1/2	300			
	10 Mile Stone	No	1	15	15			
	Gravel path	"	1	1 1/2	1 1/2			
	Contingencies				60 1/2	22		
					12731	1666	13197	
	Carried over						61817	

Coono bridge to the Mambore Station

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTMENTAL	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						61347	
	5 Fencing							
	1000 fencing materials Sept 1886	1/2	10560	1/2	5280			
	Labour in fencing		10560	1/2	1230			
	Contrifence				62	297		
					1292	6237	7529	
	III Construction of Line							68876

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED OR PAID MONTHLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	<u>Abstract of Estimate from Crown Bridge to Preamble Station.</u>							
III	Construction of Line							6887
	1 Earthwork				8836		8836	
	2 Bridgeworks						39314	
	4 Level Crossings				12731	1166	13897	
	5 Fencing				1292	6237	7529	
IV	Ballast & Paving							16782
	1 Ballasting				4670		4670	
	2 Permanent way				3205	35878	42163	
					Total Rupees		115659	

David Logan
Chief Engineer
Melbourne 16.2.76

S. I. R.
ENGINEERING DEPARTMENT
NORTHERN EXTENSION

LENGTH

Revised DETAILS of ESTIMATE for line from point O on plan No. 1 to Salt Columns and Central Station, Madras Railway

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TOTAL EXPENDED PAYMENT	TOTAL DRAWN FROM STORAGE	TOTAL	REMARKS
	Scheme No. 2							
III	Construction of line							
	1 Earthwork							
	In Embankments	Cu	2800	of sf.	1650 - -			
	cutting up for siding	"	72593	of sf.	362968 - -			
	Approaches to overbridge across Doona mallee road	"	19321	of sf.	96608 - -			
	Taking up portions of fence in People's Park	Cu	120	sf.	360 - -		50967 - -	50967 - -
	2 Bridgework							
	1 Minor Bridges & Culverts							
	Bridge of one 21 ft. Girder under Doona mallee Road							
	Excavation of foundation	Cu	432	of sf.	1078 - -			
	Masonry	"	628	sf.	6280 - -			
	Planking	Sq ft	1000	of sf.		675 - -		
	Wrought Iron Girders	Lbs	72234			1703 - -		
	Fixing do	Day	1	180 sf.	180 - -			
	Carriage of Materials	Wagon	21	of sf.	51 - -			
	Loading	Sq yd	200	of sf.	25 - -			
					6598 - -	2328 - -	8926 - -	
	Two 3 ft. Culverts							
	Excavation	Cu	60	of sf.	15 - -			
	Masonry	"	100	sf.	800 - -		815 - -	
	Lengthening 2' 3" Culvert under Madras Railway							
	Excavation	"	90	of sf.	23 - -			
	Masonry	"	138	sf.	1101 - -		1124 - -	
	Lengthening two 3 ft. Culvert under Madras Railway							
	Excavation	"	180	of sf.	45 - -			
	Masonry	"	360	sf.	2880 - -		2925 - -	
	Carriageways							
							13793 - -	50967 - -

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE- PARTMENTALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						15798	50967
	Minor bridges Culvert (Culvert)							
	Lengthening 14 ft Culvert							
	under M. & A. R. R. tracks							
	Excavation	Cy	40	45¢	18			
	Masonry		100	8¢	800		818	
	Lengthening 14' 3" Culvert							
	under Masons Railroad							
	Excavation		18	45¢	8			
	Masonry		50	6¢	300		325	
	Bridge of one 6 ft Girder Span							
	Excavation		40	45¢	18			
	Masonry		10	60¢	600			
	Scale Timber	Cft	11	45¢	11			
	Wrought Iron Girders	Lbs	40	25¢		61		
	Tracing D ^s	Box	1	15				
	Carrages of Material for Culvert	Yds	1	45¢				
					707	61	808	15798
	<u>II Large bridges & cul</u>							
	<u>1. Level Crossings</u>							
	1 1/2 ft Gates	No	1	102¢	102			
	Choke Rails	Set	1	102¢		102		
	Gatekeepers Rods	No	2	30¢	60			
	Grade posts		10	7¢	70			
					246	102	1178	1178
	<u>2. Tracing</u>							
	Environmental wire fencing	Lbs	1720	42¢		1917		
	Tracing D ^s		1720	45¢	211			
	Entrances Iron Gates	Pair	1	250¢		250		
	Gatekeepers Rods	No	1	30¢	30			
					5228	2167	7685	7685
	<u>III Construction of Line</u>							70571

