Public Works (1899) Department.

G.O., No. 2038 W.

DATED 4th August 1899.

[Despatch Abstract.]

Pipes & Machinery:

Sanctioning local invitation of tenders for the supply of —— required for the Vizagapatam Water Works ~~Scheme~~ scheme

T/B.

[P. W. 2 / 2,000—20-3-99.]

Indexed. 5/8

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

B From India

P. W. DEPARTMENT.

READ the following :—

Letter from the Supdg. Engineer, I Circle, No. 586 V.Z. d/ 17-9-98
—— do —— Supdg. Engineer, V Circle, No. 327 W. d/ 14-4-99
From the Examiner, P.W. Accounts, No. 1217 $\frac{B}{13}$ d/ 20-4-99
—— Do —— No. 1782 $\frac{B}{13}$ d/ 6-6-99
Letter from the Supdg. Engineer, I Circle, No. 762 V.Z. d/ 3-6-99
Telegram from —— do —— No. — d/ 27-6-99
Letter from —— do —— No. 846 V.Z. d/ 27-6-99
—— do —— No. 860 V.Z. d/ 29-6-99

Circulated to

ORDER. Nº 2038 W. d/ 4-8-99

Note. Plans sent separately

The papers read above relate to an indent for pipes and machinery required for the Vizagapatam Water Works Scheme. The indent was first submitted in Septem 1898 after some considerable, but unavoidable, delay tak in its preparation. The General Superintendent, P.W. Stores, to whom the indent was sent in November last to be put into proper form for transmission to the India Office, was not able to return it earlier than March 1899, as he had to consult the Sanitary Engineer in regard to prices

and

T. [illegible] B. CW

Please say whether the D file may be sent down [illegible] with the order [illegible] 8 6?0 & 5379 [illegible] of 7.7.99 [illegible] from the file

P. W. 42-A.
1,000—2-3-99.

G.O.

and rates. The indent was then forwarded to the Examiner for the grant of a certificate as regards provision of funds. This was done and the indent made ready for transmission to the Home Govt in June 1899, when it was found that the plans to accompany the indent were not forthcoming, they having been destroyed by a fire in the P. W. Workshops. They were then wired for and obtained. Meanwhile the Suptg. Engineer had asked for certain corrections to be made in the Schedule of the indent. It then became apparent that there were very serious differences between the Schedule of the Suptg. Engineer I Circle and the copy attached to the indent. The Suptg. Engineer explains the differences as being due to the pipe track having been completely altered since the preparation of the original Schedule.

2. The

2. The works have advanc considerably, and to make any further progress, the required piping and machin should be procured rapidl There can, under the circumstances, be no question that very great delay to the works will occur, should the piping be indented for from home. His Excellency the Governor in Council is therefore pleased to accord sanction to tenders being invit locally for the supply of the necessary piping and machinery.

HLL 26/7

26.7.[illegible]

Note for the despatcher
The enclosures to S.E's letter No. 556 W.Z d/17-9-98, together with the plans which formed enclos to c. No 5242 dated [illegible] to S.E. ~~Orig~~ copy of the indent ~~by Govt to S.E.~~ may also be ~~retained in this office~~

2. The Suptg. Engineer, I Circle with enclos. 19 including 9 ~~letters~~ plans & 1 (indent)
— Exr. P. W. Accts.

[illegible] 5/7/99

Public Works DEPARTMENT.

READ the following:—

Letter from the S. E. I Circle	No. 586 V.B.	d/ 17. IX. 98
— S. E. V Circle	.. 237 W.	d/ 14. IV. 99
From the Exr. P.W. Accts	.. 1782 B/B	d/ 6. VI. 99
Letter from the S. E. I Circle	.. 712 V.B.	d/ 3. VI. 99
Telegram — do	—	d/ 27. VI. 99
Letter — do	— 860 V.B.	d/ 29. VI. 99
— do	— 846 V.B.	d/ 27. VI. 99

Circulated to

H.E. the Governor

Note. Plans separately sent 20/7

DW

FOR ORDERS.

The papers ~~[illegible]~~ read above relate to an Indent for pipes and machinery required for the Vizagapatam Water works scheme. The Indent was first submitted in September 1898 after some considerable, but unavoidable, delay taken in its preparation. The General Superintendent, P.W. Stores, to whom the Indent was sent, in November last, to be put into proper form for transmission to the India Office, was not able to return it earlier than March 1899, as he had to consult the Sanitary Engineer in regard to prices and rates. The other formalities as regards

H.E. 20/7. R 24/7

P. W. 43
500—14-11-98.

the Certificate, by the Examiner as to provision of funds, were completed and the Indent made ready for transmission to the Home Govt in June 1899, when it was found that the plans to accompany the Indent were not forthcoming, they having been destroyed at the late fire ~~at~~ in the P.W. Workshops. These were ~~for~~ wired for and obtained. But the Supdg: Engineer had meanwhile asked for certain corrections to be made in the Schedule of ~~the~~ Indent. It then became apparent that there were very serious differences between the Schedule of the Supdg. Engineer I [illegible] and the copy attached to the Indent. The Supdg: Engineer explains the differences as due to the pipe track having been completely altered, since the preparation of the original Schedule.

The works have advanced ~~[illegible]~~ considerably and ~~then~~, to make any further ~~fresh~~ progress, the required piping and machinery ~~are very necessary~~ must be procured rapidly. There can, under the circumstances, be no question that very great delay to the works will occur, should the piping be indented for from home. The undersigned accordingly recommends that sanction be accorded to tenders being invited locally for the supply of the necessary piping & machinery.

Appd.
A.L.A.
23.7.99

A large portion of this fittings may be obtained locally without sanction under the ruling contained in GO 534 Pub

Flag K.

d/22-6-98 but as some portion including pipes will probably have been made up in England this sanction is applied for

H.C.
13/7

P.T.O

18.7.99

P.S. I have lately been informed by an Exec. Engr who has carried out many water works for municipalities in N.W.P. & Oude that he has always obtained his iron work locally & thereby saved many lakhs of rupees.

15.7

Drs/

Draft submitted, but please see G.O. 554 Mcl d/ 22.6.98 (Flag X) Under appendix A equipment for water works can be purchased locally without the sanction of Govt. provided that they are obtained from ~~any of~~ any of the firms mentioned in App. B.

13.7.99

ece may be purchased
ut sanction if made
from raw material
of the required
des may be made
gland – HLl 13/7

15.7.99

Public works (1899) Department.

CURRENT No. 5123

From

The Supdg. Engineer
I Circle.

No. –

Dated 27.6.99
Received } 27.6.99
Registered }
Enclosures .
Spare copies .

Drs/

From the S.E.'s reply, it will be observed, that the schedule of quantities & the indent now in file does not appear to be the one referred to by the S.E.

28.6.99.

SUBJECT.

Vizagapatam water works.

Reporting the number of [illegible] sluice valves &c required for the ——.

HC

[P. W. 29. 2,000—15-39-9.]

~~o L S 26 b~~ R 12/7

o L S 286 R 22/7

BACK PAPERS.

G.O.	No.	Department.	Date.

4348 of 11-6-99
file with T 7/7/99

FURTHER PAPERS.

G.O.	No.	Department.	Date.

15.7.99

T-14.

Class. PS

INDIAN TELEGRAPH.

Monthly Local No. 218

To Station Madras Triplicane
From Station Wallajah

Words 28/1 Day 27 Hour 18 Minute 45
Official Instruction. Pfd

To (Person) Works Madras
From (Person) Supt Engr

Item 11 Sluice
Valves number
required 27 item
20 browns patent
Surface boxes
number required
82 plans despatched
todays post.

TRIPLICANE
27 JU. 99

Recd. from L. N.
At Hrs. Mts. By

Sent to L. N.
At Hrs. Mts. By

Date

Postmaster.

W/

V.E

In para 1 of his letter, the S.E. states that the plans to accompany the indent for iron work were sent with his no 846 V.2 dy 27.6.99, and from the pencil note on the margin, it will be seen that the plans are now with I. The proposed telegram to S.E. seems unnecessary. [illegible] letter

2. The indent is also at Madras (and 464 D dy 12.6.99 not put up) The Madras office may be asked to send up the file (Indent, plans and other papers) at once with draft note applying for sanction to apply for tenders locally

[illegible]

PKs 10/7/99

10.7.[illegible]

I/ Madras 10/7

DW/

W's remarks [illegible] your note on Current No 5304 ~~submitted~~ for perusal [illegible] 12/7/99

Seen send plans etc

[illegible] 12/7

DW submitted

Public Works (1899) Department.

