(1) பக்கங்களின் எண்ணிக்கை 92

(2) புதுக்கித் திருப்பிய நாள் 21/9/88

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

மொழிப் பணித்துறை

அரசாணை எண். 2774(W) அச்சகம்

மு. கோப்புத் தாள் எண்.

நாள் : 6 - 11 - 1884 198 .

ங்களோ கண்டபடி கையாளவோ கூடாது

கா-1—18,000—15-6-87.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

2774/1

General.
Account.

READ—the following letter from the Chief Engineer, Public Works Department, Bengal, to the Chief Engineer, Public Works Department, Madras, dated Darjeeling, 20th October 1884, No. 182 T.G. :—

In reply to the inquiries made in your letter, No. 630 E., dated 6th ultimo, I have the honor to inform you that—

(1) The Public Works Department Workshops at Calcutta (Seebpore) take in work that may be offered for all departments of Government and the Public Works Department generally, without restricting it to such as may be required by the Calcutta divisions only. As a rule, however, it is only from Executive Engineers of the Public Works Department in Bengal that indents are generally received. The procedure is that when an Executive Engineer, whether in Calcutta or in the mofussil, has any wood or iron work to do which he cannot get done locally, he must indent for it on either the Cuttack, Dehree or Calcutta Workshop, whichever may be most convenient. On receiving the indent the Superintendent of the Workshop sends the Executive Engineer an estimate of the cost of making up the article, based on the sanctioned schedule of rates which may be in force at the time. If the Executive Engineer is satisfied with the estimate, he gives the Workshop the order for the article. If not, he gets the work done elsewhere in the market.

(2) The officer in charge of the Workshops at Calcutta is directly subordinate to the Superintendent of Works at Calcutta, who has the powers of a Superintending Engineer. He does not communicate direct with the Chief Engineer.

(3) The Workshops have not got any General Store Department attached to them. If an Executive Engineer in the mofussil wishes the Superintendent of the Workshops to procure stores or materials for him, the latter procures them and charges a percentage on the cost, which is credited to the Workshops.

(4) As a rule Executive Engineers procure their stores direct from dealers in Calcutta. There is no special arrangement made for supplying them, with the exception that at Calcutta there is a large brick factory at Akra, in special charge of one officer, from which all Executive Engineers at Calcutta obtain their bricks and soorkee on indent. Lately a large stock of lime-stone has been laid in at Akra, and lime is now supplied in addition to bricks and soorkee.

ORDER—dated 6th November 1884, No. 2774 W., Public Works.

Recorded.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

Exd. E. Fernandez.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated November, 6th.

Read. *Encl.*

G.O., 6th Nov. 1884, No. 2774 W.

NOVEMBER.

Public Works Workshops, Calcutta

Letter from the Chief Engineer, Public Works Department, Bengal, affording information relating to administrative arrangements connected with the —, recorded.

2774.
2

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 132.

Read—the following papers :—

From Lieutenant W. L. C. BADDELEY, R.E., General Superintendent, Public Works Stores, &c., to the Deputy Chief Engineer, Public Works Department, dated Madras, 29th September 1882, No. 1231 S.

With reference to G.O., 5th January 1882, No. 3 W., I have the honor to forward three lists of Public Works Stores, marked A, B, C ; also a statement under sub-heads showing the probable loss to Government in the disposal of the stores at the reduced rates recommended.

2. Stock-taking was completed in March 1882, and the balance of stock on 31st March 1882, as examined and checked by the Account Office, was Rs. 4,71,839-14-9. The stores have however continued to be issued at the present book rates, with the exception of second-hand instruments, which are rated and supplied at 25 per cent. less than their original value, in accordance with paragraph 5 of the Government Order, so that the actual loss will not be so large as shown in the statement. If Government however direct that the entire difference between the opening balance or book value and the reduced rates recommended should be written off, the amount of the proposed value will be taken as the opening balance from 1st April 1882, and the difference realized by sale of stores at the present book rate up to the date of final orders being received will be adjusted at the close of the current official year.

3. The new forms of ledger proposed by the Examiner, Public Works Accounts, have been received, and will be opened on the 1st October next with the reduced rates if approved by Government.

4. It will be seen that the opening balance on 1st April 1882 was Rs. 4,71,839-14-9. By the reduced rates recommended there will be a *fictitious* loss of Rs. 84,754-10-0, leaving the opening balance of stock in store to commence with Rs. 3,87,085-4-9. I say fictitious, because until final orders are received articles will continue to be sold at their book value, and also the obsolete stores which in the statement are entered as *without value* must necessarily realize *something* when sold.

5. The following statement shows clearly the fictitious loss of Rs. 84,754-10-0 :—

——	Book Value.	Proposed Value.	Loss.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Statement A, Surplus Stores	2,63,471 2 6	2,24,928 14 6	38,542 4 0
Do. B, Stores to be retained ..	1,70,460 7 9	1,62,156 6 3	8,304 1 6
Do. C, Obsolete Stores	38,670 13 1	...	38,670 13 1
	4,72,602 7 4	3,87,085 4 9	85,517 2 7
Deduct.			
Net gain by sale of stores at rates higher than book value	762 8 7	...	762 8 7
	4,71,839 14 9	3,87,085 4 9	84,754 10 0

6. I have addressed you in a separate letter on the subject of paragraph 5 of the Government Order above quoted.

No. 132-A.

Office Note from the Examiner, Public Works Accounts, dated Madras, 5th October 1882, No. 554.

The General Superintendent may be authorized to write off to debit of "Stock Purchases and Sales" the sum of Rs. 84,754-10-0, after first deducting therefrom any further gains realized by the sale of stores since the date of his report. This debit will be cleared eventually by a credit in the first place of such sum as may be realized hereafter by the sale of the unserviceable and obsolete stores, and by a final write off of the remaining balance to Profit and Loss, as recommended by the Stock Committee in paragraph 22 of their report.

2. The opening balance of stock as on 1st April 1882 will not be affected. The stock balance will be affected only by the write off to Stock Purchases and Sales when it is made, and the write off may be fixed for the sake of convenience for the last day of any given month, say the 31st of October 1882, so that the ledgers may open with the reduced balance and the reduced rates on the 1st of the following month.

3. The debit of the loss to the Suspense Account Stock Purchases and Sales is recommended with the view that the necessity for the speedy clearance of this account by the sale of the unserviceable stores may be kept in mind, and such orders should be issued as will ensure the early disposal of the articles, say by 31st December 1882 at the latest, so that recoveries may be credited and all adjustments effected before the close of the current financial year. There is no need for deferring any adjustment to its close.

4. When the final charge to Profit and Loss is ascertained it will be necessary for Government to make a *pro formâ* appropriation of Budget grant under that head by a corresponding *minus* grant under Stock, there being no real addition to the Provincial grant on the whole.

5. It will be necessary to issue orders as to the steps to be taken for the disposal of the "Surplus Stores."

No. 133.

Order—dated 21st October 1882, No. 2743 W., Public Works.

Ordered that the foregoing note from the Examiner, Public Works Accounts, be communicated to the General Superintendent, Public Works Stores, for information and guidance.

2. The serviceable surplus stores should be advertised as widely as possible before they are sold or transferred to divisions requiring them.

3. The unserviceable stores may be disposed of at once to the best advantage.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Offg. Secy. to Govt., P.W.D.

To the General Superintendent, Public Works Stores.
" Examiner, Public Works Accounts.

Exd. C. Howarth.
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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 77.

Read—the following letter from D. C. GORDON, Esq., Examiner of Public Works Accounts, to the Chief Engineer, Public Works Department, dated Madras, 2nd May 1882, No. 6 E.W. :—

With reference to G.O., No. 2848 W., dated 15th November 1881, I have the honor to report that of the divisions noted in the margin, in which there are stock balances, I have received stock returns for the period ending 31st March 1882 from the following divisions only :—

1. Bellary.
2. Presidency.
3. Negapatam.
4. Kistna Western.

Division.	Amount of Stock Balance on 31st March 1882. Rs. A. P.
Godávari Eastern	60,869 15 6
Godávari Western	1,682 11 1
Nellore	3,568 14 11
Sangam	17,432 9 1
West Coast	5,991 4 5
Kistna Eastern	37,170 7 2
Kistna Western	101 14 8
Bellary	2,621 4 4
Salem	134 4 0
Kurnool	1,552 12 7
Negapatam	3,632 14 1
Tanjore	12,579 11 7
Cuddapah	3 6 10
Presidency	11,808 13 1
Architect	6,642 1 5
Ganjam	38 10 0
*Total ..	1,65,831 10 9

* In addition to the foregoing the stock in special divisions is as follows :—

	Rs. A. P.
Public Works Stores	4,70,504 12 11
Madras Harbour Works ..	54,421 4 3
	5,24,926 1 2

2. The stock balance of Rs. 2,621-4-4 in the Bellary Division represents the value of house fittings, the market value of which the Executive Engineer fixes at Rs. 2,183. He states he is in communication with the Executive Engineer, Presidency Division, with regard to the sale at Bangalore of these articles.

3. In the Presidency Division it is noted that there has been a loss by sale of stock of Rs. 306-10-8; the Executive Engineer has made no proposals as to the works to which this loss is to be charged. There is also a balance of Rs. 993-13-0 under Manufacture of stock, reference to which was made in my recent report on the division.

4. The column "Market rates" has not been filled in the case of the Negapatam and Kistna Western Divisions.

5. As regards the reports† called for in paragraph 2 of the Government Order above quoted, the following only have been received and are herewith forwarded :—

† To be returned.

1. Bellary.
2. Consulting Architect.
3. Vizagapatam.

6. In the Bellary Division stock to the value of Rs. 2,005-12-11 belonging to the late Cuddapah Division was sold for Rs. 1,172-12-0, and the difference, Rs. 833-0-11, written off to Profit and Loss. Fuze valued at Rs. 153-9-8 has been transferred to the

Public Works Stores. The only stock remaining is the house fittings (doors and windows) valued at Rs. 2,621-4-4, which it is intended to dispose of as stated in paragraph 2 above.

7. The Consulting Architect reports that he has written off the Rs. 20,000 referred to in paragraph 24 of the Stock Committee's Report to debit of the Post and Telegraph Offices. The balance at debit of manufacture on 31st March 1882 is Rs. 5,219-2-9, regarding which no report has been made (please see proposals made in my Inspection Report, No. 14 W., dated 24th April 1882).

8. The Executive Engineer, Vizagapatam Division, reports that as proposed in paragraph 1 of the Stock Committee's Report upwards of 5 tons of asphalte have been used on the Hill Jail Works at Párvatipur, and the balance, valued at Rs. 38-10-0, has been transferred to Ganjam Division. There is now no balance of stock in this division.

9. The lists called for in G.O., No. 3 W., dated 5th January 1882, from the Presidency Stores Division have not yet been submitted.

No. 78.

ORDER—dated 13th May 1882, No. 1210 W., Public Works.

Communicated to Superintending Engineers concerned, who will report why the defaulting divisions have failed to comply with the instructions conveyed in G.O., No. 2848 W., dated 15th November 1881.

2. The Superintending Engineer, Fifth Circle, will report on the subject of paragraph 3 of the Examiner's letter, and the General Superintendent, Public Works Stores, will state when the lists called for in G.O., No. 3 W., of 5th January 1882, may be expected.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers.
To the Consulting Architect to Government.
" General Superintendent, Public Works Stores.
" Examiner of Public Works Accounts.

Exd. C. Howarth,
Spare Copies

2774/4

5

26-9-00

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated May, 13th.

Read. *Encl.*

G.O., 13th May 1882, No. 1210 W.

MAY.

Nos. 77-78.

Half-yearly Returns of Stock ending 31st March 1882.

Report by the Examiner of Public Works Accounts on the —, communicated to the Superintending Engineers concerned with remarks.

25TH SEPTEMBER 1882, No. 2488 W., PUBLIC WORKS.

2774/5

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 192.

READ—the following letter from Colonel H. L. PRENDERGAST, R.E., Superintending Engineer, V Circle, to the Chief Engineer, Public Works Department, dated Madras, 13th September 1882, No. 2161:—

I have the honor to inform you that I have discussed with the General Superintendent of the Public Works Workshop your memorandum, No. 628, of the 24th ultimo, and Lieutenant Baddeley has given me the enclosed papers on the subject of closing the workshops.