ACCOUNTS	PARTICULARS	UNIT	QUANTITY	PRICE	TO BE EXPENDED BY PAYMENT ONLY	TO BE PAID FROM STORES	TOTAL	TOTAL
	Brought forward							758032.00
V	Stations Buildings							
	Stations Offices							
	Goods Shed at Salt Column station							
	600 ft x 112 ft							
	Excavation	Cyds	1912	0.50	358.80			
	Concrete	"	1219	4.80	5935.80			
	Masonry	"	2226	10.50	28250.00			
	Flooring with Concrete	Sq. ft	130	5.00	900.00			
	Flooring with Asphalte	"	120	15.00	2700.00			
	Asphalt	Cft	420	2.50	1600.00			
	Teak wood door 14' x 10'	Do	2	500.00	1000.00			
	Do Do 10' x 10'	"	10	110.00	1100.00			
	House Comb windows	Sq. ft	2000	0.06	120.00			
	Teak timber in furniture	Cft	1000	5.00	5000.00			
	Iron Roofing	Sq. ft	600	50.00	30000.00	30720.00		
	1" Planking	Sq. ft	200	60.00	12000.00			
	Plastering roof including painting	Sq. ft	250	30.00	7500.00			
	Guttering	Sq. ft	100	1.70	1700.00			
	1/4" Cast Iron fall pipes	"	200	6.00	1200.00			
	Do Bricks	Do	60	3.00	180.00			
	Cast Iron heads	"	60	3.00	180.00			
	Carriage of materials	Sq. ft	250	0.25	62.50			
	Metalling of approaches	Cyds	1000	1.50	1500.00			
					70506.80	33590.00	103946.80	

Carriageway

103946.80 - 758032.00

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTMENTALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						103216 8 -	288032 -
	5 Stationers Office (Contd.)							
	Alterations to Madras Railway Central Station to adapt it to the South Indian Railway requirement							
	Removing three platforms Madras Railway	Cyds	50	3 1/2	200 -			
	Removing arch in horse platform Madras Railway and throwing up on opposite side - north side	"	500	4 1/2	118 12 -			
	Rebuilding horse platform for Madras Railway on north side of Central Station	"	200	10 1/2	2100 -			
	Cutting down, altering and re-asphalting three platforms Madras Central Station	Sqrs	1000	2 1/2	11250 -			
	Removing portion of surrounding wall People's Park and rebuilding of west side	Sqm			300 -			
					11608 12 -		11608 12 -	
							118225 12 -	118355 12 -
	Carriage							37638 12 -

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE- PARTMENTAL- LY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward							276387 10
	2 Workshops, Store buildings &c				116			
	3 Staff Quarters				116			
	4 Station Machinery							
	Signals double semaphore		1	1100/-	1100	1100		
	Signals single do		3	420/-	1260	840		
	Turntable 16 ft including							
	hoisting, fitting &c	do	2	3500/-	7000	7000		
	Turntable 42 ft including							
	hoisting, fitting &c		1	8000/-	8000	7000		
	Buffer stops		6	100/-	600			
	Removng & refixing one engine turntable for the Madras Railway	Sum			1200			
	Removng one siding Madras Railway & re- laying on north side of Salt Petaur station	Exp	no	87/-	110			
					24528	11960	20112	20112 8
	Total							296799 12
	Abstract							
III	Construction of Line				70571			
IV	Ballast & Cementation				187058			
V	Stations & Buildings				168768			
					326100			

Copies
Chief Engineer's Office
Trichinopoly 26 February 1876
Sd/- J. J. Muth

ENGINEERING DEPARTMENT

NORTHERN EXTENSION

LENGTH M. C.

DETAILS OF ESTIMATE

PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE- PARTMENTALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
Construction of line from Soan smaller Road through Peoples Park into Madras Central Station and along Madras Railway into Salt. Colam Station.							
Earthwork							
In Embankments	Cyds	37,790	1/8/-	18895.-			
• Road approaches (Soan smaller Road)		19321	1/8/-	9660.8-			
• filling for beddings		105892	1/8/-	52966.-		80851.8-	
Bridgework							
Minor Bridges & Culverts							
Bridge of 1.2 ft Girders span under Soan smaller Road							
Excavation of foundation	Cyds	1300	1/4/-	107.8-			
Masonry		523	10/4/-	6280.-			
Planking	Sq ft	1000	6/10/-	625.-			
Wrought Iron Girders	Tons	7	7 1/2/-	52.5-		1703.3-	
Joining Do	Bay	1	180/-	180.-			
Carriage of Materials	Tons	21	1/4/-	5.10-			
Laying	Sq yds	200	1/2/-	75.-		8725.15-	
Culverts							
Lengthening 2' 3" Culvert under Madras Railway							
Excavation of foundations	Cyds	90	1/4/-	22.8-			
Masonry		138	8/4/-	1161.-			
Lengthening 3' 5 ft Culvert under Madras Railway							
Excavation of foundation	Cyds	180	1/4/-	45.-			
Masonry		360	8/4/-	2880.-			
Lengthening 4 ft Culvert under Madras Railway							
Excavation of foundation	Cyds	70	1/4/-	17.8-			
Masonry		100	8/4/-	800.-		1869.-	
Carries over							9666.7-