CURRENT No. 5304
8.5-123
5242

To W. There is a great muddle about the obtaining materials for the Vizag water supply. S.E. 1 sent in an indent but no plans were available. We then asked him for the plans. Afterwards he wrote asking that certain corrections shd be made in the indent ~~Order~~ but the figures given by him did not agree with the Schedules in this office & I ~~[illegible]~~ wired to him to send copies of the schedules he was quoting from. He now says you have ordered him to invite tenders locally. I have not seen that order, but if that is so no further action in this office is necessary for orders. I may mention that Massey & Co. can supply Glenfield pattern valves which are required in this connection

[illegible] 7/7

D/

As the muddle has been great [illegible] I [illegible] the plans [illegible] for sanction to apply for tenders locally - & I don't understand how [illegible]

[illegible]

From The Supg. Engineer First Circle

No. 860 V3.

Dated 29/30.6.99

Received
Registered 3.7.99

Enclosures One Plans others 10 [illegible]

Spare copies

SUBJECT.

Vizagapatam Water Works.

— forwards copy of schedule for the — with certain further information.

5174
5242

R 29/7

L.

~~OLS 286~~ R 12/7

OLS 286

BACK PAPERS.

No.	Date.
2935 C	28-6-77
2897 C	26-6-77
2629 C	7-6-77
3422 C	3-8-78
2701 C	2-6-78
2521 C	14-5-78
173 bw	8-7-78
434 D	12-6-79

FURTHER PAPERS.

No.	Date.

to do it without plans (Depo)
Some piping done to D.E.T.

'Para 2 of para 860 of 30 June'
How can you call for tenders locally
without plans of town work. If
there are available please report
the fact, & I will apply for sanction
to call for tenders

See my [illegible] departments [illegible]

10 7 [illegible]

Vizagapatam Water works

Specification for cast Iron pipes and specials of the quantities and sizes as set forth in the accompanying schedule.

1 The pipes and Specials (Class B) shall be cast in accordance with Standard drawing No. 1 A accompanying.

2 The permitted deviation in weight for each size of pipe is that noted in the accompanying schedule, but the total weight of pipes to be paid for shall not exceed the total scheduled weight by more than one per cent.

3 The number of pipes of each size
(1) with 80% turned and bored joints
(2) with 10% turned spigots and plain sockets and
(3) with 10% plain spigots and bored sockets are set forth in the accompanying schedule.

4 All bends, branches, taper pipes, collars, breeches pipes, crosses, shall have plain spigot & faucet joints. They shall be formed in accordance with the requirements noted in Standard drawing No. 1 A.

5. Each pipe & special shall have cast on it the letters V.M.C., in Roman characters $1\frac{1}{2}$ inches long and $\frac{1}{8}$ inch projection and the diameter of each pipe & special shall also similarly be cast beneath such letters. In addition, branch pipes shall have their sizes cast on thus 8" × 3"; taper pipes shall be similarly marked. Bends shall be marked $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$ or $\frac{1}{64}$ as the case may be. Numbers consecutive for each lot of pipes and specials of the same diameter shall be marked conspicuously on the pipes before delivery; the weight of each pipe and special above 5 inches in diameter shall be marked on it; such numbers and figures shall be in white paint.

6 Straight pipes 4 inches above in diameter shall be cast vertically in dry sand moulds, but
10 pipes 3 inches and below in diameter may be cast on declivity in green sand. All pipes

shall be cast without the use of core nails, thickness pieces, or any substitute thereof.

7. The pipes and specials shall be free from scoria, sand holes, air bubbles and all other imperfections. They shall be truly cylindrical in bore, smooth within and without and shall have their inner and outer surfaces truly concentric. They shall be perfectly fettled and cleansed so that no lumps or rough places shall be left in the barrels or sockets, and the runners shall be carefully cut off so as to preserve a square angle on the inner edge of the sockets against which the joint is to be made, and to ascertain and ensure that the sockets will, in all cases, receive the spigots, and that the spigots will in all cases, enter into the bottom of the sockets, a circular iron template of proper dimensions shall be passed to the bottom of every socket and a circular ring of proper dimensions shall be passed over every spigot. The taper of the turned & bored portion of the pipes shall be $\frac{1}{32}$ part of an inch for each inch of its length. To ensure these conditions, it is required that a large proportion of the pipes shall be put together with iron wedges of sizes representing the proper thickness of the joint as shown in Standard Drawing Sheet No. 1A.

8 The pipes shall be carefully coated externally and internally with coal pitch and oil according to Dr. R Angus Smith's process. The composition to be applied at proper heat and as soon as possible, after the pipes are cast and before any rust sets in.

9. The pipes shall be tested by a hydrostatic pressure of 130 lbs on the square inch equal to a column of water 300 ft. in height and whilst subject to such pressure ~~of 130 lbs on the square inch~~ shall be struck from end to end with a hammer from 5 to 7 lbs in weight according to the size and strength of the casting. The testing of the pipes and special castings is to be done by the contractor at his expense under the inspection of an officer of the Indi Store Department; any casting which fails to pass this test will at once be rejected.

10. All pipes wherein any sand or air holes may be found plugged up or otherwise shall be rejected.

11 The curved pipes and other special castings shall be exe-cuted accurately according to the standard drawing sheet No. 1A. The angle and length of the breech pipes is shown in the remarks column opposite item 100 of the schedule. Cross or Double branch 10"×10"×10" item No. 101 shall be cas with dimensions shewn in standard drawing sheet No. 10 for a 10"×10" standard branch pipe. The above casting must not be made of greater thickness than the straig pipes and every care must be taken to ensure that the pipes shall properly join with the straight pipes and other castings with which they may be intended to connect by actually placing such pipes in proper connection with standard straight pipes of a like diamet

2. Weights of specials which are omitted in the accompa-nying schedule, shall be inserted by the tenderer, an shall include any percentage beyond his calculated weights that he may consider necessary. Payment wi not, however be made for more than the actual weigh supplied.

3 Each casting unless otherwise directed, may be shipped loose.

14 Ten per cent of the casting are to have stencill on them the address, and such shipping marks as the Superintendent, India Store Depôt may direc Stencil plates are to be provided by the Contrac

15. The cost of all marking, coating, packing &c and delivery shall be included in the cost of the various items & not a separate charge made for packing &c.

(Sd.) Young
Sanitary Engineer
11-5-97

Sd/ J.C. Larminie
6-10-'97
Superintending Engineer,
Circle

True Copy
Manager
Sup. of Engineer's Office
Circle

Vizagapatam Water Supply Scheme.

Detailed Schedule showing the weights of cast iron Straight pipes (vide Standard Drawing No. 1 A class B p

Item number	Size of pipe	Length of each pipe when laid	Weight of each pipe			Weight per foot	Permitted deviation in Weight	No. and lengths of pipes required.			Total number of pipes of each size	Total length of each size	Total weight of each size of pipe			
								No. of pipes with S & S 80%	No. of pipes with S F & F F 10%	No. of pipes with S to S 10%						
1	2	3	4			5	6	7	8	9	10	11	12			13
Inches	feet	Cwt	Q	lbs	Sects	Sects	No	No	No	No	Feet	Tons	Cwt	Q		
1	15	12	11	1	0	·938	2 1/2	464	57	57	578	6936	325	2	2	
2	14	12	10	2	14	·885	2 1/2	137	18	17	172	2064	91	7	2	
3	10	9	4	2	11	·511	3	2882	363	362	3607	32463	829	5	2	
4	9	9	4	0	18	·462	3	12	2	2	16	144	3	6	2	
5	8	9	3	1	7	·368	4	154	19	19	192	1728	31	16	-	
6	7	9	2	3	12	·317	4	163	21	20	204	1836	29	2	3	
7	6	9	2	1	"	·260	4	182	23	22	227	2043	25	10	3	
8	5	9	1	3	14	·208	4	183	23	23	229	2061	21	9	1	
9	4	9	1	1	20	·158	4	333	42	42	417	3753	29	15	2	
10	3	9	1	0	10	·121	4	782	98	98	978	8802	53	5	1	
11	2 1/2	6	0	2	17	·108	4	176	23	23	222	1332	7	4	2	
												Total	1447	6	0	
												or	1448	0	0	Tons

1-7-99

Bends.
Vide Standard Drawing No 1 A.