Letter, No. 1447, dated 7th September 1882.
" 1090, " 8th " "
Lists A, B, C, and D.
One Block Plan.

2. The first step has been taken, in the refusal to accept work except for the Public Works Department and with the exception of work in the instrument department. I have also recommended, in my letter, No. 2118, of the 9th instant, that no work should be done after the 30th November for other departments.

3. The next point (paragraph 9 of Lieutenant Baddeley's letter) is that Public Works officers should refrain from giving orders to the workshop. But I would say nothing about the cost of work, when the workshops are closed the market prices must be accepted, and I would call upon departmental officers to abstain from applying to the workshop generally, or unless they cannot get their requirements elsewhere. There may be some trouble, some delay and extra cost, but these drawbacks are inevitable.

4. There is work now in hand in the workshop, but as it will gradually fall off there can be a reduction made in the number of workmen, while at the same time the machinery can be kept in order. Lieutenant Baddeley considers that it is of much importance that the shops should not be altogether closed; so that on inspection it may be evident that the machinery is in working order.

5. The maintenance of a small workshop will (paragraph 10) be expensive in comparison with the small amount of work to be done. The details will require careful consideration, for it appears to me that when work is generally transferred elsewhere the rest may likewise follow. Still a small workshop will not cause any heavy expense: while at the same time it cannot be expected to be self-supporting. In paragraph 17, Lieutenant Baddeley represents the need of an instrument-maker and a shop for him to carry out repairs. I consider this is highly desirable: but yet in working out the principle of abolition, if the Revenue Survey Department can get

their instruments repaired elsewhere, the Public Works Department can do so also. There may, however, be a small instrument department maintained with a small working shop without much expense.

6. As to reduction of establishment: this should be carried out on the general principle of reduction, such as took place in the Public Works Department recently, transfers being made where practicable. Care should be taken that in all cases three months' notice to quit should be given in good time. In fact, as a precaution, this had better be given to all employed in the workshops.

7. The list of buildings, A, gives the total cost of construction, Rs 2,07,910. No allowance is made in these figures for depreciation. The value as a selling price will have to be considered before tenders for purchase or rent may be received.

List B is a valuation statement of machinery and plan, amounting to Rs. 81,464. This is the last valuation made nearly five years ago, and must therefore be considered as higher than the present price. It has also been stated lately by the General Superintendent that much of the machinery is old, so that it compares unfavorably in both make and cost with modern machinery. I allude to the reference made by the Superintending Engineer of the II Circle as to defective parts and high cost of articles sent to the Kistna. Hence it must be expected that there will be offers of much less than book value.

List C gives a description of the nature of work done in the workshops: the value is entered in paper D.

The paper D is a draft notice, inviting tenders for purchase or hire of the shops.

8. A serious difficulty arises in the question of the future location of the stores and such minor working shop as may be retained. The machine shop and office rooms are in the main building, the instruments and valuable small stores are in the upper-storey; while the heavy stores are in the separate building, called the store-shed on the block plan, and the State Railway stores are in the store-yard. The machine shop must go with the work-sheds, and it is not possible to divide the main building so that a part might be kept for the Government Stores Department. Hence, if an offer for the whole premises be accepted, the Government property will have to be removed and another place must be found. There are no Government buildings available, and therefore they must be built.

But in the event of no suitable offer being made, the present work-yard and buildings will remain on the hands of the Government, and as this cannot be considered an impossible contingency it will not do to incur the expense of constructing new buildings beforehand. I can only suggest that plans and estimates be made at once for future requirements, and that it be notified in the call for tenders that the premises can be taken over at a future date, say, after the 30th June or from such date as will allow of four months' interval for the construction of the buildings.

9. The Public Works Stores must, it is presumed, be kept up (paragraph 13 to 15) and will require a store-shed, there must be an enclosed yard for heavy stores and the State Railway stores, there must be an instrument shop and workshop. The Government machinery stores can be left where they now are in a part of the old Mint premises. It is desirable that Sub-Engineer Francis should be available to look after the machinery at the General Hospital and the Guindy Water Works, and he might do so as a sub-divisional officer under the Presidency Executive Engineer, having also charge of the repair shop.

10. For the present I would ask for orders on the following points:—

I. Will orders be given to Public Works officers to abstain from making demands on the workshop? Paragraph 3 above.

II. Shall there be a small workshop maintained?
III. And an instrument-maker's shop? } Paragraph 5 above.

IV. Shall the General Superintendent make a list of establishment to be kept for II and III and for the stores? Paragraph 6 above.

V. Is it contemplated that there should be a new set of buildings, and estimates prepared, as suggested in paragraph 8 above?

8774, 6

Enclosure.

From Lieutenant W. L. C. BADDELEY, R.E., General Superintendent, Public Works Stores and Workshops, to the Superintending Engineer, V Circle, dated Madras, 7th September 1882, No. 1447 W.

With reference to your No. 1952 of 28th August 1882, I have the honor to submit my proposals for carrying into effect the orders of Government in No. 2064 W. of 12th August 1882.

Map.
List of Buildings.
" of Works.
" of Machinery, &c.
Draft Circular.
Chief Engineer's letter, No. 628 E., of 24th August 1882.

2. The General Superintendent of the Public Works Stores and Workshops is in charge of the following:—

1. Public Works Stores and Mathematical Instrument Department.
2. Public Works Workshops.
3. State Railway Stores.
4. Government Machinery Stores.
5. Machinery at the General Hospital for working the punkahs, and Water Works at Guindy.

3. The Public Works Stores and the Public Works Workshops occupy the same buildings, all office work connected with State Railway stores is conducted in the Public Works Stores office, and all State Railway stores in the custody of the General Superintendent are stacked in the Public Works store-yard.

4. The mathematical instrument department is usually considered as part of the workshops, but it is now necessary to recognize the difference, for the repair of instruments is totally distinct from repairs to machinery, and it does not follow that because Government wish to close the workshops they should also wish to abolish the mathematical instrument department.

5. The Government machinery stores are situated in a portion of the old Mint which is adjacent to the Public Works Stores and Workshops.

6. The machinery at the General Hospital and the Guindy Water Works is worked by employés of the workshops, and all office work is carried on in the office of the Public Works Workshops.

7. As matters now stand, the iron and heavy goods belonging to the Public Works Stores are kept in the shed marked on plan as "store-shed," while the instruments and other valuable articles are kept in a portion of the upper-storey of the "main building," and the repair of instruments is carried on in a portion of the lower-storey of the same building.

It is impossible to reserve any portion of the present building for the Public Works Stores and mathematical instrument department, for the only building suitable for the purpose is the main building, and this must be given up to the firm which takes over the workshop, for it contains the machine shop and all the office-rooms.

It is difficult in a short letter to anticipate all the suggestions that, from an inspection of the plan, might appear feasible for setting aside a portion of the building for the Public Works Stores and mathematical instrument department; but after careful consideration I am confident that such an arrangement would be impracticable.

8. When the buildings now occupied by the Public Works Stores and Workshops have been sold or leased, it will be necessary for Government to arrange for the custody of the stores, and the performance of the duties connected with—

1. Public Works Stores and Mathematical Instrument Department;
2. State Railway Stores;
3. Government Machinery Stores;
4. Machinery at the General Hospital and Guindy Water Works,

and therefore, when I have submitted my proposals for the abolition of the Public Works Workshops, I shall offer certain suggestions which, I trust, will be found of some value in arranging for carrying on the work detailed above.

9. At present the Public Works Workshop executes a considerable amount of work for *all* departments of Government, and obviously therefore the first step towards reduction is the refusal of all work except for the Public Works Department, and this step has already been taken except in the mathematical instrument department.

Secondly, I would propose sending a circular to every Superintending Engineer for distribution, pointing out the necessity of encouraging private enterprise, and requesting that no work of any kind be sent to the workshop if it can be carried out at a reasonable rate by a private firm.

The result of this will be that a considerable reduction can be made in the number of workmen employed, and yet, as work will not be entirely stopped, the machinery and plant can be kept in working order, so that as soon as a firm comes forward to purchase or rent the concern it can be handed over ready for immediate use.

This is, in my opinion, a most important point, for if the shops were totally closed and the machinery left idle for six months, the depreciation in this climate would be so great that a large portion would become unserviceable, and it requires no argument to prove that an intending purchaser of a large concern like the Public Works Workshops would be more inclined to make a liberal offer for an establishment in working order than for one which had been idle for some time.

10. As regards the maintenance of a small Government shop, except for repairs to mathematical instruments and work of that nature, I am of opinion that it will not be needed, for when once a private firm is established in the workshop buildings, it can easily execute every bit of work, down to the smallest repair; also it must be remembered that a shop which is only to be used by the Department of Public Works for repairs and trifling manufacture must be a most expensive one, for the cost of supervision and the outlay on machinery will be distributed over a very small quantity of work; for example the most trifling repairs will require castings of iron and brass, screws to be cut, surfaces to be planed, and various other processes which are continually in progress in a large shop, all of which will require steam-power, machinery, skilled-labor and supervision.

11. While the operations of the workshops are being steadily reduced in the manner described, the accompanying circular might be distributed in whatever manner Government think best.

12. Assuming that the publication of the views of Government leads to the transfer of the workshop to a private firm, it remains to be considered what is to become of the establishment, and my views on this are—

(1.) Mr. Francis, the Sub-Engineer, should be attached to the Presidency District where his services will be of the greatest value in looking after the machinery at the General Hospital and Guindy Water Works, he will also be available for any work in other districts which may require an experienced Mechanical Engineer.

(2.) Mr. Willis, the Overseer, who is a carpenter by trade, should be posted, if possible, to one of the workshops in the north of the Presidency, if not his services should be utilized whenever a foreman carpenter is required.

(3.) The Maistries are divided into two classes, one consisting of men who have served Government for a large number of years, and the other of men who have only been promoted within the last few years; the former class will probably retire from work when the workshop is transferred, and the latter will find ready employment under the new state of things.

(4.) The workmen, as a rule, will be employed by the firm which takes over the workshop, but there are some who, from length of service or by reason of injuries received while in Government employ, may be entitled to special consideration.

(5.) The clerks, who are not entitled to pensions, will, I hope, be absorbed into other Government offices, as vacancies occur.

13. I have now, I trust, shown how the workshops can be gradually reduced, and eventually handed over to private enterprise with the least inconvenience to the Public Works Department, the least loss to Government, and the least distress to the large number of men who now earn their living in the workshops, and I will therefore proceed to discuss the Public Works Stores.

It is unadvisable to do away with the Public Works Stores, for there must be a central depôt for preparing indents, receiving supplies, storing them, issuing as required, and performing the various duties connected therewith; also in combination with the stores it is absolutely essential that there should be a mathematical instrument department, where every instrument, &c., can be examined before issue, and repaired when necessary.

It will be impossible to reserve any portion of the present building for the Public Works Stores and the mathematical instrument department, and it will therefore be necessary to locate them elsewhere, bearing in mind the following conditions:—

(1.) The store-sheds must be of fairly strong construction, viz., brick in mortar with corrugated iron roof.

(2.) There should be a suitable room for the instrument shop.

(3.) There should be an enclosed yard for storing heavy machines and goods.

(4.) The stores should be as near as possible to the pier.

14. The question as to whether the Public Works Stores are to continue to carry on the work of landing and despatching all State Railway stores which are sent through Madras, will require consideration; in my opinion there is no more economical arrangement than to place the Public Works stores, State Railway stores, and mathematical instrument department under one officer.

15. The Government machinery stores should, I think, be handed over to the Ordnance Department, but if Government are of opinion that the Public Works Department should continue to have charge of all spare machinery belonging to the different departments of Government, this appointment should be combined with that of the Public Works Stores, &c.

8774/7

16. The machinery at the General Hospital and the Guindy Water Works should be placed in charge of the Executive Engineer, Presidency.

17. I must now revert to the question of keeping up a Government mathematical instrument department in connection with the Public Works Stores, either exclusively for the use of the Public Works Department or for the benefit of all Government departments. At present every instrument issued by the Public Works Stores is first passed through the mathematical instrument department, where it is examined and repaired if necessary; in like manner every instrument returned to store is examined in the mathematical instrument department and classed as "serviceable," "repairable" or "unserviceable." If the mathematical instrument department is abolished it will still be necessary for a mathematical instrument-maker to be attached to the Public Works Stores, but his services will never be fully utilized unless he has a shop in which he can carry out repairs. The mathematical instrument department now repairs all instruments, and executes a great variety of work for all departments of Government, and it is impossible, in my opinion, to propose any better or more economical arrangement than (in connection with the Public Works Stores) to maintain an instrument department for the repair of all Government levels, theodolites, &c., and for the manufacture of scales, seals, badges, weights, measures, &c., and the various other articles which are continually required by all departments of Government.