[illegible]

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTMENTALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward							1865/3 5
11	<u>Ballast & Permanent way</u>							
	1 <u>Ballasting</u>							
	In Main line	Cyds	3000	2/50	3750			
	" Sidings	"	11200	2/50	30600		34350	
	2 <u>Permanent way</u>							
	Materials in Main line	Cyds	1500	9/50		23250		
	Laying Do	"	2500	2/50	1250			
	Carriage of Materials	Wms	536	2/50	112			
	Materials in Sidings	Cyds	12000	9/50		112500		
	Laying Do	"	12500	2/50	6250			
	Carriage of Materials	Wms	2500	2/50	600			
	Single switches	No	6	145/00		870		
	Crossings	"	6	80/00		480		
	Laying Central rail							
	along Marais Railway							
	from Central Station	Cyds	5000	2/50	1250			
	Materials in line	"	8000	2/50		23250		
	Carriage of Materials	Wms	500	2/50	111			
					10271	120000	170730	201580
	Carried over							390753 5

FINAL HEADS ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED PARTIALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward							340953.5
	Additional works in alterations							
	Taking up & relaying tramway over Idemamulla Road.	Cyds	650	5/6p	1050.00			
	Removing & masonry horse platform Madras Railway	Cyds	80	3/6p	240.00			
	Removing earth in horse platform Madras Railway and clearing up in opposite side - north side	Cyds	950	9/4p	1180.00			
	Rebuilding horse platform for Madras Railway on north side of Central Station		250	10/6p	2500.00			
	Cutting down & altering & re-asphalting 3 platforms Madras Central Station	Sqrs	2500	25/6p	11750.00			
	Removing & re-laying Madras Railway & relaying in north side Salt Coton station	Cyds	200	9/6p	1950.00			
	Removing & refitting & engine turn table			100/6p	1000.00		19733.12	
	Goods shed at Salt Coton station							
	600' x 112'							
	Excavation of foundations	Cyds	1979	4/8p	3588.00			
	Concrete		1259	4/8p	5935.80			
	Masonry		2250	10/6p	28500.00			
	Flooring with concrete	Sqrs	100	9/0p	900.00			
	Do do asphalt		80	10/6p	2700.00			
	Roofing	Cft	200	5/6p	1100.00			
	Teak wood doors 11' x 10 1/2'	Do	2	500/6p	1000.00			
	Do do 10 1/2' x 10'		18	110/6p	1400.00			
	Honey Comb windows	Sq ft	3200	9/6p	12800.00			
	Carriage over				42894.00		19733.12	340953.5

Scheme No. 1

Exhibit A

S. I. R.

DIS. N.º 1

ENGINEERING DEPARTMENT
NORTHERN EXTENSION

LENGTH 2 1/2 700

to Scheme No. 1.

DETAILS OF ESTIMATE from Cooran bridge

FINAL HEADLINE AGGREGATES	PARTICULARS	UNIT	QUANTITY	DATE	TO BE EXPENDED BY PARTMENTAL	TO BE DRAWN FROM STORES	TOTAL	TOTAL
III	<u>Construction of Lido.</u>							
	<u>1 Earthworks</u>							
	For Embankments	cft	3000	9/2/9	5781 - -			
	Extra Earthworks where required	"	900	9/2/9	165 - -			
	Contingencies				297 - -		6234 - -	
	<u>2 Bridgeworks</u>							
	<u>1 2 Span Bridge 1 Culvert</u>							
	Bridge of 1-10 feet Girders at 1 mile 56 chs as per drawing No 12.							
	Excavation of foundation	cft	100	9/2/9	52 - -			
	Massing	"	100	10/2/9	1950 - -			
	Stake Timber	cft	24	9/2/9	104 - -			
	Wrought Iron Girders	lbs	100	20/2/9	- - -	2465 - -		
	Twine do do	bag	1	25/2/9	25 - -			
	Percentage of materials per cent			9/2/9	1 - -			
	Gravel	sq yds	50	9/2/9	600 - -			
	Contingencies				106 - -	120 - -		
					2234 - -	266 - -	2489 - -	
	<u>Bridge of 1-10 feet Girders</u> at 1 1/2 mile 51 chains as per drawing No 12							
					497 - -	255 - -	1052 - -	
	<u>Bridge of 1-4 feet Girders</u> at 0 miles 25 chains as per drawing No 9.							
					465 - -	36 - -	701 - -	
	<u>Culverts</u>							
	Single 2 feet	cft	261	8/2/9	2008 - -			
	Contingencies				100 - -		2108 - -	
	<u>Grand total</u>							12589 - -