Item No.	Description	Size	Number	Weight of each	Total weight	Rate per cwt	Total
		Inches					
12	1/4 bends	15	4				
13	do	10	16				
14	do	9	5				
15	do	6	1				
16	do	5	1				
17	do	3	3				
18	do	2 1/2	1				
19	1/8 do	15	2				
20	do	10	8				
21	do	5	3				
22	do	4	4				
23	do	3	6				
24	do	2 1/2	19				
25	1/16 bends	15	5				
26	do	14	2				
27	do	10	16				
28	do	6	5				
29	do	5	3				
30	do	4	6				
31	do	3	20				
32	1/32 do	15	6				
33	do	10	8				
34	do	5	5				
35	do	4	2				
36	~~1/32~~ 1/64 do	3	7				
37	1/64 do	10	7				
38	do	6	1				
39	Lengthening pieces 12" long	2 1/2	23				
40	do 15" long	2 1/2	2				
41	Connecting pieces ~~5~~ 15" long	2 1/2	4				
42	Standards for hydrants and air valves	2 1/2	25				

Note: Weight of each size of bend shall be inserted by the tenderer and shall include any percentage beyond his calculated weights that he may consider necessary, according to the dimensions given for class B pipes, Standard Drawing No 1 A. Payment will not however be made for more than the actual weights supplied).

Branches
Vide standard drawing No 1A

Item No	For what purpose	Size of branch	Number required	Weight of each	Total weight	Rate per cwt	Total
		Inches.					
43	Branches for sub-mains	15 × 15	1	6·84	6·84		
44		15 × 10	1	6·11	6·11		
45		15 × 4	1	5·53	5·53		
46		15 × 3	1	5·48	5·48		
47		14×7	1	4·92	4·92		
48		10 × 10	13	3·26	42·38		
49		10×2½	1	2·61	2·61		
50		9×9	3	2·82	8·46		
51		8×3	2	1·75	3·50		
52		7×5	1	1·62	1·62		
53		7×3	1	1·50	1·50		
54		6×3	3	1·18	3·54		
55		4×3	1	·63	·63		
56	Branches for fountains	15×2	5	5·43	27·15		
57		14×2	2	4·54	9·08		
58		10×2	1	2·58	2·58		
59		8×2	2	1·70	3·40		
60		7×2	2	1·45	2·90		
61		6×2	2	1·13	2·26		
62		5×2	3	·89	2·67		
63		4×2	4	·58	2·32		
64		3×2	13	·45	5·85		
65	Branches for hydrants	15×2½	3	5·46	16·38		
66		14×2½	1	4·57	4·57		
67		8×2½	1	1·73	1·73		
68		7×2½	1	1·48	1·48		
69		6×2½	1	1·16	1·16		
70		5×2½	1	·92	0·92		
71		4×2½	4	·61	2·44		
72		3×2½	7	·48	3·36		
73	Branches for sluice valves	15×2½	1	5·46	5·46		
74		10×2½	3	2·61	7·83		
75		6×2½	1	1·16	1·16		
76		3×2½	1	·48	·48		
77	Branches for [illegible]	14×2½	1	4·57	4·57		
78		10×2½	5	2·61	13·05		
79		3×2½	1	·4[illegible]	·43		
					215·20 cwt		

Note: All branches to be of the design shown in Standard Drawing No 1A; no flanged branch required. Weight of each size of branch shall be inserted by the tenders and shall include any percentage beyond his calculated weights that he may consider necessary according to the dimensions given for class B pipes on Standard drawing No 1A. Payments will not however be made for more than the actual weights supplied.

Taper pipes.
Vide Standard Drawing No. 1 A.

Item No.	Size	Length exclusive of Socket	Number required	Weight of each in cwt	Total weight cwt	Rate per ~~foot~~ cwt	Total
	Inches	Feet					
80	15×14	2	1				
81	14×12	4	1				
82	12×10	4	1				
83	10×9	2	1				
84	9×8	2	1				
85	8×7	2	1				
86	7×6	2	2				
87	6×5	2	~~1~~ 2				
88	5×4	2	3				
89	4×3	2	2				
89A	3×2½	2	1				

Note:- Weight of each Size of taper shall be inserted by the tenderer and shall include any percentage beyond his calculated weights that he may consider necessary, according to the dimensions given for class B pipes on Standard Drawing No. 1-A. Payment will not however be made for more than the actual weights supplied.

"True Copy."
Manager
S.E's office.

4/27/6

PWC 2
5304/77

Breech pipes.

Collars.

Vide standard drawing No: 1 A.

Item No	Dr of pipe which collar is to join	Dr of collars	Length of collar	Number required	Weight of each	Total weight	Rate per cwt	Total
	Inches	Inches	Inches		cwt			
90	15	16 1/2	13	7				
91	14	15 1/2	12 1/2	2				
92	10	11 1/4	12	15				
93	8	9 1/8	11	2				
94	7	8 1/8	10	2				
5	6	7	10	1				
6	5	6	10	2				
7	4	5	9	2				
8	3	4	9	5				
99	2 1/2	3 1/2	9	2				

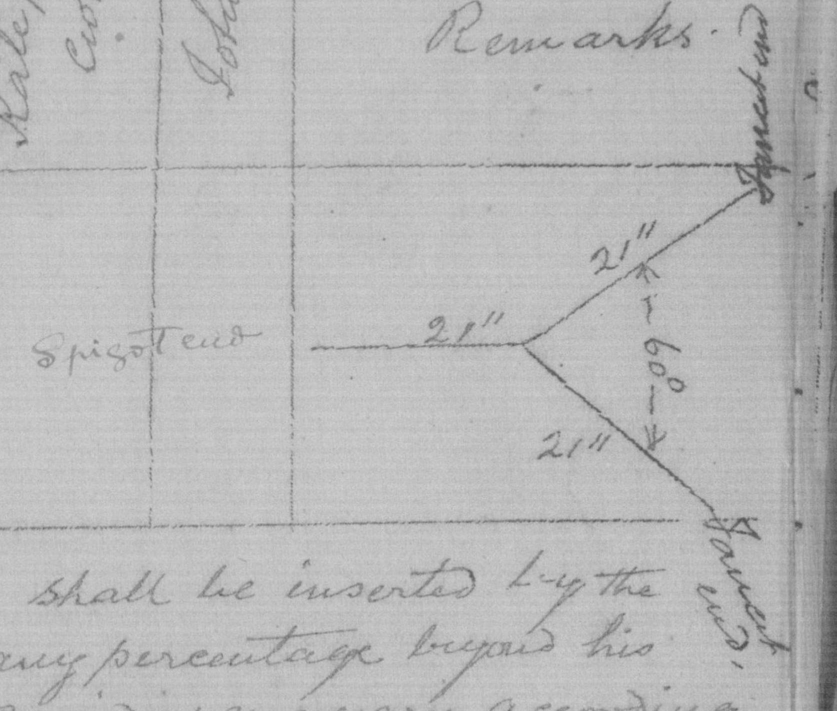
Note:- Weight of each collar shall be inserted by the tenderer and shall include any percentage beyond his calculated weight that he may consider necessary according to the dimensions for class B pipes on Standard Drawing No 1 A. Payment will not however be made for more than the actual weights supplied.

(True copy)

Manager

Exi Office i Circle

Breech pipes.

Item No	Size	Number required	Weight of each	Total weight	Rate per cwt	Total	Remarks
100	Inches 10×10	1					

Note:- Weight of Breech pipe shall be inserted by the tenderer and shall include any percentage beyond his calculated weight he may consider necessary according to the angle and length given above and the dimensions of spigots and faucets to be the same as for class B branch pipes, Standard Drawing No. 1 A. Payment will not however be made for more than the actual weights supplied.