No. 193.

ORDER—dated 25th September 1882, No. 2488 W., Public Works.

With the letter above recorded the Superintending Engineer, V Circle, submits proposals for giving effect to the decision of Government, recorded in G.O., No. 2064 W., dated 12th August 1882, for restricting the operations of the Public Works Workshops at Madras to the execution of such repairs and trifling manufacture as may be required by the Public Works Department and cannot be executed in the open market, and for disposing of the buildings and plant which would thus become available.

2. It is explained that the first step for the accomplishment of the object in view has already been taken in the refusal to accept work except that required by the Public Works Department and in the instrument shops.

3. These arrangements are approved. Officers of the Public Works Department will now be directed to abstain as far as practicable from giving orders for work at the shops, and no new work for other departments should be accepted after the end of the present year.

4. A small workshop will thus still be required for departmental purposes, and the nucleus of this may, for the present, be organized within the present shops. Tenders will meanwhile be invited for the purchase of the existing buildings and available plant, and as soon as they have been received and decided on, the reduced Government establishment may, if necessary, be removed elsewhere.

5. It may be practicable to have the mathematical instrument work of the department executed in Calcutta, should local firms be unable to take it up. The Surveyor-General will be communicated with on the subject.

6. As regards the disposal of the existing establishment, many of the workmen will no doubt find employment with the firms which will take over the work which the Government are now surrendering, and the others will be absorbed gradually. In any case no immediate action seems necessary, and the details of the process may well be left to be worked out by the Superintending Engineer as circumstances admit.

7. It is premature to issue any definite orders as to erection of new buildings at present. There will be ample time for decision on this question after tenders for taking over existing block and plant have been considered. Tenders may be received up to the 1st February next, and the interval should be utilized in printing and circulating lists, which should be accompanied by a lithograph block plan of the buildings, on a somewhat smaller scale than that sent up, and a small index map of Madras on the same sheet. The index map should show the situation of the shops with reference to a few of the most important places, *e.g.*, the harbour, railway stations, fort, &c.

8. The notices should be published in the *Fort St. George Gazette*, the *Bombay Gazette*, and the *Gazette of India*.

9. The General Superintendent of the Workshops will take the requisite action for giving effect to these orders, submitting drafts of notifications for insertion in the Gazettes outside the Presidency.

(Here enter No. 2489 W., dated 25th September 1882.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the General Superintendent, Public Works Workshops, with enclosures.
To Superintending Engineers.
To the Consulting Architect to Government.
" Chief Engineer for Irrigation.
" Consulting Engineer for Railways.
" Examiner, Public Works Accounts.
" Revenue Department.
" Military "
" Public, &c., Departments.

Exd. E. Fernandez.

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26-9-00

GENERAL.
ACCOUNT.

Govt. of [1882] Madras.

PUBLIC WORKS.

Dated September, 25th.

Read *Encl.*

G.O., 25th Sept. 1882, No. 2488 W.

SEPTEMBER.

Public Works Workshops at Madras

Orders on proposals of the Superintending Engineer, V Circle, for restricting the operations of the Public Works Workshops at Madras to the execution of such repairs and trifling manufacture as may be required by the Public Works Department and which cannot be done in the market.

Proceedings of the Madras Government, Public Works Department, 7th October 1864.

3774/9

No. 113. Read the following Endorsement of the Assistant Secretary to the Government of India (Public Works Department), dated Simla, 16th September 1864, No. 903/E 4,509:—

Read the following Extract from the Proceedings of the Government of India in the Financial Department, Simla, under date the 3rd September 1864, No. 2,250.

Read Endorsement from the Public Works Department, No. $\frac{625}{3,739}$ C of the 11th August 1864, forwarding for consideration and orders, with its recommendation, an application from the Government of Madras, for sanction to the employment of an Establishment for a Store and Workshop for the Public Works Department in that Presidency on the scale shown below, in place of an existing Store Establishment which costs Rupees 1,264-9-4 per mensem, and of a Store and Workshop Establishment at a cost of Rupees 1,079-3-0 per mensem, which was sanctioned in this Department in 1859, but never entertained.

		Rs.
General Superintendent		
Pay	600	
Carriage hire	60	
		660
Foreman, Fitters and Turners		200
2 Maistries		80
Draughtsman and Estimate-maker		50
Store-keeper		100
Assistant do.		40
Book-keeper		60
Assistant do.		30
Muster Writer		15
2 Office Peons		14
3 Day do. (Gate, &c.,)...		21
Duffadar and 3 Night Peons		30
12 Store Lascars		72
Mathematical Instrument-maker and Apprentices		370
Per mensem ...		1,742

1. Resolution.—The Governor General in Council is pleased to sanction the entertainment of the proposed Establishment, subject to report of the out-turn of work after the Workshop shall have been in operation for a year. But, as the Establishment is organized on a scale sufficient for executing private work, His Excellency in Council considers that all miscellaneous Government work which is now done at the Mint and probably at one of the Military manufacturing Establishments in Madras should be transferred to the new Workshop, and that reductions should be effected in the Establishments which may thus be relieved.

2. His Excellency in Council moreover observes, that as the justification for the maintenance of the Government Workshop is that there is no private Establishment at Madras, at which such work can be done, it should be kept within the narrowest practicable limits, and should be discontinued as soon as competent private parties appear to do such work for the Government.

3. Order.—Ordered that a copy of the foregoing Resolution be forwarded to the Public Works Department with the original papers received from that Department under Endorsement No. 625C/3,739 of the 11th August 1864.

(A true Extract.)

(Signed) E. LUSHINGTON,
Secretary to the Government of India.

Copy forwarded to the Government of Madras, in reply to its No. 2,017, dated 13th July last.

(By Order.)

(Signed) A. B. SAMPSON,
Asst. Secy. to the Govt. of India.

No. 114. Order thereon, 7th October 1864, No. 2,899.

	Rs.
General Superintendent	600
1 Store-keeper, salary Rupees 200, horse allowance Rupees 30	230
1 Deputy do.	70
1 Assistant do.	40
1 Clerk	25
12 Lascars	72
Mathematical Instrument-maker and Apprentices.	370
1 Foreman of Workshop	80
	1,547

* Rupees 1,742.

Communicated to Mr. Monerieff, with reference to his letter of the 12th February last, and the Order of Government No. 1,019, dated 13th April 1864. Orders will hereafter be passed in respect to the employment of an Establishment, on the scale now sanctioned by the Government of India, and pending their issue, the Establishment marginally noted will be retained, the cost of which will be Rupees 195 less than the amount* authorized.

(True Extract.)

Colonel, R. E.,
Secretary to Government.

To F. L. Monerieff, Esq.
To the Controller of Public Works Accounts.
" Superintending Engineers.
" Store Department.
" Accountant General.

Exd. T. O'Connor.

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No. 441. Read the following letter from Major J. H. M. SHAW STEWART, R. E., Under Secretary to Government, Public Works Department, in charge of Public Works Store Department, to Colonel C. A. ORR, R. E., Secretary to Government, Department Public Works, dated Chepauk, 4th August 1865, No. 408 :—

SIR,

1. As the approaching completion of the building now in progress at Chepauk for the Public Works Stores and Workshops, will necessitate the employment of a stronger establishment than that temporarily sanctioned by Government on the 7th October* last, I have the honor to solicit sanction for the entertainment of an Establishment upon the scale given in the annexed Memorandum, which has been drawn up in communication with the General Superintendent of Stores and Workshops, and the cost of which, Rupees (1,742) one thousand seven hundred and forty-two monthly, corresponds with the sum† sanctioned by the Government of India. I propose that the extra hands shall be entertained from time to time, as may be found necessary.

* G. O. No. 2,899.

† Extract Proceedings Government of India, 3rd September 1864, No. 2,250.

2. As, however, the above mentioned sum covers only the expense of superintendence, control, and account, connected with the Stores and Workshops, it is necessary to make separate provision for the necessary supply of labor, &c., in the Workshops ; and with that view I beg to recommend that sanction be accorded to the following proposals, which have been drawn up on the principle that the Workshops shall be strictly self-supporting.

I. That the sum of Rupees (5,000) five thousand be placed at the disposal of the General Superintendent, to be held by him as a permanent advance, to enable him to entertain such number of workmen, and to purchase such materials, &c., as the demands upon the Workshops may render necessary.

II. That the cost of all work, whether public or private, executed in the workshops, be recovered promptly by means of bills.

III. That such bills shall include every item of charge, whether for materials or labor, and that to the cost of such materials and labor shall be added a percentage sufficient to cover fully the proportionate expense of superintendence, wear and tear of machinery, &c., but that, from the total of every bill for work executed for a Public Department, such portion shall be deducted as represents the cost of Departmental superintendence and the value of materials, &c., received from the Public Works Stores, thus leaving only the actual payment made by the Workshops for materials and labor, on account of the work in question, to be recovered from the Department concerned.

IV. That at the close of every year a Statement be submitted to Government showing the financial results of the year's operations.

29/7/54

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Proceedings of the Madras Government, Public Works Department, 18*th August* 1865.

Scale showing the Establishment proposed to be entertained for the Public Works Stores and Workshops

Designations.	Amount.	Total.
Public Works Stores.	RS. A. P.	RS. A. P.
General Superintendent	660 0 0	
Store-keeper*	200 0 0	
Deputy Store-keeper	70 0 0	
Assistant Store-keeper	40 0 0	
Clerk	25 0 0	
12 Lascars	72 0 0	
3 Peons	21 0 0	
		1,088 0 0
Workshops.		
Mathematical Instrument Maker	350 0 0	
2 Apprentices	50 0 0	
Foreman	90 0 0	
Draughtsman	50 0 0	
Book-keeper	55 0 0	
Assistant do.	30 0 0	
Muster Writer	15 0 0	
2 Peons	14 0 0	
		654 0 0
Total...		1,742 0 0

* The horse allowance of Rupees 30 sanctioned for the Store-keeper in G. O. of 7th October 1864, No. 2,899, will be drawn until the removal of the Stores from Abercrombie's Battery.

CHEPAUK,
2nd August 1865.

(Signed) J. H. M. SHAW STEWART, Major, R. E.,
Under Secy. to Govt., P. W. Dept. in Charge.

No. 442. ORDER THEREON, 18th August 1865, No. 2,401.

ESTABLISHMENT, No. 55.

1. The Government sanction the scale of Establishment recommended in this letter for the Public Works Stores and Workshops. They observe that the cost, Rupees 1,742, corresponds with the amount sanctioned for the purpose in the Proceedings of the Government of India, dated 16th September 1864, No. 903 E-4,509.

G. O. 7th October 1864, No. 2,899.

2. The Government also sanction the several proposals contained in paragraph 2, in order to provide the necessary supply of labor for the operations of the Department, the expense on this account being recoverable from the out-turn of work under the arrangements detailed by Major Shaw Stewart.

3. The Officer in charge of the Store Department will apply to Government for the advance of Rupees 5,000 referred to, whenever it may be required.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Officer in charge of the Store Department.
" Controller of Public Works Accounts.
" Accountant General.

Exd. S. T. Augustin.

2774/11

Proceedings of the Madras Government, Public Works Department, 18*th November* 1868.

No. 367. *Dated* 18*th November* 1868, *No.* 3,611.

ESTABLISHMENT, No. 40.

1. The death of Mr. F. L. Moncrieff having made it necessary to nominate an Officer, possessed of suitable mechanical knowledge and experience, to take charge of the Public Works Central Stores and Workshops, His Excellency the Governor in Council resolves to entrust the supervision of the Establishment at Chepauk to Mr. Probationary Assistant Engineer J. N. Grainger.

2. For the present, Mr. Grainger will draw a salary of Rupees 400, with a conveyance allowance of Rupees 60 per mensem, and, while employed as Superintendent of the Presidency Public Works Stores and Workshops, he will retain his place on the nominal roll of the Public Works Establishment, and will be eligible for promotion in the ordinary course.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To all Superintending Engineers.
To the Officer in charge of Public Works Stores.
" Superintendent of Presidency Public Works Stores and Workshops.
" Controller of Public Works Accounts.
" Capt^n Kennedy

Exd. S. T. Augustin.