FINAL HEAD OF ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EXPENDED DE PARTIALLY	TO BE DRAWN FROM STORES	TOTAL	TOTAL
	Brought forward						12584 ..	
	<u>4 Level crossings.</u>							
	24 feet Gates	Pais	6	418/6	2508 ..			
	Checks Rails	Set	6	102/6	612 ..			
	12 feet Gates	Pais	1	158/6	158 ..			
	9 feet Do	Do	3	100/6	300 ..			
	Foot path crossings where required	"	2	78/6	225 ..			
	Earthworks in road approaches	Cyds	3260	9/2/9	560 ..			
	Metalling	"	900	1/8/6	1350 ..			
	Curbs at roads	"	60	8/6/6	480 ..			
	Earthworks in road dimensions	"	3805	9/2/9	1005 ..			
	Metalling of roads	"	933	1/8/6	1400 ..			
	Gate layers Hubs	Wt	1	218/6	218 ..			
	Gate keepers lodges	"	6	310/6	1860 ..			
	Wheeled stones	"	3	5/6/6	15 ..			
	Grade posts	"	7	7/6/6	49 ..			
	Contrifences				511 ..	31 ..		
					10921 ..	643 ..	11364 ..	
	<u>5 Leveling</u>							
	Earthworks	Cyds	569	9/4/6	90 ..			
	Brick wall fencing from							
	Sydenhams road to	"	572	8/6/6	6976 ..			
	Womersley road							
	Fencing	Miles	2	68/6/6	1968 ..			
	Contrifences				152 ..		9486 ..	
	III Construction of Linc							33434 ..

DIS. N°

S. I. P.
ENGINEERING DEPARTMENT
NORTHERN EXTENSION
DETAILS OF ESTIMATE

LENGTH

ITEMS	QUANTITY	UNIT	PRICE	AMOUNT	REMARKS
<u>IV Ballast & Permanent way</u>					
<u>1 Ballast</u>					
In main line	672	mc	98/4	5781	"
" Sidings	"	67	98/4	3356	"
Contingencies				427	"
				8964	"
<u>2 Permanent way</u>					
Materials in main line	872	6908	98/4	66381	"
Laying do	"	6908	98/4	3684	"
Carriage of materials	29m	1200	6/4	300	"
Materials in Sidings	872	2700	98/4	25826	"
Laying do including laying of switches and crossings	"	2700	98/4	1570	"
Carriage of materials	29m	1200	9/4	115	"
Contingencies				271	"
				5684	"
				91250	"
				100222	"

IV Ballast & Permanent way. 108995

DIS: N°

S. I. R.
ENGINEERING DEPARTMENT
NORTHERN EXTENSION
DETAILS OF ESTIMATE

LENGTH M.

ACCOUNTS	PARTICULARS	UNIT	QUANTITY	RATE	TO BE EMPLOYED DE PARTICULARS	TO BE TAKEN FROM STORES	TOTAL
V	Stations & Buildings						
	1 Station & Offices						
	Good shed (already expended)				" " " "		20000 " "
	Approaches (200)				" " " "		18800 " "
	2 Workshop & Store Building				" " " "		125000 " "
	3 Staff Quarters				" " " "		168998 " "
	4 Station Machinery				" " " "		28026 " "
	V Stations and Buildings						240924

Abstract

III Construction of Line	53434 " "
IV Ballast & Permanent way	108996 " "
V Stations & Buildings	240924 " "
Total Rupees	583350

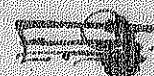
M. A. Lopez
Chief Engineer
Buenos Aires 10. 2. 76

Q. 6. 11. April 1769 718972.

No. 1908 1/2 B.

+ 3 Plans given to Librarian

Deputy Secretary



No. 2125 1/6 Aug 1776

Ordered to be re-
corded

Approving the action of
His Grace the Governor in
Council in stopping the
main line at Egmore
pending further experi-
ence as to the requirements
of the traffic.

No. 344/45

On Imp. for 1/2 p. 1/2
20th 30/1/76

With order

Ch. 12. 8. 76 P. 16. 8. 76
Dep. Secy 8. 8. 76

5675

Sept. 31 1870
PUBLIC WORKS.

The Hon^{ble} Secy^r of the Interior

4.6.11

M. R.
Tr.
Corder

W. H. S. 2/15

344 45

W. H. S.

Aug. 12. 87
Despatch

South Indian Ry
Letter from the Gov^r of
India approving the action
of the Madras Gov^r in
closing the main line
of the — at Egmore, head
ing further experience as to
the requirements of the traffic.
indd

South Indian Ry
21-8-87