Cross pipe

Item No	Size	Number required	Weight of each	Total weight	Rate per cwt	Total	Remarks
	Inches		Cwt	Cwt			The dimensions of the two branches and the main shall be similar to a Standard branch 10"×10" shown in ~~diagram~~ drawing No. 1 A. No flanged branch required
100	10×10×10	1					

Note:- Weight of cross shall be inserted by the tenderer and shall include any percentage he may consider necessary according to the dimensions spigots and faucets as for class B 10"×10" branch pipe, Standard Drawing No. 1 A. Payment will not however be made for more than the actual weight supplied

(True copy)

Mo: [illegible] Manager,
[illegible] Supr., T Circle

5 500/84

Acute angled branch pipes

Item No.	Size	Number required	Weight of each cwt	Total weight cwt	Rate per cwt	Total	Remarks.
	Inches						
102	10×10	2					45° 135°

Note:- Weight of acute angled branch shall be inserted b the tenderer and shall include any percentage he ma consider necessary according to the dimensions spigot an faucets as for class B 10"×10" branch pipe standard Drawing No: 1 A. Payment will not however be mad for more than the actual weight supplied.

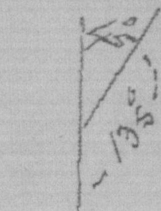
Vizagapatam Water Works.
Abstract of above detail Schedule.

uantity	Description	Amount
	Cast iron pipes, class B, Turned & Bored &c	
	Bends	
	Branch pipes.	
	Taper pipes.	
	Collars	
	Breech pipes	
	Cross	
	Acute angled branch pipes.	
	Grand total	

/True Copy/
Jno: [illegible] manager
C.E.'s Office, 10

[illegible]

Acute angled branch pipes

Item No.	Size	Number required	Weight of each cwt.	Total weight cwt.	Rate per cwt.	Total	Remarks.
	Inches						
102	10×10	2					

Note:- Weight of acute angled branch shall be inserted by the tenderer and shall include any percentage he may consider necessary according to the dimensions spigot and faucets as for class B 10"×10" branch pipe Standard Drawing No: 1 A. Payment will not however be made for more than the actual weight supplied.

Vizagapatam Water Works.

Abstract of above detail Schedule.

Quantity	Description	Amount
	Cast iron pipes, class B, Turned & Bored &c	
	Bends	
	Branch pipes.	
	Taper pipes.	
	Collars	
	Breech pipes	
	Cross	
	Acute angled branch pipes.	
	Grand total	

/True Copy/
[illegible] manager
C. E's Office, 10

13/1/16

Vizagapatam Water works.

Specification for valves, fountains, Hydrants, air-valves and Special valves &c of the quantities and sizes as set forth in the accompanying Schedule.

(1) Sluice valves, Item Nos 1 to 11 – A Sluice valve complete shall consist of (a) Sluice valve, (b) one spigot and faucet tail piece with flanges at one end; the spigot and faucet ends shall be made in accordance with the dimensions shown on the Standard drawing for cast iron pipes, class B, (c) bolts for tail pieces with 10 per cent of bolts in excess of the number actually required to bolt the valves and tail pieces together. One valve key shall be provided for each ten valves. The heads of the valve Spindles shall be arranged so that at most, not more than two or three different sizes of keys in all will be required. The valves shall be double-faced gun metal valves, both faces being accurately scraped to a bearing and shall be proved to a head of 600 ft of water. They shall be of the best description and workmanship and coated with Dr Angus Smith's Composition. The valves shall be manufactured by the Glenfield & Co, Kilmarnock, and shall of a pattern shown in their Company's Catalogue dated August 93, page 10 and 11 Section B.

(2) Air valves, Item No 14 – Each air valve shall be similar to the pattern Fig H 4 flanged, page 20, Section B of Glenfield Cos catalogue flanges to be 7" and to fit hydrant standard, shown in Standard drawing No 1A. The diameter of ball to be $2\frac{1}{2}$".

(3) Hydrants and copper Stand pipes Items Nos 15 & 16. A Hydrant Complete shall consist of one $2\frac{1}{2}$" hydrant. Fig $\frac{187}{14}$, page 88 Taylor and Sons catalogue, Part II, of 1891, with Surface box attached, with flanges to fit hydrants standard or lengthening pieces shown in Sanitary Engineers Standard Drawing No 1A

No 1 A Copper Standpipes. Item No 16 as per Fig 188, page 89 of Tylor and Sons catalogue with hoses as detailed in Schedule and Hydrants Item No 15 shall be manufactured by Tylor and Sons.

(4) Pillar fountains, Complete, Item No 17:- A pillar fountain shall consist of one water post (two taps) as shown in Standard drawing No 5, and shall be manufactured by Glenfield & co. Spare rubber rings and plugs sufficient for two years consumption shall be supplied with each fountain. The price of such parts and the following extra items which are to accompany each pillar fountain, but are not separately entered in Schedule, shall be included in the charge for pillar fountains, Complete 5 ft of 2" galvanized wrought Iron tubing; 30 ft - Do —— Do —— with one coupling for each pipe

2 No 2" galvanized wrought Iron round elbows

4 No 2" —— Do —— plain couplings.

1 Cast iron grating 1'-6" × 9" × 1" as shown on Standard drawing No 5B.

(5) Single wall taps fountains Item No 18:- A Single wall taps fountain is to consist of one wall fountain (Fig D, 240 page 14, Sec. F Glenfield & co's Catalogue) with Kennedy's patent (Gun metal) self closing taps, with pulley, chain and weight. The fountains shall be manufactured by Glenfield & co; no other manufacturer's goods will be accepted in lieu. Spare wearing parts, such as rubber rings & plugs sufficient for two years consumption & 2 keys shall also be supplied. The price of such parts and the following extra items which are to accompany each single wall taps fountain, but are not separately entered in Schedule shall be included in "Single wall taps fountains, Complete"

5 feet of 2" galvanized W. I. Tubing with 1 coupling.

30 feet of 2" Do —— Do

3 No 2" Do bends

4 No 2" Do Plain couplings.

1 No Do Elbow 2" × 1 1/4"

1 No Cast iron grating 18" × 15" × 1"

(6) Double wall taps fountains:- Item No 19- Each double wall taps fountain is to consist of two wall fountains (Fig D, 240 page 14, Section F, Glenfield & co's Catalogue) with

Kennedy's Patent (Gunmetal) self closing taps, with pulleys, chains and weights. The fountain shall be manufactured by Glenfield &co. and no other manufacturers goods will be accepted in lieu. Spare wearing parts such as rubber rings and plugs sufficient for two year's consumption and 4 keys shall also be supplied. The price of such parts and the following extra items which are to accompany each double wall Tap — fountain, but are not separately entered in the Schedule, shall be included in "Double wall Tap fountains" Complete: —

35 ft. of 2" W. I galvanized piping.
14 ft. of 1¼" —— " ——
1 No. 2" —— Do. — Bends
2 No. 1¼" Do. Bends
1 No. 2" × 1¼" × 1¼" Galvanized W. I. Tee.
4 No. 2" W. I. Galvanized plain couplings.
1 Cast Iron grating 18" × 15" × 1"

(7) Surfaces Boxes, Items 20, 21, 22, 23 & 65: - Surface Boxes for Sluice valves (Item No. 20) for air valves (Item No. 21 for Scour valves (Item No. 22 for stop cocks (Item No. 23 and 65) shall be manufactured by Glenfield &co.

(8) "Waste not" Iron-valves, Item No. 67: Waste-not self closing Iron valves, Item No. 67, shall be manufactured only by Taylor and Sons.

(9) Test Pump on Barrow - Item No. 68: - A Test pump on Barrow as per Figure on page 8, Section F of Glenfield &co's Catalogue is to consist of wrought Iron Barrow carrying gun-metal Pump fixed inside — Cast Iron tank, with 20 ft. 1 inch 4 ply strong rubber hose and pressure gauge, with coupling to complete — with blank flanges for testing pipes when laid in trench with glands, Bolts, Ferrules and air-cocks complete to fit the two sizes, 2" and 2½" of pipe. The rates of the above parts which are not separately entered in the schedule shall be included in the rate "Test pump on Barrow". This shall be manufactured by Glenfield &co.

(10) Equilibrium Float valves, Item No. 69: — These shall be manufactured by J. Taylor & Sons

(See their catalogue, Fig 9½, page 55) They are not to be supplied in a set as shown in the catalogue, but each one singly. No top bracing or iron cover is required as the bracing and cover will be arranged for locally. The dimensions required are as follow:-

The valves to be 10", the height from floor to maximum water level is 10'-6". The flange for the supply pipe to be drilled with six holes, the vertical line passing between two holes — a double flanged supply pipe 6' 6" long with flanges similarly drilled to be supplied. One end of this pipe will be fixed to a 10" Glenfield valve flange. The necessary bolts and rubber washer to be included in tendered rate.