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Govt. of {1868} Madras.

PUBLIC WORKS.

To

ALL SUPERINTENDING ENGINEERS.

&c., &c., &c.

Dated November, 18*th*.

Recd. *Encl.*

G. O., 18*th November* 1868, *No.* 3,611.

NOVEMBER.

No. 367

Superintendent of the Presidency Public Works Stores and Workshops.—Mr. Probationary Assistant Engineer J. N. Grainger appointed to act as Superintendent of the Presidency Public Works Stores and Workshops in the place of Mr. F. L. Monerieff, deceased.

2774. 12

Proceedings of the Madras Government, Public Works Department, 24th March 1869.

No. 720. Read the following letter from the General Superintendent of Public Works Stores and Workshops, to the Secretary to Government, Public Works Department, dated Chepauk, 18th March 1869, No. 1,554 :—

1. In their Proceedings of the 18th November last, No. 3,611, the Government were pleased to appoint me to the charge of the Public Works Stores and Workshops at Madras, and to transfer me from the Godavery District to the Presidency.

2. Since joining my present charge, the operations of the Workshop have been gradually extending, and the work ordinarily devolving upon me is heavy. In addition, moreover, to my regular duties, I have recently been placed in charge of the Madras Pier Works in consequence of Mr. Black's return to England on account of ill-health.

3. Under these circumstances, and looking to the heavy expenses of living at Madras, I have the honour, in the hope that my efforts satisfactorily to discharge the varied duties assigned to me have not been unsuccessful, to solicit the favorable consideration of Government to my application to be placed on the same footing in regard to pay as my predecessor, and to be permitted, from the 1st proximo, to draw the rate of salary provided for my appointment in Part IV. of the Budgets of the current and ensuing official years.

No. 721. ORDER THEREON, 24th March 1869, No. 998.

ESTABLISHMENT, No. 65.

Under the circumstances explained in this letter, the Controller of Public Works Accounts is authorized to pass to Mr. Grainger from the 1st April 1869 the full salary of the appointment of General Superintendent of Public Works Stores and Workshops, as provided in the Budget.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Controller of Public Works Accounts.
,, General Superintendent of Public Works Stores.

Exd. S. T. Augustin.

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Govt. of {1869} Madras.

PUBLIC WORKS.

To

THE CONTROLLER OF PUBLIC WORKS

ACCOUNTS.

&c., &c., &c.

Dated March, 24th.

Recd. Encl.

G. O., 24th March 1869. *No.* 998.

MARCH.

Nos. 720-721

Grainger, M.—Permission granted for passing to Mr. Grainger, from the 1st April 1869, the full salary of the appointment of General Superintendent of Public Works Stores and Workshops as provided in the Budget.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

12th July 1878, No. 2,854 W.

General.
Establishment.

Read the following paper :—

No. 137. From Major L. CONWAY-GORDON, R.E., Examiner of Public Works Accounts, to the Secretary to Government, Public Works Department, General Branch, dated Chepauk, 19th June 1878, No. 90 W.

WITH reference to the accompanying copy of correspondence noted in the margin, I have the honor to request the favor of your obtaining the orders of Government as to the rate at which salary is to be passed to Mr. G. H. Faulkner, Executive Engineer, 2nd Grade, of the Bengal Irrigation Establishment, who has been temporarily transferred to this Presidency for employment on Famine Relief Works, and is at present in charge of the Public Works Stores and Workshops at Madras.

Letter No. 94 C, of 12th November 1877, from the Examiner, Madras, to the Examiner, Bengal.

Memorandum No. 9,376, of 24th November 1877, from the Examiner, Bengal, to the Examiner, Madras, with enclosure.

2. Mr. Faulkner has claimed salary at Rupees 1,000 per mensem from the date of his arrival in this Presidency. This amount is made up of the following allowances :—

	Rs.
Civil consolidated pay of Executive Engineer, 2nd Grade	800
Personal allowance sanctioned by Government of India (see enclosure to Bengal Examiner's No. 9,376 of 24th November 1877)	100
On account of difference of pay of the next higher grade	100
Total ...	1,000

The lastnamed allowance should correctly have been calculated at Rupees 150 per mensem, which is the difference between the pay (Rupees 800) of an Executive Engineer, 2nd Grade, and that (Rupees 950) of the 1st Grade.

3. The Last Pay Certificate received from the Examiner, Bengal, showed that prior to his transfer to Madras Mr. Faulkner was in receipt of a personal allowance of Rupees 100 per mensem, in addition to the pay of his grade; but as the nature of this personal allowance was not specified in the Last Pay Certificate, a reference on the subject had to be made to the Examiner, Bengal, and, pending receipt of reply to the reference, salary at Rupees 1,000 as claimed by Mr. Faulkner was continued to be passed to him.

4. The Examiner, Bengal, in reply to the reference adverted to, forwards an extract from the Resolution No. 2,182 I—E, dated 29th October 1869, of the Government of Bengal, Public Works Department, Irrigation Branch, from which it is concluded that Mr. Faulkner originally belonged to the late East India Irrigation and Canal Company's service, and while attached to that service was in receipt of salary of Rupees 900 per mensem. On his transfer to the Public Works Department he was graded as an Executive Engineer of the 2nd Grade, but was allowed by Government of India to continue to draw his former salary of Rupees 900, the difference, Rupees 100, between that amount and the pay, Rupees 800, of an Executive Engineer, 2nd Grade, being regarded as a personal allowance.

5. Under existing orders, officers temporarily transferred from other Provinces to this Presidency for employment on Famine Relief Works are allowed to draw the pay of the next higher grade. In the case under reference it is doubtful as to whether the personal allowance of Rupees 100, which appears to have been sanctioned to prevent any monetary loss to Mr. Faulkner on his transfer to the Public Works Department, is or is not effected by the grant of this difference of pay of the next higher grade, and I therefore refer the case for the orders of Government.

No. 138. ORDER THEREON, 12th July 1878, No. 2,854 W.

THE Examiner will pass pay to Mr. Faulkner at the rate claimed, 1,000 Rupees monthly.

(True Extract.)

(Signed) E. A. FOORD, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Examiner of Public Works Accounts.

Exd. A. F. G[illegible] II.
Spare Copies [illegible]

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26-9-00

GENERAL.
ESTABLISHMENT.

Govt. of [1878] Madras.

PUBLIC WORKS.

To

THE EXAMINER OF PUBLIC WORKS ACCOUNTS.

Dated July 1878.

Issued

Read.

G. O., 12th July 1878, No. 2,864 W.

JULY.

Nos. 137-138.

Mr. Faulkner, Executive Engineer, Ganjam (Bengal), Public Works Department —Passing orders regarding the PD ——

2774/15

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

4th March 1879, No. 648 W.

General.
Account.

Read the following paper:—

No. 33. From Lieutenant W. L. C. BADDELEY, R.E., Acting General Superintendent, Public Works Workshops, to the Deputy Chief Engineer, dated Madras, 11th February 1879, No. 4,233.

UNDER instructions from His Grace the Governor I have the honor to forward the following explanation of "Increase to Capital," under which head a provision of 30,000 has been asked for in this office No. 3,990, dated 24th January 1879, to the Superintending Engineer, Third Circle.

2. The Workshop is expected to repay to Government, in full, the whole of the amounts received in cash and in stores, to surrender the net profits, and also to pay interest at 5 per cent. on the Capital or opening balance of the year; these items are shown on the credit side of the Workshop account with "Her Majesty's Government," whilst the debit side of this account shows the adjustments made by cash payments into the Treasury and transfer of approved invoices. The difference between these two sides of account is the increase or decrease to Capital, or in other words if the Workshop cannot repay the whole of the amount for which it has become liable to Government, or if it can not only repay but also credit Government with a further amount an increase or decrease of Capital is the result.

3. Among the chief causes of "Increase to Capital" are laying in too large a stock of materials which cannot be worked off during the year, works in progress at the end of the year and outstanding bills; and I am confident that by attention to the first of these in particular much can be done to do away with the necessity for a large budget allotment under the head in question.

4. In conclusion I would remark that as increase or decrease of Capital is the difference between the opening and closing balances of the Capital Account, it is impossible to do more than form a rough approximation of the amount required until the year's accounts have been actually closed.

No. 33-A. From the Examiner of Public Works Accounts, dated 18th February 1879, No. 80 B.

No. 34. ORDER THEREON, 4th March 1879, No. 648 W.

THE Government resolve to direct that the Examiner of Public Works Accounts and the General Superintendent of Public Works Stores shall, in consultation, submit a joint report on the present system of Workshop accounts, which appears to His Grace in Council to be misleading and objectionable.

2. It is essential that the shops shall be self-supporting; and if they are not so measures must forthwith be taken to bring them within self-supporting limits, no fresh supplies of stores excepting those absolutely necessary for immediate use being obtained, and the establishment being reduced as much as possible.

3. The General Superintendent will at once turn his attention to this latter point, and report what reductions are feasible.

(True Extract.)

(Signed.) J. H. M. SHAW-STEWART, Col., R.E.,
Ag. Secy. to Govt., P.W.D.

To the Examiner of Public Works Accounts.
" General Superintendent, Public Works Workshops.

Exd. C. Howarth.
Spare Copies

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26-9-08

GENERAL.
ACCOUNT.

Govt. of {1879} Madras.

PUBLIC WORKS

To

THE EXAMINER OF PUBLIC
WORKS ACCOUNTS,
&c., &c., &c.

Dated March 4th.

Issued

Encl.

Encl

G. O., 4th March 1879, No. 648 W.

MARCH.

Nos. 33-34.

Public Works Workshop Accounts.—The Examiner, Public Works Accounts, and the General Superintendent, to submit a joint report on the present system of the —, and the General Superintendent to report what reductions are feasible in the establishment of the Workshops.

2774/17

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

21st March 1879, No. 857 W.

Buildings and Roads.
Civil Works.

Read the following papers :—

No. 254. Endorsement of the District Engineer, Presidency, dated 9th May 1878, No. 784.

From J. N. GRAINGER, Esq., General Superintendent, Public Works Workshops and Stores, to the District Engineer, Presidency, dated Madras, 7th May 1878, No. 170.

WITH reference to memorandum from Secretary to Government, Public Works Department, No. 1,962, dated 2nd May 1878, received under endorsement, No. 674, of the 4th instant, I have the honor to state that the undermentioned sums will be required for expenditure under Tools and Plant in the current official year for Imperial "Roads and Buildings":—

	RS.
For instruments	1,000
„ tools and plant	1,000
„ repairs and carriage	2,000

2. On a reference to the home indent for 1878-79 it will be seen that the requirement for tools, &c., is very small and was cut down expressly to admit of local supplies being availed of, such as levelling staves, measuring chains, parallel rules, and such like articles readily made in the Mathematical Instrument Workshop, and intrenching tools manufactured in the Mechanical Department, thus utilizing the resources of the shops to some extent. I do not say that the above sums are sufficient to meet indents for tools, seeing that I have nothing in stock under this head of service, and the stores must be immediately replenished ; but if the necessity should arise later in the year I shall apply for additional allotments ; in the meantime the above sums, I trust, will enable me to comply with reasonable demands from Range Officers.

SUBMITTED to the Chief Engineer, Public Works Department, with reference to his memorandum, No. 1,962, dated 2nd May 1878.

(Signed) ROSS THOMPSON, Major, R.E.,
District Engineer, Presidency.

No. 254-A. Endorsement of the District Engineer, Presidency, dated 28th May 1878, No. 1,148.

From G. H. FAULKNER, Esq., General Superintendent, Public Works Workshops and Stores, to the District Engineer, Presidency, dated Madras, 23rd May 1878, No. 270.

WITH reference to Chief Engineer's memorandum, No. 2,139, dated 14th May 1878, and your endorsement thereon, No. 934, of the 16th instant, I have the honor to explain the reasons for applying for the following grants on account of "Imperial Buildings and Roads," Tools and Plant, viz. :—

	RS.
For instruments	1,000
„ tools	1,000
„ repairs and carriage	2,000

18

These allotments are required for replenishing stock of the undermentioned articles, of which there are none at present in the Public Works Stores :—

Instruments.

	FEET.
Measuring chains	50
,, ,, ...	50
,, tapes	100
,, ,, ...	50
Levelling staves.	100

Brass parallel ruler, 12", 15", and 18."

Tools.

Axes, pick	5 and 6 lbs.
Crowbars	14, 16, and 24 lbs.
Mamoties	6, 7, and 10 lbs.

Repairs and Carriage.

Repair of instruments and tools returned into store.
Carriage of articles supplied on indents.
Cooly hire, boat hire, pier charges, freight, cleaning and setting of machines.

The above are matters connected purely with the economy of Public Works Stores; the Workshop should, therefore, be kept entirely out of view in disposing of the matter under reference.

2. To understand the matter rightly it becomes necessary to explain the method of indenting and conserving Public Works stores.

3. In G.O., 2nd May 1868, No. 1,362, instructions are clearly laid down for guidance in indenting for London supplies, and the quantity to be asked for in the indent is defined in paragraph 3; for example, take the two first items under instrument and tool.

	Established proportion.	In Store.	Due.	Indented for.
Measuring chains 50'	50	...	...	50
,, ,, 100'	50	...	...	50
Tools—				
Axes, pick, 5 lbs.	1,000	...	...	1,000
Do. 6 ,, ...	1,000	...	...	1,000

Now since the articles which should have been indented for have been omitted from the home indent with a view to obtaining them locally, it is clear I trust that provision of funds should be made for their purchase, and I am confident that the Chief Engineer will not object to the Workshop being the suppliers, and as the Workshop is a self-supporting institution, and must be paid for every article obtained from it, the Public Works Stores must necessarily pay for all articles obtained from this source; hence the necessity for funds being provided.

4. The Chief Engineer observes in paragraph 3 of his memorandum that it is the local officers who require the articles that should be provided with funds and not the Store Department. It is for the Chief Engineer to decide whether it is more convenient to allot lump sums to the Stores Department for the provision of articles locally which are not in store, or grant small sums to individual officers for the purchase of stores required by them. If the former decision is arrived at indents could be supplied from store as far as its state will admit, and if the Workshop supply District Engineer must apply to the Chief Engineer for the necessary funds to meet their wants when *not* supplied by the stores. The budgets of past years will show that allotments have always been made to the General Superintendent under Part V, Tools and Plant, for local expenditure in view to meeting similar wants as those alluded to.

5. In his letter, No. 170, dated 7th May 1878, Mr. Grainger says that it is not unlikely that further application for grants may be made, and gives his reason for saying so, viz., that he has none of the above articles in stock under *this* head of service to comply with indents. It should be brought to the notice of the Chief Engineer, moreover, that Range Officers do not keep to, or within, the limits of their yearly estimates, and since they cannot foresee what may be required later in the season, it would be considered obstructive on our part to refuse compliance with

indents, simply because they were not estimated for. Owing to financial pressure the stock of tools had been kept unusually low, and the demands for famine relief works completely cleared the stores of all intrenching tools. Whether the stores are to be replenished or not, and to what extent, I respectfully submit for the Chief Engineer's decision.

SUBMITTED to the Chief Engineer, Public Works Department, with reference to his memorandum, No. 2,139, dated 14th May 1878.

(Signed) ROSS THOMPSON, Major, R.E.,
District Engineer, Presidency.

No. 254-B. From Colonel W. FAREWELL, Deputy Chief Engineer, Public Works Department, to the Chief Engineer, Public Works Department, dated 30th May 1878.

I HAVE the honor to report that in conference with the District Engineer, Presidency, and the Officiating General Superintendent of Public Works Stores, I have ascertained the following facts in reference to the information I was directed to obtain in your memorandum, No. 2,430, dated the 3rd of June 1878. The delay that has occurred in the submission of this report is due to the time occupied in supplying certain returns which accompany this paper which I found it necessary to call for. The first portion of the list marked A shows the articles proposed to be supplied by the Workshops from the Rupees 4,000 applied for. Instruments to the value of Rupees 985-11-0 it is intended should be made up in the Instrument Shop; a further amount of Rupees 1,166 are for tools required to be also so supplied, and the balance is said to be required for carriage.

The list further goes on to show that more articles are required to replenish stock amounting to Rupees 2,000 if funds are available. Again it is noted that these articles have been already indented for by District Engineers and were omitted from the home indent.

2. When instruments and tools, &c., indented for by District Engineers are not in hand in the stores, the practice is for the Store Department, which makes no purchases itself whatever, to transfer the indent to the Workshops to meet either by purchase in the local market or manufacture in the shops; in most cases I am assured that the manufacturing principle of supply is adopted, and it is only when the urgency of the indent is such as to preclude manufacture, or when the articles required can be obtained quickly and cheaply in the local market, that purchases are made. It is further stated by the General Superintendent that in this latter case which is apparently the exception and not the rule the rates are enhanced by addition of the authorized centage without which the Workshops could not exist (a certain portion of the Workshops establishment has to be sent to make the purchases, carry them to the shops, &c., which of course must be paid for). The General Superintendent further assured me that it frequently happens that articles indented for cannot be had in the market at any price, and that, in other cases, after careful inquiry he had ascertained that even plus the regulated profits he has been able to manufacture and supply articles indented for at a cheaper rate than if obtained in the market.

3. All instruments, tools, and stores issued from the Stores to Imperial works are issued free of charge, the probable annual requirements being regulated by regular indents, which are sanctioned first and budgeted for, while all stores issued to Provincial, Local, or other funds, &c., are paid for.

4. On the other hand all issues whatsoever from the Workshops are paid for by all departments, while no issue of any kind can be made without the previous sanction of the District Engineer.

5. The check by the General Superintendent of the Stores and the Public Works Workshops is simply *nil*; he is powerless in the matter, and very properly so too; thus if he wants even a nail or a single file from the Stores for use in his Workshops he must submit a regular indent and obtain the sanction of the District Engineer thereto.

The Stores and Workshops are totally distinct and have nothing in common except the General Superintendent has charge of them and is responsible that no issues are made without the District Engineer's sanction.

6. The return marked B herewith forwarded shows the issue of scientific instruments from April 1867 to March 1877 to the department, and discloses a condition of things that certainly requires early remedy. It will be remarked that no less than 637 first and second class levelling instruments have been issued to the department, which numbers all told 318 officers and subordinates, and again no less than 798 boxes of first, second, and third classes mathematical instrument boxes were issued in the same time. While in six years 647 color boxes of sorts were also issued, of which 253 were first and second classes.

7. The return marked C gives the issues for ten years of tools, &c., from the Store Department irrespective of those supplied by the Workshops.

8. Marked D are a set of draft rules proposed to be adopted to ensure greater circumspection in the preparation and submission of indents.

9. I would remark that in former days, previous to 1873, all indents were closely scrutinized in the Secretary's office and none passed except under his signature. The returns B and C however tend to prove that no material difference has taken place under the new system, which is that all indents are now passed by the District Engineer, Presidency. The District Engineer has already so much to attend to that it appears to me to be hopeless to expect him to do more than he does at present in the supervision of either the Store Department or Workshops, and I believe it is very desirable he should be relieved of the same, and that this department be once again placed under the immediate orders of the Secretariat, which under the present organisation might be done without much inconvenience.

No. 255. ORDER THEREON, 21st March 1879, No. 857 W.

IN reference to the late reorganisation of the Public Works Department, His Grace the Governor in Council directs that the General Superintendent of Public Works Workshops and Stores shall be placed under the immediate orders of the Chief Engineer, Public Works Department, the accounts being submitted direct by the General Superintendent to the Examiner, Public Works Accounts, by whom credits will be supplied in future, as in the case of Divisional Officers.

2. Superintending Engineers of circles will in future correspond direct with the General Superintendent of Public Works Workshops and Stores in reference to all indents and requirements for their circles; and store and other returns, hitherto forwarded through the District Engineer, Presidency, or Superintending Engineer, Third Circle, will in future be forwarded direct by Superintending Engineers of circles to the General Superintendent of Public Works Workshops and Stores.

(True Extract.)

(Signed) J. H. M. SHAW-STEWART, Colonel, R.E.,
Ag. Secretary to Govt., P.W.D.

To all Superintending Engineers.
To the Examiner of Public Works Accounts.
" General Superintendent, Public Works Workshops and Stores.

Exd. T. D. Ryan.
Spare Copies

2774/19

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26-9-00

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1879} Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEERS,
&c., &c., &c.

Dated March 21st.

Issued

Encl.

Recd.

G. O., 21st March 1879, No. 857 W.

MARCH.

Nos. 254-255.

Public Works Workshops and Stores, Presidency.—The General Superintendent at the — placed under the immediate orders of the Chief Engineer, Public Works Department; and Superintending Engineers of circles to correspond direct in future with the General Superintendent.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

12th December 1881, No. 3081 W.

General.
Account.

Read the following papers :—

No. 42-A. From D. C. GORDON, Esq., Examiner of Public Works Accounts, to the Secretary to Government, Public Works Department, dated Madras, 2nd September 1881, No. 114 W.

I HAVE the honor to submit, for the information of Government, the following communications :—

Letter No. 1045, dated 22nd July 1881, from the General Superintendent, Public Works Workshops, together with the annual accounts of the shops for the year 1880-81.

Audit Report by the Deputy Examiner on the annual accounts for 1880-81.

2. In regard to the remarks in paragraph 10 of the Superintendent's letter, I have to explain that the transfer of the articles to the Public Works Stores could not be carried out in accounts for the past year owing to want of a grant to meet the debit under stores, the Superintendent's proposal having been received late in April of the current year. Interest might be remitted by Government with effect from the date on which the transfer is effected during the current year.

3. The report of the Deputy Examiner leaves me little to comment upon. The result of the working of the shops during the years 1878-79, 1879-80, and 1880-81, shows that the outturn has steadily decreased, and that though there was a small profit of Rs. 728 in 1878-79, there has since been a loss in the two subsequent years of Rs. 40,000, or about $9\frac{1}{2}$ per cent. on outturn.

4. Of the outstandings Rs. 2,508-9-0 are against Government departments, and Rs. 575 against private individuals.

5. I quite concur in the Deputy Examiner's remarks as to the manner in which the profit and loss statement is submitted. It is impossible to arrive at any proper understanding of the position of the shops from the figures put forward by the Superintendent, which are unintelligible in an accounts view. The statements prepared by the Deputy Examiner admit of no misunderstanding. From these latter it appears that general charges have been covered by the percentages charged on outturn to within Rs. 452, including the questionable item of Rs. 1,031-3-8 referred to in his paragraph 7.

6. In regard to the "extra profits" (paragraph 6) and the legitimacy or otherwise of the increase of rates of issue, the Committee have already expressed their opinion, and it remains for Government to decide whether or not the arrangement is "correct

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or politic." It certainly does not appear to be a genuine profit to the shops as a manufacturing concern, though it might be so to a dealer. It defeats its own end nevertheless, for what appears a profit to the shops may eventually be outlay on works, if the extra profit be recovered by issue of articles to Government departments, and this cannot have been intended, otherwise what possible meaning can be attached to "standard rates."

7. The remarks in paragraphs 5, 9, and 10 will no doubt obtain explanation from the Superintendent.

8. I beg to draw attention to paragraph 11, regarding the percentage drawn by the Superintendent on bills for private works. The double percentage recovered in the instance given, and in other possible instances in practice, must have been drawn inadvertently, but the principle under which an officer of Government is granted an extra personal allowance for carrying out the *ordinary* duties of his position is undemonstrated.

9. As to the future of the shops, the Superintendent anticipates that in ordinary years the outturn will average two lakhs. Judging from the results of the years 1878-79, 1879-80, 1880-81, during which the outturn has averaged a little over $2\frac{1}{4}$ lakhs per annum, the result to be looked for is a certain loss. If the "extra profits" be held to be an illegitimate credit to the workshops as a manufacturing department, the loss during 1880-81 is virtually over Rs. 35,000, on an outturn of Rs. 2,09,000 or nearly 17 per cent. It is for Government to consider whether these prospective losses are compensated by a better class of work turned out than could be obtained from local suppliers. Further it may be considered whether the charge of 5 per cent. on capital is not at the present day too high, and reasonably capable of reduction.

From A. R. BOYLE, Esq., C.E., Officiating General Superintendent, Public Works Workshops, to the Examiner of Public Works Accounts, dated Madras, 22nd July 1881, No. 1045 W.

One book—Statement of Account and outstanding bills (already sent).
One book—Valuation Statement of materials, &c., (will follow).