(11) Reservoir Sluices Items Nos 70, 71 & 72:- These valves shall be as per drawing on page 7, Section A of the Glenfield & Co's Catalogue (October 96) and shall be manufactured by them.

(12) Pipes with gauge rods, floats &c, Items Nos 73, 74, 75. These pipes with their floats form portions of Gill's arrangement for regulating filtration. The floats should loosely fit the pipes, and shall be of copper of ample size to support the superincumbent rod. The gauge rods shall be divided to decimals of an inch, the inches lines running across face of rod, the decimal parts being marked at side thereof. The rods shall be marked to read upwards from a point about 6 inches above top of pipes, at which level shall be fixed an arrow headed pointer, which shall be permanently fixed on top of pipe. The pointer shall read zero when the water level at filter is 145·00 and this refers to the pipes B B B B and C C C C. In regard to pipes D D D D, the float shall read zero 6" above top of pipes when the float is in water, the surface of which is level with the bottom of the notch of the weir as it is required to register the depth of flow through the notch — the gauge rods in this case will be marked downwards from zero. To guide in the manufacture of these gauges &c, the following levels are given:—

Description	For pipes B, B, B, B	For pipes C, C, C, C	For pipes D, D, D, D
Maximum level of water at Filter bed	145·00	145·00	
Lowest Do Do	142·00	142·00	
Level of floor of gauge house	148·50	148·50	148·50
Level of top of pipe	151·50	151·50	151·50
Level of bottom of Bend pipe	142·00		
Level of Bottom of pipe	"	137·50	137·50
Level of Bottom of notch	"	"	142·08
Level when pointer reads Zero	145·00	145·00	142·08
Level of floor of Chambers	137·00	137·00	136·50 is the level of centre of floor.

The gauge pipes shall have collars or arms to fix them at floor level & shall be furnished with a sufficient number of hooks to keep them in position against face of walls of gauge wells

(13) General:- The contractor in making his tender for valves, hydrants, fountains, &c shall enter such rates in the Schedule as will include the cost of all necessary accessories which are not specifically detailed in the preceding Specification or accompanying Schedule.

(14) Large valves and other articles may be shipped loose. The smaller articles such as $2\frac{1}{2}$" valves, wall tap fountains stop cocks, wrought Iron bends, elbows &c shall be carefully packed in numbered cases and boxes. Each package shall have stencilled on it in good oil paint the address, gross weight and such shipping marks in addition to a description of its contents as the Superintendent, India Store Deptt may require.

(15) The cost of all marking, coating, packing and delivery shall be included in the cost of the various items, and not a separate charge made for packing &c.

Sd J Jones
Sanitary Engineer

Sd J. E. Larmine.
Supg Engr 1 Circle

Kn/2816

(True copy) Mo: Upshon
Manager Ex Office

PWE/
3302/89

Sluice valves, Scour valves and Hydrants &c.

Item No.	Description	Size	Quantity	Rate per each	Total
1	Sluices valves Complete with tail pieces	Inches			
2	Do	15	4		
3	Do	14	1		
4	Do	10	22		
5	Do	9	2		
6	Do	8	1		
7	Do	7	2		
8	Do	6	3		
9	Do	5	3		
10	Do	4	3		
11	Do	3	16		
12	Scour valves Complete	2½	27		
13	Gun metal Stop cocks as per Standard drawing No. 4	2½	7		
14	Air valves as per Fig H4 flanged page 20, Sec B of Glenfield & Co's Catalogue flanges to fit hydrant Standards (Standard drawing Sheet No. 1 A) —	2	34		
15	2½ Hydrants as per Fig 187 page 88 Tylor and Sons catalogue, part II of 1891 with surface box attached the flange to fit hydrant standards (Standard drawing Sheet No. 1 A)	〃	6		
16	2½ copper Stand pipes as per Fig 188 page 89 of Tylor and Sons Catalogue part II of 1891 with 20 ft of Canvas hose in two lengths with union Joints Screwed Brigade Gauge to fit hydrants & Copper Stand pipes	2½	19		
		2½	6		

True copy /
Jno. Upshon Manager

Clerk

BM/28/6

Pillar fountains (Glenfield pattern)

Item No.	Description	Number	Rate per each	Tota
17	As per Standard drawing Sheet No. 5 and Specification including wrought iron tubes &c detailed in Specification	10		

Single wall tap Fountains (Glenfield pattern).

Item No.	Description	Number	Rate per each	Total
18	As per Specification including W. I tubes &c detailed in Specification for each fountain	14		

Double wall tap Fountains (Glenfield pattern)

Item No.	Description	Number	Rate per each	Total
19	As per Specification including W. I. tubes &c detailed in Specification for each fountain	10		

Surface boxes, Brown's patent

Item No.	Description	Number	Rate per each	Total
20	For Sluice valves, Brown's patent No. B 15 P page 13, Sec D of Glenfield &co's Catalogue	82		
21	Surface boxes for air valves Brown's patent B 22 P, page 13 Section D of Glenfield &co's catalogue	6		
22	Surface boxes for Scour valves	7		
3	Surface boxes for Stop cocks – Brown's patent No. B, 11 P page 13 Sec D of Glenfield &co's catalogue	34		

FWE7
1364/79

Wrought Iron Tubes and Extras.

Item No	Description	Size	Number or Quantity	Rate	Total
		Inches			
24	Wrought Iron piping galvanized	2"	1000		
25	Do Do	1¼"	500		
26	Do Do	1"	300		
27	Do Do	½"	200		
28	Wrought Iron round elbows" Do	2"	15		
29	Do bends Do	2"	15		
30	Do Tees Do	2"	15		
31	Do plain Sockets Do	2"	60		
32	Do Nipples Do	2"	45		
33	Do Caps Do	2"	30		
34	Do Plugs Do	2"	30		
35	Do Springs of various angles Galvanized	2"	45		
36	Wrought iron flanges galvanized	2"	30		
37	Do reducing couples do-	2×1¼	24		
38	Do round elbows galvanized	1¼	6		
39	Do bends Do	1¼	6		
40	Do Tees Do	1¼	6		
41	Do plain Sockets Do	1¼	24		
42	Do nipples Do	1¼	12		
43	Do Caps Do	1¼	6		
44	Do Plugs Do	1¼	6		
45	Do Springs of varias angles galvanized	1¼	18		
6	Wrought iron reducing couples — Do -	1¼×1	12		
7	Do round elbows -do-	1	6		
48	Do Bends Do	1	6		
49	Do Tees Do	1	6		
50	Do plain Sockets Do	1	12		
51	Do nipples Do	1	6		
52	Do Caps Do	1	6		
53	Do Plugs Do	1	6		
54	Do Springs of various angles - Do	1	12		
55	Do reducing couples - Do	1×½	12		
56	Do round elbows Do	½	6		
57	Do Bends Do	½	6		
58	Do plain Sockets Do	½	12		
9	Do nipples Do	½	6		
0	Do Caps Do	½	6		
1	Do Plugs Do	½	6		
2	Do Springs of various angles Do	½	12		
3	Gun metal Stop cocks galvanized as per Stand. and drawing No 4	2	12		
4	Do Do	1¼	12		
5	Surface boxes for Stop cocks, Browns patent B. 11 P page 13 Section D of Glenfield Co's Catalogue	a	24		
6	Screw down Ferrule taps page 7 Sec G of Glenfield Co's Catalogue.	1¼	12		
7	Waste not self closing extra strong galvanized iron valves as per Fig 181, page 424 of Sylvesons Catalogue part II of 1891	½	24		

112/276

# weight to be noted less than 40 cwt per 1000 L ft. ≠ weight to be noted less than 16.0 cwts per 1000 L ft
+ do — do — 22.5 — do — § — do — do — 7.7 — do —

Test Pump on Barrow

Item No.	Description	Number	Rate
68	Test Pump on Barrow with rubber hose, Pressure Gauge &c Complete as Specified	1	

Special valves, Pipes with floats &c for head works (except the

Item No.	Description	Size	Number	Rate
		Inches		
69	Equilibrium Float valves Complete as Specified	10"	2	
70	Reservoir Sluice with rod and pillars & base plate wall clamp, guides and Socket connection (to fit iron pipes class B, Standard drawing No 1A) together with all necessary fastenings the depth from bottom of pipe to top of wall being 10 ft 5 inches	10"	4	
71	Reservoir Sluice all as above only the depth from bottom of pipe to top of gauge house floor being 11½ ft	10"	9	
72	Reservoir Sluice all as above only the depth from bottom of pipe to top of gauge house floor being 12'-5"	10"	1	
73	Pipes B, B, B, B, 10" in diameter in two pieces, bent upwards the height from bottom of bend pipe to top of pipe is 9'-6" and the length from centre line of the vertical pipe in chamber E, to the mouth of the pipe in the filters is 8'-6" including gauge rod floats as shown in tracing No 2 A.	10"	4	
74	Pipes C.C.C.C. 10" in diameter height from bottom of pipe to top ~~of~~ in chamber E is 14 ft Complete including gauge rods, floats, chains & pulleys as shown in tracing No 2A	10"	4	
75	Pipes D, D, D, D, 10" in dia: height from bottom of pipe to top in chamber F is 14 ft" Complete with gauge rods and floats."	10"	4	

BL 30/6

Vizagapatam Water Works.