I HAVE the honor to submit herewith the annual accounts of the Presidency Public Works Workshops for the year 1880-81.

2. During the year the Workshop became liable to Government for—

	RS.	A.	P.
1st.—To cash drawn from Treasury	1,38,625	0	0
2nd.—To value of stores, &c., received without payment.	17,613	14	0
3rd.—To interest on capital	20,897	3	1
4th.—To pension and leave allowances	3,025	12	6
5th.—To net profit	...		
	1,80,161	13	7

3. Of this amount the following payments were made—

1st.—Payments into Treasury	59,095	3	6
2nd.—Approved invoices	1,60,605	4	11
3rd.—Net loss	22,160	0	6
	2,41,860	8	11
Leaving for decrease to capital a balance of ...	61,698	11	4
	52,128	5	7

4. The gross profits amounted to 74,288 6 1
against which charges aggregating ... ...

have been debited, leaving a net loss of 22,160 0 6
as exhibited in Statement A.

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5. The opening and closing balances of the capital accounts as noted in the following table exhibits decrease to capital amounting to Rs. 61,323-11-4 :—

——	Capital on 31st March 1881.			Capital on 31st March 1880.			Increase.			Decrease.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
Block	1,11,730	1	4	1,14,010	4	8	...			2,280	3	4
Machinery and Plant ...	91,731	10	8	93,603	11	10	...			1,872	1	2
Mechanical Department ...	12,414	5	1	19,325	4	3	...			6,910	15	2
Instrument do. ...	3,948	1	6	5,662	13	10	...			1,714	12	4
Lime kilns	...			6,523	14	6	...			6,523	14	6
Manufacture	45,954	13	4	64,408	15	11	...			18,454	2	7
Raw materials	83,923	10	8	1,04,069	13	2	...			20,146	2	6
Sales	3,411	12	4	8,798	10	0	...			5,386	13	8
Public Department ...	4,083	5	9	1,540	5	0	2,543	0	9	...		
	3,57,197	12	8	4,17,943	13	2	2,543	0	9	63,289	1	3
Deduct bills and cheques payable	1,276	3	1	323	8	3	1,276	3	1	323	8	3
	3,55,921	9	7	4,17,620	4	11	1,266	13	8	62,965	9	0
	...			3,55,921	9	7	...			1,266	13	8
	...			61,698	11	4	...			61,698	11	4

6. The value of the outturn and net profit of the year under review as compared with the outturn and net profits of the two previous years is as follows :—

——	1878-79.			1879-80.			1880-81.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
Outturn	2,58,201	8	8	2,16,876	0	0	2,08,888	13	2
Net Profit	727	11	10	...			...		
Net Loss	...			18,200	10	11	22,160	0	6

7. A list of outstanding bills on the 31st March 1879 is herewith submitted amounting to Rs. 7,495-2-1, of which a sum of Rs. 3,647-1-0 only remains to be realized.

8. Under G.O., No. 2127 W., dated 10th September 1880, Rs. 208-10-0 were written off to "Profit and Loss" under "Public Department," and under G.O., No. 1197, dated 1st March 1881, Rs. 2-15-6 were written off under "Sales."

9. A valuation statement of materials and manufactured articles is enclosed.

10. The transfer of stores ordered in G.O., No. 914 W., of 4th April 1881, will be carried out during the current year, but the workshop will not realize any benefit from this until April 1883, for, during the whole of 1881-82, interest at the rate of 5 per cent. will have to be paid upon the value of the stores, viz., Rs. 96,000.

An application was made with a view to the transfer being effected in the supplemental accounts for March 1881, which would have at once relieved the Workshop of capital to the extent noted above, but it was ruled that the transfer could not take place until the commencement of the present official year.

Under these circumstances, I would beg to suggest that you will recommend to Government that no interest be charged during the current year upon the sum of 96,000 rupees, the value of the stores to be transferred to the Public Works Store Department.

11. The outturn during the year under review is slightly lower than that of 1879-80, and I anticipate that in ordinary years the outturn will average about Rs. 2,00,000, and will consist almost entirely of special works which cannot be satisfactorily executed elsewhere in the Presidency.

Note by the Deputy Examiner on the accounts of the Presidency Workshops for 1880-81, *Inspected* 19*th and* 20*th August* 1881.

The financial results of the transactions of the year under review are as follow :—

	RS.	A.	P.
Liabilities.			
Cash from Treasury	1,38,625	0	0
Interest on Capital	20,897	3	1
Charge on account of Leave and Pension allowance ...	3,025	12	6
Decrease in Capital	61,698	11	4
	2,24,246	10	11
Assets.			
Payments into Treasury	59,095	3	6
Adjustments by Transfer Debits	1,42,991	6	11
Net Loss	22,160	0	6
	2,24,246	10	11

2. It will be seen from the above that the year's operations (1880-81) of the Workshops have resulted in a net loss of Rs. 22,160-0-6. This loss has been debited to Tools and Plant in the Provincial accounts for 1880-81.

3. The following comparative statement shows the value of the outturn and the profit or loss for each of the last four years :—

—	1877-78.			1878-79.			1879-80.			1880-81.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
Outturn	5,73,476	9	3	2,58,201	8	8	2,16,876	1	2	2,08,888	13	2
Net Profit	70,944	12	11	727	11	10	...			...		
Net Loss	...			...			18,200	11	11	22,160	0	6

4. The outstandings (or bills unpaid and unadjusted) at the end of the year under review amounted to Rs. 7,495-2-1, since then they have been reduced to Rs. 3,083-9-0. The present outstandings are as follows :—

	RS.	A.	P.
1. Superintendent, School of Arts	1,125	15	0
2. Executive Engineer, West Coast	97	10	0
3. Messrs. Burnet and Co.	479	8	0
4. Superintendent, School of Arts	310	12	0
5. Do. of Works, Presidency	940	0	0
6. Do. School of Arts	9	0	0
7. Secretary, H.H. Princess of Tanjore	95	8	0
8. Collector of Ganjam	25	4	0
Total ...	3,083	9	0

Bills Nos. 1 and 3 have already been reported to Government, *vide* G.O., No. 1764 W., dated 18th July 1881, and G.O., No. 1549 W., dated 20th June 1881; the Superintendent should press for an early settlement of the remaining bills.

5. The profit and loss account seems to have been made out on a wrong system as it includes general charges, &c., which should be a separate head of account and subsidiary to that of profit and loss. I append amended profit and loss and general charges accounts, which, I submit, show a clearer and more correct statement of the year's operations, than the profit and loss statement submitted by the Superintendent. The word "profit" on the first line on the credit side of the profit and loss statement submitted by the Superintendent is a misnomer as the items shown as profits represent percentage charges realized on the outturn of the different departments, calculated to cover cost of general charges which include superintendence, establishment, fuel, contingencies, pension charges, &c., which appear on the debit side of that account and which is impossible otherwise to allocate. There is a further advantage gained by the proposed ledger head "general charges," and that is, it can be seen at a glance whether the percentages realized and credited to this account have covered the debits of the same account.

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I prominently bring to notice an item loss, Rs. 13,929-7-9 debited to profit and loss, which appears on reference to the accounts, is departmentally divisible as follows :—

	RS.	A.	P.
Loss on Mechanical Department	8,362	5	1
Instrument Department	2,600	12	6
Foundry	2,555	4	4
Lime Kilns	411	1	10
Total ...	13,929	7	9

As no reliable information could be obtained regarding these losses, it would appear necessary to call upon the Superintendent (on his return from privilege leave) to explain how they have arisen.

6. With reference to the sixth item on the credit side of the profit and loss account, amounting to Rs. 13,309-6-6 as "extra profits on works and standard rates," I bring to notice the following opinion expressed by the Stores Committee in paragraph 32 of their report printed with G.O., No. 914 W., dated 4th April 1881 :—

> "This does not appear to the Committee a correct or politic charge; the object being to make the Workshops pay, the charges should not be more than is necessary to attain this object. If the general percentage is insufficient it should be increased instead of an entirely fresh charge being made under the name of extra profit."

7. With reference to the fourth item on the credit side of the profit and loss account "manufacture" Rs. 1,031-3-8, it was found to represent commission charged for purchasing stores or manufactured articles outside of the Workshops; it should be explained why the Workshops undertook this agency work, as it would appear more properly to be the duty of the stores division.

8. *Muster Rolls.*—With the exception of those who can write their names (which are very few) there is nothing on the muster rolls to show that the men have been paid; these payments should be made in the presence of the senior officer or subordinate on the spot and immediately available, who should certify on the nominal muster rolls or pay sheet the total amount actually disbursed.—*Vide* Public Works Code, paragraph 1564.

9. It should be explained why a maistry on pay of Rs. 35 per mensem is employed and paid by the workshops whose duty is understood to be to look after the contractor's men employed in the foundry.

10. It should also be explained why the following items have been debited to "Contingencies" instead of "Machinery and Plant":—

	RS.	A.	P.
May 1880.—Two portable forges	200	0	0
June 1880.—Two bench vices	21	8	0
September 1880.—Two bench vices	21	8	0

11. During the year the Superintendent has drawn an aggregate of Rs. 718-12-5 personal allowance (under G.O., No. 2693, dated 10th November 1870, and G.O., No. 2232, dated 10th September 1873) on bills realized within three months for work performed for private parties. On reference to the particulars it was found that the allowance had been calculated on the gross collections which included the Superintendent's 4 per cent. personal allowance, for instance :—

	RS.	A.	P.
Bill No. 238, dated 3rd July 1880.—Work and material and Workshop percentages	919	8	9
Superintendents's 4 per cent. personal allowance	36	11	3
	956	4	0

instead of the Superintendent drawing Rs. 36-11-3 as charged in the bill, he drew Rs. 38-4-0 equivalent to 4 per cent. on the total of the bill, which was Rs. 1-8-9 more than he should have drawn.

General Charges.

	Rs.	A.	P.		Rs.	A.	P.
Cost of Permanent Establishment	12,631	6	4	By percentages on outturn recovered to meet the cost of General Charges as under:—			
Do. of Contingent do. ...	9,811	11	2	Mechanical Department ...	24,814	11	6
Do. of Contingencies ...	1,592	4	9	Instrument do.	8,329	0	0
Materials for repairs to machinery, tools and sundry charges.	6,681	1	9	Foundry	4,267	13	7
Mechanical Department for repairs to machinery, &c. ...	1,347	1	9	Manufacture	1,031	3	8
Instrument do. do. do. ...	8	7	0	Raw materials...	376	0	4
Block for depreciation at 2 per cent.	2,280	3	4	Cash for unclaimed wages ...	0	2	0
Machinery and plant do. do. at 2 per cent.	1,872	1	2		38,818	15	1
Government, for Pension and Leave allowances on the amount of the Permanent Establishment charges, Rs. 12,103-2-1, at 25 per cent. ...	3,025	12	6	Balance carried forward to Profit and Loss	431	2	8
	39,250	1	9		39,250	1	9

Profit and Loss Account.

	Rs.	A.	P.	Rs.	A.	P.		Rs.	A.	P.
Government for interest on the opening balance as per Statement "B" on ...	4,17,620	4	11				By Extra Profits on works and standard rates ...	13,309	6	6
Plus amount due on purchase account, 31st March 1880...	323	8	3				Balance of Loss for the year	22,160	0	6
	4,17,943	13	2							
At 5 per cent. as per G.O., No. 52, dated 8th June 1869 ...				20,897	3	1				
Amount ordered in G.O., No. 2127 W., dated 10th September 1880, to be written off to Profit and Loss				208	10	0				
Do. do. as per G.O., No. 1197, dated 1st March 1881 ...				2	15	6				
Balance of General Charges Account				431	2	8				
Loss on Mechanical Department ..	8,362	5	1							
Do. on Instrument Department ...	2,600	12	6							
Do. on Foundry	2,555	4	4							
Do. of Lime Kilns ...	411	1	10							
				13,929	7	9				
Total ...				35,469	7	0	Total ...	35,469	7	0

No. 42-B.

ORDER THEREON, 12th December 1881, No. 3081 W.

WITH the papers above recorded the Examiner of Public Works Accounts submits a review of the financial operations of the Presidency Public Works Workshops for the year 1880-81.

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2. The liabilities during the year amounted to Rs. 2,24,246 while the assets were Rs. 2,02,086, showing a net loss on the year's transactions of Rs. 22,160.

3. The following comparative statement shows the value of the outturn and the profit or loss for each of the last four years:—

—	1877-78.	1878-79.	1879-80.	1880-81.
	Rs.	Rs.	Rs.	Rs.
Outturn	5,73,476	2,58,201	2,16,876	2,08,888
Net Profit	70,944	727	...	...
Net Loss	...	...	18,200	22,160

4. It is observed from this statement that the outturn has steadily decreased, and that while there was a profit of Rs. 727 in 1878-79, in the two subsequent years there was a loss of Rs. 40,000 or about 9½ per cent. on the outturn.

5. The outstandings at the end of the year amounted to Rs. 7,495, since which they have been reduced to Rs. 3,083. Of the latter amount Rs. 2,508 are against Government Departments and Rs. 595 against private parties.

6. In G.O., No. 914 W., dated 4th April 1881, the transfer from the Public Works Workshops to the Stores of articles to the value of Rs. 96,734 was ordered, the object being to relieve the former of charges not properly belonging to them.

7. It was too late to carry out the transfer in the accounts of the past year, and the General Superintendent states that the Workshops will not realize any benefit from the measure until April 1883, as interest on the amount at 5 per cent. will have to be paid for the whole of 1881-82, and he therefore recommends the remission of the charge for the current year. The Examiner suggests that the remission might be sanctioned with effect from the date on which the transfer is effected. This suggestion is approved. The articles will thereafter be disposed of by sale as opportunities offer; proper arrangements being made by advertisement not only in Madras, but in Bombay and Calcutta, to notify as widely as possible the intended sale.

8. In the Committee's report recorded in the Government Order already quoted, they expressed the opinion that the charge for "extra profits" in addition to the percentage for general charges on jobs was neither correct nor politic, and they suggested that if the general percentage charge was insufficient it should be increased instead of an entirely fresh charge being made under the name of "extra profit." Notwithstanding this, the sixth item on the credit side of the profit and loss account is Rs. 13,309 for "extra profit," and the Examiner remarks that it remains for Government to decide whether or not the arrangement is "correct or politic." He points out that it certainly does not appear to be a genuine profit to the shops as a manufacturing concern, though it might be so to a dealer; and that it nevertheless defeats its own end, for what appears a profit to the shops may eventually be outlay on works if the extra profit be recovered on articles issued to Government Departments. The arrangement will now cease.

9. Under the orders marginally noted, the Superintendent is authorised to draw a personal allowance of 4 per cent. on the value of work done for private parties. The Deputy Examiner points out that the amount thus drawn by the General Superintendent during the year was calculated on the gross collections in which the 4 per cent. had already been included. The Examiner thinks that the double percentage must have been drawn inadvertently, but he remarks that the principle under which an officer of Government is granted an extra personal allowance for carrying out the ordinary duties of his position is undemonstrated. No further allowances on this account will be drawn by the Superintendent.

G.O., No. 2963, dated 10th November 1870.
" " 2232, " 10th September 1873.

26-9-00

GENERAL
ACCOUNT.

Govt. of [1881] Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER,
FIFTH CIRCLE,
&c., &c., &c.

Dated December, 12th.
Issued.
Recd. *Rect.*

G.O., 12*th December* 1881, *No.* 3081 *W.*

DECEMBER.
Nos. 42-A—42-B.

Review of the financial operations of the Provincial Public Works Workshops for the year 1880-81.—Passing orders on—published by the Examiner of Public Works Accounts.

2774/25

PRECIS OF OPINIONS

ON THE

SUBJECT OF RETAINING OR OTHERWISE THE PUBLIC WORKS WORKSHOPS AT MADRAS.

25

PRECIS OF OPINIONS ON THE SUBJECT OF RETAINING OR

OPINIONS

Chief points brought forward in the Correspondence.	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
1. Whether the Railway Workshops might be made available for giving a practical training in Mechanical Engineering to Public Works Apprentices.	.....	.....
2. Whether all Public Works work which cannot be executed in the open market might be undertaken by the Railway Workshops.	.....	2 As the Public Works Workshops cannot at present be superseded by another institution, the Engineer Department will still remain dependent on the former for the execution of work to be done at Madras.

8774.
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OTHERWISE THE PUBLIC WORKS WORKSHOPS AT MADRAS.

EXPRESSED BY

Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
.....	1. Reports that, as far as the Madras Railway is concerned, there would probably be no difficulty in arranging this matter, but the approval of the Board of Directors would be required. There is no reason to suppose that similar arrangements could not be made with the South Indian Railway Company also if it were thought desirable to utilise their shops at Negapatam for the purpose.	1. Arrangements can apparently be made by both the Madras Railway and South Indian Railway Companies to admit of Workshop training being given to students in the Civil Engineering College, and looking to the more systematic character of the work done at their shops such training would be preferable to that given at the Public Works Workshops.
.....	2. Neither the Madras nor the South Indian Railway Companies are prepared to undertake the execution of work for the Public Works Department.	2. Though neither of the Railway Workshops will undertake to guarantee the execution of work for the Public Works Department at their respective shops, it would probably often be convenient for them to do so. Work could also no doubt, under the sanction of Government, be executed by the Gun Carriage Manufactory. Messrs. Massy and Co., with encouragement, could moreover doubtless undertake more than they now do, and there can be no question that the Workshops of Bombay, and particularly Calcutta, can be trusted to turn out all classes of iron work whether in the way of manufacture or repair. Messrs. Fraser and Miller at the Carnatic Iron Works, Bombay, seem prepared to execute work to any extent, and as will be seen from the annexed Notification (A) Messrs. Oldham and Jackson, of Calcutta, are fully

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
3. Whether or not the Public Works Workshops should be looked upon as working on commercial principles.	3. Considers that the Workshop differs from a private concern in the following important points. It has a borrowed capital out of all proportion to the average outturn, and consequently the charges on account of interest on Capital swallow the larger portion of the profits made, *e.g.*, during 1880-81 the percentages recovered in the Mechanical Department amounted to Rs. 15,595, while the charge for interest was Rs. 20,897. The total percentages recovered during the same year amounted to Rs. 38,753, while the total charge for interest was Rs. 25,949, leaving a balance of only Rs. 13,704 to meet the cost of establishment, fuel, oil, repairs to tools and machinery, &c., a sum quite insufficient for the purpose, *ergo*, the Shops are not in a position to work on commercial principles. The profits made during successful years have not been applied to reduce the borrowed capital, *e.g.*, the large profit made during the famine would in a commercial concern have been set off against the cost of removal from Chepauk. The accounts are kept on uncommercial principles, as they contain fictitious items and are generally misleading.	3. The Workshops have not been conducted on commercial principles to show a profit, and Government have discouraged the idea of their competing with the local market. They were instituted because the wants of the Public Works Department could not be met in the country, and this object has been attained according as these wants have been supplied. The Superintendent was unfortunately absent on privilege leave when the Examiner made his inspection, so that the former had not the opportunity of offering explanation both as to the accounts and the practical working of the Shops.

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otherwise the Public Works Workshops at Madras—(continued.)

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Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
		prepared to give estimates, execute designs, &c. There are several other firms in the same position, to say nothing of the greatly increased facilities which now exist for dealing directly with firms in England. Probably, therefore, although some little inconvenience would for a time be experienced in getting matters into train, no reasonable doubt can be entertained that were the present Public Works Workshops closed for all but the immediate requirements of the Presidency Division and small matters of repair, it would be quite feasible to get the work done elsewhere.
3. Does not see where the Workshops differ from an institution working on commercial principles except that they are not dealers and do not speculate for rises and falls in the market. Their institution to supply the department at fixed rates removes the dangerous element in ordinary commerce, but the principle adopted has been that the Shops are to be considered as a private concern working to show a profit and loss, but without the speculative element which would be engendered by competition with the open market.	.....	3. There can be no question that, however artificial the method of accounting may be in order to show a profit and loss, it is essential to base these on commercial principles as far as circumstances admit, and that to ignore or discard these must deprive the Government of the sole means at their command of from time to time comparing results and of forming a judgment as to the advantages or otherwise of continuing the institution. It is of course quite open to Government, by making such arrangements as may decrease the unproductive capital sunk in buildings, plant or machinery on which interest is charged, to relieve sensibly the present pressure, and thus show a larger profit in working, but this in nowise interferes with or militates against the Shops being considered as worked on commercial principles.

Precis of Opinions on the subject of retaining or

Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
4. The form in which the profit and loss accounts were submitted by the Superintendent.	4. The amended statement prepared by the Deputy Examiner shows percentages recorded under different heads, but as these percentages are fictitious amounts, it is evident that the system of accounts (which is the same as that originally prescribed by the Accounts Department and which has been invariably used since 1868) is not clearly understood, and consequently wrong conclusions have been drawn as to the present working of the Shops.	4. With reference to the Examiner's remarks in his annual review for 1880-81 (G.O., No. 3081 W., of 12th December 1881,) as to the unintelligibleness, in an accounts point of view, of the figures put forward by the Superintendent, Colonel Prendergast remarks that the returns in the office of the Superintendent show to him clearly the loss. The form of accounts, however, was prescribed by the Accounts Department itself some years ago. The profit and loss statement could not therefore have been drawn up in any other shape than that with which the Examiner finds fault and which has always hitherto been accepted. In a second report he remarks that he has looked up the orders of 1867-68 and finds that the profit and loss accounts were then drawn up in the Controller's (Examiner's) office, and that they are in the same form as those submitted by the General Superintendent for 1880-81. The procedure instituted by the Accounts Department has been followed by the Superintendent for years. He fully agrees with the Examiner that if the procedure be faulty it should be revised.
5. The legitimacy or otherwise of "extra profits."	5. It is not the case that the Workshop deliberately adds an extra profit in addition to securing the ordinary profit. It is absolutely impossible to work a large manufacturing concern so that a fixed amount of profit shall be made on every article. Estimates for work, as a rule, are made as low as possible, but stock articles, on the other hand, are sold at standard rates, and when a large quantity is ordered, the reduction in cost of manufacture enhances the profit. No percentage is added to an article because it is sold from stock. Nothing is now manufactured for stock, but if it were necessary to lay in a supply of stock	5. The term "extra profit" is an invention of the Accounts Department and certainly conveys the idea of an increase in the rate of issue. It really, however, there is no such increase, the "extra profits" being the ordinary receipts from articles manufactured in the Shops and transferred to stock. When issued from stock the recovery is entered separately and is termed "extra profit." He does not consider that the latter is an illegitimate credit. In his second report he does not consider that his explanation is at variance with the accounts. Articles entered on stock at standard rates; they have been

otherwise the Public Works Workshops at Madras—(continued.)

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Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
4. The forms for accounts procedure were issued in 1867-68, and in the system prescribed the operations to be shown under general charges and profit and loss are clearly illustrated and should have been followed. That they have not been followed hitherto is no argument that they should not be followed now, or that they should not always have been followed. It is beyond doubt that the profit and loss statement submitted by the Superintendent is not intelligible, in an accounts view, and if the procedure laid down 14 years ago had been followed as it should have been, the accounts rendered by the Superintendent would have shown the same result as those prepared by the Deputy Examiner in the recent annual review. In the erroneous procedure followed, wrong conclusions are published and facts concealed. But apart from this, if the procedure prescribed 14 years ago be now found to be faulty, there is the greater necessity to revise it.	.....	4. There is much divergence of opinion on the subject of the profit and loss accounts, the Examiner contending that the forms prescribed 14 years ago have not been followed, while both the Superintendent of the Shops and the Superintending Engineer state with equal clearness that they are the same as those originally drawn up by the Examiner. It is unnecessary to decide which is correct, as all admit that the old forms have led to wrong conclusions being drawn, and that from an account point of view modification, as suggested by the Examiner, is necessary.
5. The term "extra profit" *was* probably an invention of the Accounts Department, and was evidently intended to distinguish between ordinary profits (*i.e.*, the usual percentage charged in addition to actual cost) and the profits resulting from excessive estimates binding on customers and regardless of actual cost. This, however, is not the way in which the term is now used; nor is the explanation given by the Superintending Engineer correct if the accounts are correct. He maintains that "extra profits" resulting from the system in force are an illegitimate credit in so far that they are recovered by illegitimate charges	.....	5. I have no hesitation in saying that, as originally decided by the Stores Committee, the so-called "extra profits" were illegitimate, but it is now unnecessary to follow the controversy, as nothing (according to the statement of the Superintendent of the Workshops) being at present manufactured for stock, no entry under this head can again appear. Note.—In paragraph 8 of G.O., No. 3081 W., dated 12th December 1881, it was ordered that "extra profits" should no longer appear in the accounts.