Abstract of above detailed schedule.

Particulars	Amount
Sluice valves Hydrants &c	
Pillar fountains Complete	
Single wall Taps fountains, Complete	
Double wall Tap fountains, Complete	
Surface boxes, Brown's patent as detailed	
Wrought iron tubes and extras ~~detailed~~ as detailed	
Test pumps on Barrow	
Special valves, pipes with floats &c for Hd works	
Grand Total	

150/30/6

Vizagapatam Water Works.

Specification for the machinery in Tower as set forth in the accompanying schedule:-

Stand Pipes, sluice valves, Lift valves & Branches Items No. 1 to 4:- The thickness of metal in the stand pipe shall be 1/2". Each pipe shall be in suitable lengths for convenience of erection and shipment i.e. 9 ft. The branch pipes (Central lines) shall be fixed at the following heights above the bottom of base plate of the duck foot bend pipe as under:-

(1) Of outlet branch ·75'
(2) Of 1st Inlet branch 10·24'
(3) Of 2nd Inlet branch 18·96'
(4) Of 3rd Inlet branch 26·80

The branch pipes shall not be longer than is necessary to allow of the bolts being fitted through the flanges. They shall be connected to the sluice valves by flanged distance pieces of such lengths as will allow the valves to be clear of the masonry and so that they can be easily removed, if necessary. The sluice valves shall be double-faced valves with flanged ends and shall be completed with the necessary bolts and nuts for connection to branch pipe flanges, and shall include a head stock as detailed in schedule. The branch pipes shall project beyond the masonry of tower, the distance is shown in tracing No. 1. The branch pipes shall be flanged at one end connected to the sluice valves and shall each be fitted at the other end with a bell mouth fitted to receive a ball valve as shown in tracing No. 1, and a small valve being fitted in centre of ball valve to lift when the lift chain is tightened and thus aid in relieving ball valve for raising.

Wrought iron ladders Item No. 5.

These shall be of the lengths shown on Sections. They shall be strongly framed with flat rings rivetted to iron cheeks of ladder. The ladders shall be 18" broad and sufficiently strong to allow valves or portions of the stand pipe to be lowered down or raised along them.

Wrought iron girders, Items No 6 & 7

These shall be rolled girders of the lengths and depths shown on drawings or of such modified dimensions as the manufacturer may consider necessary when submitting working drawings for the work. These shall be attached to each other by 1/2" Cover plates and strongly revetted.

Wrought iron railing Item No 8

This railing shall consist of wrought iron standards with tube rails of the design shown. The standards shall be fitted with wood screws to ends of wood as shown, where the wood beams under platform comes over the wrought iron beams. Wrought iron supports shall be furnished enclosing pulleys for chain for lift bolt and supporting the wood beams and the standards of the railings at these angles.

Item No 9:- Two cast iron pipes to be supplied of the dimensions shown in tracing No 1.

General

(1) The contractor in making his tender for the machinery in Tower shall enter such rates in the schedule as will include the cost of all necessary accessories which are not specifically entered in the accompanying schedule.

(2) The stand pipes, valves &c shall in all respects be similar to the machinery supplied by the Glenfield Co to the Madras Municipal water works, the size of stand pipes, branches and valves being 10".

(3) For shipment, each flange shall be protected by a disc of wood, not less than 1¼" thick, secured to the face by the bolts and nuts provided or by other suitable means. Small articles shall be carefully packed in numbered cases and boxes. Each package shall have stencilled on it in good oil paint, the address, gross weight and such shipping marks in addition to a description of its contents

Km. 30/6

as the Superintendent, India Store Department
may require.

(4) The cost of all marking, coating, packing, &c
and delivery shall be included in the cost of
each item and not a separate charge for packing.

Sd/ J. E. Jones
11-5-97
Sanitary Engineer.

Sd/ J. C. Larminie
6-10-97
Superintending Engineer
I Circle

Sd/ F. Roscoe Allen.
Exe: Engineer
30-9-97.

PWE9
S304/99

Detailed Schedule of the Machinery in Tower

Item No.	Description of articles.	Size	Quantity or number	Rate
1	Stand pipes each 10" Dr. and standing on a cast duckfoot bend pipe and of a total length, from the bottom of base plate of the duckfoot bend, of 34'-3" with branches cast on each to form the inlets at the heights shown in tracing No. 1	10"	2	
2	Double faced sluice valves to be placed on the branch pipes at the different levels shown in tracing No. 1 including one head stock for each as per Fig. 1, page 7, Section B of Glenfield Co's Catalogue with index gauge wrought iron rods for valves be complete	10"	6	
3	Lift ball valves (with subsidiary valves) to be fitted to bell mouths of the inlet branches and worked from the tower platform by chain gearing and all necessary captans to lift balls &c &c	10"	6	
4	Inlet branches with bell mouths and 1/4" mild steel plates with copper wires as shown in tracing No. 1 length from centre of bell mouth to centre of stand pipe is 11'-9"	10"	6	
5 *	Wrought iron ladders in four pieces to be fitted as shown in tracing No. 2 from top to bottom for inspection		1	
6 *	Wrought iron girders 6"×6" each of a length of 11 ft 9 inches		4	
7	Wrought iron girders 6"×6" each of a length of 19 ft.		2	
8	Iron railing 4 ft. high fitted to wooden gangway as shown with posts, rails, bases of standards and screws			

	Screws for fitting complete		1
9	Cast iron pipes of 9ft lengths with flanges on one end to fit duckfoot bend pipe flanges and with a Socket on the other end to fit cast iron pipes Class B Standard drawing No 1 A.	16'	2

*: All these girders to be fitted with pulleys an supports to platform girders required as shown on tracing No 2. The shorter girders to be fastene with wrought iron plates to the main longer girders which will be built into the masonry.

Note:- The whole of the above works to be fitted together in Shops and marked for fitting in India.

C/5 200—15-6-1899.

No. 860 V/3.

FROM

W. L. De Morgan Esq. M.I.C.E.,

THE SUPERINTENDING ENGINEER

FIRST CIRCLE,

TO

THE CHIEF ENGINEER

PUBLIC WORKS DEPARTMENT

Enclospres. One*

* Will follow.

WALTAIR, 29th June 1899.

Camp. 30.

SIR,

With reference to your deferred telegram dated 29th June 1899, I have the honor to forward herewith a copy of my Schedule for the Vizagapatam Water works. I may mention that the revised estimate, plans etc were sent to you with this office No. 835 V/3,ˣ dated 23.6.'99, and the plans to accompany the indent for iron-work were sent with my No. 846 V/3 of 27.6.°

x CA No. 5074/99 Sent to Jov 1/7

o CA No. 5242/99 Sent to Jov 4/7

There is naturally a great difference between the original schedule and the indent prepared by the Sanitary Engineer, as the line of the pipe track has been completely altered.

2. According to your instructions in No. 2629 C., of 7.6.99, on my Inspection Notes of the Cocanada Water works, I am preparing to call for tenders for the supply locally of the iron pipes &c required for the Vizagapatam Water Works. I presume, therefore, that an indent on the Home Office is unnecessary.

I have the honor to be
Sir,
Your most obdt. servt.

W D Morgan
29.6
Superintending Engineer,
1st Circle.

Fwd

L.V. No. 74

C/5 200—15-6-189

Public Works (1899) Department.

CURRENT No. 5242

434 of 99

From The Supdg. Engineer
First Circle

Order

No. 846/Z

Dated 27.6.99.
Received
Registered 29.6.99
Enclosures 9. Sent per registered Parcel Post
Spare copies

not received 30/6/99

SUBJECT.

Vizagapatam Water Works. — forward certain plans to accompany the iron work indent for — H.C

Awaiting S.E.'s copy of indent to make the necessary correction & despatch of indent with plans
[illegible] 1.7.99

I/ 1/7/99

Await receipt of parcel of plans
Recd 30/7/99 SHW

Memo received & put up 30/6/99

SHW

[illegible]

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

C/5 200——15-6-189

No. 2613.

FROM

W. C. De Morgan Esqr., M.I.C.E.

THE SUPERINTENDING ENGINEER

FIRST CIRCLE,

TO

THE CHIEF ENGINEER

PUBLIC WORKS DEPARTMENT

WALTAIR, 27th June 1899.

Camp. 27/27

Enclosures. 9.

SIR,

With reference to your telegram dated 12 th Instant, I have the honor to forward herewith the marginally noted plans to accompany the iron work indent for Vizagapatam Water Works, submitted with my letter No. 586 V.2., dated 17 th September 1898.

I have the honor to be,

Sir,

Your most obedient servant

W. De Morgan 27.6.

Superintending Engineer

1 Circle

4340 / 12-6-99

with memo No. 2935G of 28-6-99 public to day 30/6

4949C / 10-11-98

For India Office.

- 1 Plan of stand pipes and tracing No. 1
- 1 Do. of Tower sluice - do - No. 2
- 1 Do. of Cast iron pipes and specials Sheet No. 1 A
- 1 Plan showing Gills arrangement for regulation of filtration. Tracing No. 2 A
- 1 Section of Gallery, Enlarged Tracing No. 3
- 1 Section of valve pits for various sizes of pipes Sheet No. 4
- 1 Plan of details of pillar fountain Sheet No. 5
- – of Pillar fountain Sheet No. 5B

Total Enclosures

W. 27.6.

8. B. f2

1 Plan of Wall Tap fountain
Sheet No. 6 B.

1
9 Total

1 Pla
8

No. 58443

EXAM[illegible]
P. W. ACC[illegible]
5th JUN 1898

From

Office of the Supt'g Engineer 1st Circle
Waltair 17. 9. 1898

Apd. 17. 9. 98.

W. C. DeMorgan Esquire M.I.C.E.
Supt'g Engineer 1st Circle

To

SUPERINTENDING ENGINEER'S OFFICE,
No. 1110 PW
10 NOV 1898
V. CIRCLE, P. W. D., MADRAS.

The Chief Engineer
P. W. Department
Madras.

Encls: Twenty

Sir,

For India office

1. Plan of Stand pipes &c. tracing No. 1.
1. " of Tower Sluice do No. 2
1. " of Cast Iron pipes & Specials Sheet No. 1A.
1. " Showing Gills arrangement for regulation of filtration. tracing No. 2A.
1. Section of Gallery Enlarged Tracing No. 3.
1. Section of Valve pits for various sizes of pipes Sheet: No. 4.
1. Plan of Details of Pillar fountain Sheet No. 5.
1. " of Pillar fountain, Sheet No 5B.
1 " of Wall-Tap fountain Sheet No. 6B.

9

These nine enclosures sent in a tin case

Plans to be returned

1. Survey of pipe track Sheet No. 5. 2.
4. Sheets of line of levels.
1. Plan of tower & Sluice Sheet No. B.
1. " of filter beds " No. C.
1. " of Service Reservoir No. D.
1. " of Sand washing box. No. E.

9

These [illegible] sent in another tin [illegible]

1 Indent with Specification
1 original Indent.

2

Total enclosures 20

I have the honour to forward Specifications and indents for pipes and machinery required for the Vizagapatam Waterworks scheme, together with the marginally noted plans, and request that you will be good enough to forward them through the proper channels.

I am sending the indent direct to you, so that you may make any alteration you think fit, and at the same time may have an opportunity of judging the reason of what must appear Considerable delay in preparation of the indent.

3. In the first place the original levels of the pipe track from the Storage to the Service Reservoir were of no value. They appear to have been carried along the road from Bimlipatam to Vizagapatam, and the level of the pipebed was about half way down the Piers and abutments of the numerous Bridges and Culverts on the Road.

4. A new trace had therefore to be selected, and as the Country through which it passed was either jungle or under crop this was a very tedious business. Owing to certain alterations the pipe track was levelled and surveyed three times before the present line was fixed on.

5. It was thought at first that it would be unnecessary to Check the levels beyond the Service Reservoir. Mr. Brown however found that for a Considerable distance beyond the Service Reservoir, what was shown in the original sections as practically level was really very undulating ground and that heavy cutting would be required. This naturally made me doubtful of the levels beyond and I Considered it advisable that the whole should be relevelled and Checked.

6. This naturally caused further delay. But no avoidable delay has been incurred. Both Mr. Brown and Mr. Scanlon the Overseer have worked indefatigably.

7

7. Mr. Brown will now occupy all his time indoors on the preparation of the Revised Estimate and I request that the plans and sections which are marked as required for the preparation of the revised Estimate may be returned as soon as possible. The others may if necessary be forwarded to the India Office.

I have the honour to be,
Sir,
Your Most obedt Servt

W. de Morgan
18.9.98

Suptg Engineer 1st Circle

R.E. 10
3550/99
4550/99

Soon

Public Works (1898) Department.

R. No. 205 ...
15 NOV. 1898
Encl.

E. 11
CURRENT No. ~~7888~~
~~3550~~/99
4550/99

SUPERINTENDING ENGINEER'S OFFICE,
No. 1107 W
10 NOV. 1898
V. CIRCLE, P.W.

SANITARY ENGINEER TO THE GOVERNMENT OF MADRAS
Reg. No. 2399
21 NOV. 98

SANITARY ENGINEER TO THE GOVERNMENT OF MADRAS
Reg. No. 2547
17 DEC. 98

No: 4949 C. d/19 ... 98

SUPERINTENDING ENGINEER'S OFFICE,
No. 6/112 ...
9 - MAR. 1899
V. CIRCLE, P.W.

From W. C. De Morgan, Esquire M.I.C.E.
Supg. Engr. First Circle

~~**Order**~~ Endt.

Forwarded to the Supdg. Engr., V Circle, for verification and preparation of the indent in triplicate, after filling in column 11 for the items now inserted in red ink.

The indent should be submitted as early as possible.

A. L. Russell.
Under Secy. to Govt., P.W.D.

Rd. with papers in original. to be retd.
ALR 26.9.98

No. 58 V 3

Dated 17.9.98.

Received }
Registered } 23.9.98

Enclosures ~~Twenty.~~ 23 }
9 Plans in 1 tin Case
9 do. in another
5 with this letter
23

Spare copies

No. 529 PWD

Forwarded to the Genl. Supt. PWStores, for early compliance and return of the papers.

C. L. ...
12/11/98
Colonel R.E.
Supg. Engr. V Circle

12/14 Nov. 98

SUBJECT.

Vizagapatam Water Works.

— forwards Specifications & indents for pipes & machinery required for — & requests to return some 9 plans which are marked as reqd. for the preparation of the Revised Estimate.

15 NOV 98

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

Letter from J. A. Jones Esquire, M.I.C.E. & F.R.S.E. Sanitary Engineer to Government, Madras, to the General Superintendent, G. W. Stores, No. 139 of 2nd February '99:-

I have the honour to return the indent for piping &c for Vizagapatam Water Works with rates in column No 9 duly filled in as requested in your letter No. S 22 dated January 1899.

2. A lump sum was entered in the estimate for the first four items and this sum cannot be apportioned to each item. On further consideration it does not appear that the sum will be sufficient but no such apparatus has been put in by this department and there was little to base the rate on.

3. The number of surface boxes in the indent viz 152 is correct and 53 for 58 in item No. 17 of schedule No. 3 is a clerical error.

4. The rates entered in schedule are the rates for delivery at Vizagapatam and include freight and cartage, but I am unable to say what percentage of the rates is for freight and cartage as we based our prices on deliveries in the country as it is the custom in this department to do. For the same reason I cannot tell you what was the exchange rate as the price was based as stated above.

(True Copy)

14/4/99

Offg Supg Engineer
5th Circle

OWS·12
30 Oct/98
4550

Letter from H. A. Moss Esquire, General Superintendent, O. W. Workshops, to the Suptg. Engineer, 5 Circle, N.S.22, dated 8th March 1899:—

With reference to your No. 15 O.W.S dated 27th January 1899, I have the honour to forward herewith copy in triplicate of special indent for Vizagapatam Water Works materials.

2 The column of prices is left blank except in one copy in which the rates and values are given in pencil in rupees as obtained from the Sanitary Engineer. You will see from his letter No. 139 dated 2nd February 1899 (a copy of which is appended) that he was unable to supply us with the rate of exchange or freight and we are consequently unable to complete the indent properly.

3 We have endeavoured with the help of home catalogues to put in approximate rates but have had to give up the attempt as as we could make nothing of it, but more confusion.

4 I would suggest that the indent should be forwarded with the price column left blank to the Director General of Stores, the total amount available for purchase freight &c. being communicated to him. He could no doubt have the rates and values readily filled in his office.

5 The schedules No. 1 to 4 with specifications are herewith also sent, I am sorry

to say that all the drawings with the exception of the 4 sheets of sections sent to Superintending Engineer 1 Circle (vide your No 22 P.W.S dated 31 January 1899) were destroyed in the recent fire in the P. W. Stores - copies will have to be obtained from Supdg: Engineer, 1st Circle.

—

(True copy)

W Paul 14/4 99
Offg Supg. Engineer
5 Circle

OWS.13
~~3470~~ (3?)
4550

EP 13.4.99

6

No. 397 W

SUPERINTENDING ENGINEER'S OFFICE,
V Circle, Madras,
Chepâk, 14th April 1899.

From
J. E. Paul Esquire
Offg. SUPERINTENDING ENGINEER,
V CIRCLE.

To
THE Chief Engineer,
P. W. Department

SIR,

With reference to your memorandum No 655 C. dated 30 January 1899, I have the honour to forward for disposal copy of special indent in triplicate, with enclosures, for materials required for Vizagapatam Water Works.

2. The column of prices is duly filled in sterling instead of rupees as entered by the General Superintendent.

3. The General Superintendent reports that the plans referred to in the memo: under reply were destroyed in the recent fire in the P. W. Stores vide copy of his letter No. S.22 dated 8 March 1899, herewith.

I have the honour to be, Sir,
Your most obedt. Servant

W Paul 14/4 99
Offg. Supg. Engineer 5 C

Enclosures.

1 Indent in triplicate
4 Specifications
10 schedules
1 Endt. of the Ch: Engr. No. 4949 C. d 10-11-98 on S.E. 1. Circle letter.
1 copy - Genl. Supdt. letter No. S 22 d 8/3/99
1 Copy of Sanitary Engr. letter No 1399 d 2.2.99

720.—14-4-98.

EP 13.4.99

Rw 5.14
4850/88

EXAM
P. W. ACCOUNTS
5 - JUN 1899

Public Works (1899) Department.

90.576

Gom 1676 W.g 19-6-99

CURRENT No. ~~3126~~ 2.15
4550/88

Urgent -

No: 2094 C. d/ 17th April 99

~~Order~~

To C

Please grant the requisite certificate as regards provision of funds.

A.C.K.
15. 4. 99.
Dw.

Mey

B.B. A.K. 17/6

From The Supy Engineer 5th Circle

No. 237 B

Dated 14th April 1899.
Received } 15. 4. 99
Registered }
Enclosures ~~18~~. 13 (Enclos 9 in triplo)
Spare copies

SUBJECT.

Vizagapatam Water Works.

Forwards for disposal copy of Special Indent &c for materials required for

G. G. P.—No 273 P W—23-9-96—1,800.

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

EXAMINER
P. W. ACCOUNTS
5th JUN. 1899

(E. No. 221.)

KEEP-WITH CURRENT No.

dated 189 .

GOVT. OF MADRAS. } 1899. { P. W. DEPT.

EXAMINER, P. W. ACCOUNTS.

Madras, ~~19th~~ 20 April 1899.

OFFICE NOTE No. 1217B/B.

To

W.

BEFORE I can give the usual certificate as regards funds, please state whether the necessary grant to meet the value of the English Stores included in the accompanying Indent No 17. of ~~189 9~~ 8-3-99, received from The Superintending Engineer, Fifth Circle; will be provided for later on in the year.

2. The value of the Indent amounts to Rs. [illegible]/- at 1sh: 4d:, the rupee, the ~~current~~ provisional rate of exchange, fixed for 1899-1900 inclusive of 3 per cent. charge for Insurance and Departmental Supervision.

No. 2582 ed 3/6/99 H. R.

C

Very Urgent

Offg: C.

AES
20-4-99.

To

C

Please see G. O. No 1810 W dated 18th July 1898 and No 109 W dated 11th January 1899. The Municipal Council will be requested

C. G. P.—No 273 P W—23-9-96—1,800.

equested to place the money at the disposal of the P.W. Dept if this has not already been done.

APK
1-6-99.

w 1.6.99

with papers in original to be returned

Lr. No. 1782 B/B d/ 6-6-99

Returned with requisite Certificate.

H. R.

C.

6/6/99.

Rat [illegible] X. paras. 56 to 63 and Appendix O.

1. [illegible] articles required for the public service, which cannot be manufactured in India, are, as an almost invariable rule, to be obtained by indenting on the Secretary of State. The Store Department at the India Office constitutes a special agency, which is maintained for the express purpose of purchasing stores in England on account of the Government of India, and, save in the special cases mentioned below, stores of European manufacture must not be bought in India, or obtained direct from Europe independently of the India Office.

2. The special cases in which, with the previous sanction of the Government of India or of the Local Government, as the case may be, stores of European manufacture may be obtained in India, are :—

(*a*) When for any special reason it may be more economical to do so;

(*b*) When stores indented for from England have not arrived, and inconvenience to the public service is anticipated from the delay in the supply;

(*c*) When the stores are perishable.

3. Indents for public works stores, other than railway stores, so long as y are within the grant assigned for the purpose, should be sent direct by Secretaries in the Public Works Department of the several Local Govern and Administrations to the India Office; three copies of printed and manuscript indents should be sent, and a copy be submitted to the ernment of India.

Note.—Copies of indents chargeable to Provincial and Local Funds are not required to be sent to overnment of India.

4. This form of indent should invariably be adhered to, other modes of sion being entirely discarded, and requisitions in the body of letters, h may be overlooked or misunderstood, being specially avoided.

The columns (which sufficiently explain their own meaning) must be up without alteration, and others are not to be substituted, any remarks may be considered necessary being confined to the column for that pur which should contain every explanation that may guide in the supply pattern of the articles required.

Where an established proportion for general stores has not yet been it should consist of three years' ordinary expenditure: the quantities in at the date of requisition being added to the quantities due upon former the difference between the aggregate of these two columns and the shed proportion is the proper quantity to be asked for. This procedure attended to, will always keep up an ample supply for general service; ever, in exceptional circumstances, it is found desirable to exceed the shed proportion, the reason for so doing must be inserted in the f remarks. The calculation of the established proportion on the three years' ordinary expenditure is not applicable in the case of s.

The columns printed in red ink are to be left blank for completion and.

In the column of remarks, the port to which stores are to be consignould be stated, and also the names of the last two or three vessels whose gnments have been included in the quantity in store as shown in column

Each indent must be accompanied by a certificate of the necessity e stores indented for, and that they cannot be advantageously procured l manufacture or from surplus stores of other departments, railways ninistrations.

9. In the case of stores for imperial purposes (including all state railin a year not yet begun, the sanction of the Government of India must ined to the proposed allotment before the Examiner can give his ate; but for stores for provincial services (except provincial state s) the sanction of the Local Government or Administration will suffice Examiner.

When it is expected that the outlay will be provided partly in one l partly in another, the following addition should be made to the er's certificate—"and that the balance of the estimated outlay in , or £ (———) will be provided by the Government of India in the s of the year 189 -9 . *Vide* Government of India letter No. "

n preparing indents attention should be paid to the rules on the subpendix O. (P. W. Code, vol. I.)

C. G. P.—No. 273 P. W.—23-9-96.—1,800.

---

5 JUN 1899

Special

Annual indent on England for Stores.

Vizagapatam Water Wor

No 17 Dt 8.3.99