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OPINIONS

Chief points brought forward in the Correspondence.	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
	articles such as pick-axes, &c., they would be entered in the stock list at standard rates. Manufacture would be debited with cost of labor and materials *plus* ordinary percentages, and the credit would be the total cost of the articles at standard rates. When a large number of any article is made, the profit is in excess of that estimated, the cost of manufacture being reduced. He maintains that this is a legitimate and ordinary profit, and that it is impossible to execute work so that the actual profit shall agree exactly with that estimated for. Estimates are given for work, and the Workshop takes its chance of ultimate gain or loss. No other plan is possible unless all work is executed without estimate, which would be excessively inconvenient to the officer ordering the work.	factured at less rates, and there is therefore a profit on issue, but no percentage is added to the price of an article because it is sold from stock.
6. The percentage drawn by the Superintendent on bills for private work (discontinued under G.O., No. 3081 W., dated 12th December 1881).	6. The percentage is not paid by Government, but by the person ordering the work, over and above the ordinary Workshop centages. The Examiner's comparison is therefore inappropriate. The allowance has always been considered a portion of the pay of the office, and he trusts Government will reconsider their order discontinuing it. Allowances of the same nature are drawn by officers of the Marine Department, and the Mints at Calcutta and Bombay. In a letter No. 212 W., dated 2nd May 1882, the General Superintendent replies to the Examiner's remark that the principle under which the allowance is drawn is not demonstrated. He states that he has ascertained on inquiry that the Superintendent of the Roorkee Workshops draws a commission of $\frac{1}{4}$ per cent. on *all* bills, whether for Government or private work, provided the Workshop pays its expenses and the management is approved. He trusts, there-	6. The percentage has been drawn with the sanction of Government since 1870. The average amount during late years has been about Rs. 630 per annum, so that by its discontinuance the Superintendent has been deprived of a regular allowance which had always been drawn by himself and his predecessors. A similar percentage is drawn by the Superintendent of the Roorkee Workshops with the sanction of the Government of India, and the Superintendent here has looked upon the allowance as in some degree a compensation for his regular pay being unaffected by promotion, and as a recompense for obtaining early payment on bills for private work. In his second report he considers the Examiner entirely wrong. The word "duty" was used by him in the sense of "performance of work." The allowance is not paid by Government, but by the person ordering the work.

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Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
upon customers. They have further been pronounced neither correct nor politic by the Stock Committee.		
6. It is the ordinary duty of the Superintendent to recover without delay outstandings due to Government. The Superintending Engineer admits that the allowance is looked upon as compensation for a duty, and it is much the same as if a Divisional Officer were allowed a premium for settling up miscellaneous advances or contractors, bills.	.....	6. The principle on which the Superintendent of the Workshops has hitherto drawn a percentage on bills for work executed for private individuals, though previously sanctioned by the Local Government, is, it is thought, entirely opposed to the rules of the Government of India and should therefore cease. The only exception has reference to the Mysore State Stores, which has been specially sanctioned by the Government of India.

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Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
	fore, that the allowance may be restored to him, or that he may be allowed the same privilege as the Superintendent of the Roorkee Workshop.	
7. The heavy charges imposed on the Shops by the item interest on Capital.	7. The exceptional outlay consequent on the removal from Chepauk is the main cause of the losses during late years, and it rests with Government to decide whether they will compensate the Shops for these losses by removing a portion of the heavy charges for interest on Capital, or whether they will take the account of expenditure and earnings apart from the Capital account. The Shops can never pay the enormous charges on account of interest, depreciation and pension and leave allowances, but if at the end of this year it is seen that a fair amount of profit has been made on an average outturn, and if it is evident that the work turned out is of a class that could not have been obtained elsewhere, it is not necessary to consider the Shops a dead loss because it cannot meet the charges for interest which have accrued by the action of Government in removing the Shops from Chepauk. He admits that the Workshops have been a failure the last two years from a commercial point of view, but maintains that the losses are owing to the charges consequent on the removal and on the dead weight of interest on stock which has accumulated by mismanagement in former years.	7. An examination into figures will show that the balance sheet of the Workshops is heavily burdened by this item. By the removal from Chepauk to Black Town the Capital Account of the Shops has been increased by Rs. 51,000 under Buildings and Rs. 47,000 under Machinery and Plant, and thus since 1877-78 the Shops have been debited with interest at 5 per cent. on nearly a lakh of rupees, in addition to the standing charges upon Capital previous to that time. The general charges too were greatly increased during the first two years of occupation of the new buildings, but after settling down these charges have greatly fallen. The Capital and working expenses have, however, been raised to the detriment of the profit and loss account. Considers that the Shops should not be condemned on the results of a couple of years' working, but that the figures of a series of years should be considered, even if no regard be paid to exceptional circumstances. Points out that the Examiner gives figures for four years and shows a heavy progressive loss, but that, if the figures for these four years be taken collectively, the result is an average annual profit of Rs. 7,827. Also that, if the figures for the past 10 years be taken, the result would be an average annual profit of Rs. 7,316. In his second report he still holds that where there is one exceptionally good year out of four the other years look bad by comparison. He has already shown that a heavy charge is made as interest on Capital; that heavy expendi-

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Expressed by		
Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
7. Considers it needless to comment on the Superintending Engineer's remarks concerning exceptional outlay consequent on the removal of the Shops, &c., as he has already fully discussed the point in his annual review. He further remarks that, according to the Superintending Engineer's argument as to the manner in which results should be calculated, an undertaking must lose the whole of its previous earnings before it can be considered ineffective, or that not until the surplus of all prosperous years has been wiped out by the deficit of adverse periods can a concern be looked upon as a losing one. During 1880-81 there was a loss on the Workshops in administrative results of Rs. 13,930, while the financial results gave a loss of Rs. 22,160 after taking as extra profits a sum of Rs. 18,309.	.....	7. It is not unreasonably contended that, owing to the removal of the Workshops from Chepauk to Black Town, and the acquirement of useless plant, the concern is burthened by unduly heavy interest charges on Capital. The Superintending Engineer states that the total unproductive Capital is about Rs. 98,000, which thus at 4 per cent. adds an interest charge of Rs. 3,920, of which the Shops ought to be relieved. Should it be decided to retain the Shops, it is thought that a careful revaluation of the buildings and machinery should be made to determine which are necessary in the performance of work, and to afford such relief as may under all the circumstances be feasible. Such depreciation as may appear reasonable in the value of the buildings though necessarily having to be met by a grant under Provincial Civil Buildings will practically be recouped entirely by a credit to Provincial Revenue on account of decrease of Capital. For such machinery as there may appear to be reasonable prospects of use in the department, though not required for the Shops, a simple transfer at book value to the Public Works Stores may be made, but for such as there is no reasonable prospect of use it will be desirable to arrange for their sale, exercising all needful precaution to prevent as far as possible undue loss to Government. Some may with advantage be brought temporarily on to the stock of the Public Works Stores. For this a grant under Tools and Plant would be needed,

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Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
		ture has been incurred consequent on change of premises, and that the Workshops need not be condemned on the working of only two years.
8. The annual outturn to be looked for from the Shops.	8. Admitting that the average outturn of the Shops may be taken at two lakhs, the questions are, what portion of the work represented by this sum can be satisfactorily executed elsewhere, and what would be the loss to Government if the various engineering works which are now mainly dependent on the Workshops for their iron-work were left unfinished for want of it? The question must be looked upon from a broad point of view, *i.e.*, can the Public Works Department afford to be dependent on private enterprise for the class of work turned out by the Workshops? In his opinion the closing of the Workshops would result in heavy loss to Government, and so far from private enterprise coming forward to take up the work, it would be found necessary to open a Workshop in each district.	8. A great variety of work is turned out in the Shops from iron girders to engraving and die-cutting. In the present year demands have been received from the Ordnance, Commissariat, Revenue Survey, Postal, Forest, Marine, and Salt Departments, from 17 Collectors and other Government officers. From the Public Works Department there were recently plans and estimates for works aggregating nearly 2 lakhs of rupees. The Workshops thus supply a want that has not been met elsewhere. Public Works officers, if they can get their work done themselves, do not go to the Public Works Workshops, but when they cannot get the work done at all, or at a fair price, they must go to the Workshops. Plans, estimates, and designs are also furnished to the department free of charge, and heavy work has been done for the Harbour.

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EXPRESSED BY

Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
		which, however, would be met by a corresponding credit as above to Provincial Revenue. The loss on such machinery or tools as it may be decided to sell outright will have to be met by a Provincial grant. The whole operation as above noted will require the exercise of much judgment and might be made to extend over some time, but if the Shops are to be retained it should be entered on seriously without delay. NOTE.—In paragraph 10 of G.O., No. 3081 W., dated 12th December 1881, the Government reduced the charge on account of interest on Capital from 5 to 4 per cent. None of the officers allude to this fact.
8. It must be taken as a matter of course that all Government Departments do and perhaps must give employment to the Shops. They naturally avail themselves of the skilled labor, supervision and plant thus placed at their disposal, but this does not prove that they cannot get work done themselves at a fair price. The Shops were originally instituted because the wants of the Public Works Department could not be met in the country, and the requirements of other departments should therefore be an extra demand, tending to increase outturn. He gives figures to show that the outturn has been tolerably even from about 1874-75, when the average rose from 1¼ to over 2 lakhs. If the outside requisitions have prevailed only lately, the ordinary Public Works Department work must *pro tanto* have been withdrawn. In either case the average outturn to be looked for in future may be put down at from 2 to 2¼ lakhs.	.....	8. Beginning from an average of 1¼ lakhs the outturn of late years has been pretty steady at 2 lakhs, which may be assumed as the normal working. All departments use the Shops where they find it convenient to do so, and a great variety of work is turned out ranging from boilers and iron girders to engraving and die-cutting. It is almost unnecessary to say that the principles which lead to economy of production in any establishment devoted to special manufactures cannot be followed in a "jobbing" shop which this is. Boilers, girders and all such special manufactures must of necessity be obtainable from regular manufacturers far cheaper than they can possibly be turned out by our Workshops, and it is only a question as to whether the time saved by giving the order to the latter compensates for the difference of price. From my own experience I have no hesitation in saying that such are now the facilities for procuring all

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Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
9. The suitableness of the present form of accounts.	9. The forms of account must, if they are to be any guide as to the value of the Workshops, be based on those used by Guaranteed Railways in which the distinction between Capital and Revenue is clearly marked.	9. The forms of account must be looked upon as unsatisfactory. Recommends that the Superintendent and the Examiner should jointly consider what forms are inappropriate in order that they may be amended, and that ambiguous terms such as "extra profits" may disappear.
10. The average outturn being 2¼ lakhs, is it worth while maintaining the Shops for so moderate a demand?	10. The value of the outturn must be considered in connection with the value of the various works which require the assistance of the Workshops. The question is not whether it is worth while to maintain the Shops for so moderate a demand, but how could these wants be otherwise supplied without undue delay and in a satisfactory manner? He considers that no engineering work of any size could be undertaken if there were any doubt as to how these wants could be supplied without delay.	.....
11. What is the classification of the outturn, and how much of it is special work not to be obtained from local markets	11. The Superintendent's list of works, which are ordinarily carried on in the Shops and which he considers cannot be satisfactorily obtained elsewhere in Madras, is attached (B). Taking the average for	.....

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EXPRESSED BY

Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
		articles of special manufacture from England or from the various establishments elsewhere that time and money are both now sacrificed in continuing the effort to meet such demands through our Workshop. It was only lately that in the matter of a new boiler for the engine for the General Hospital much time and Rs. 1,600 were sacrificed.
9. States that steps have already been taken to the above end.	.....	9. Steps have already it seems been taken to introduce the State Railway rules and forms; no further action in this respect is now necessary.
Questions 10 to 14 are put by the Examiner in paragraph 18 of his Note of the 20th February 1882. He observes that the considerations therein contained must be discussed before a final decision is possible. He does not know how far it has been conclusively proved that the Shops at the present time meet demands which cannot otherwise be met in the country. He remarks that the facilities in communication with European markets have so enormously increased since 1866-67 that probably the demands of the present period can easily be satisfied from European or local markets, and the existence of the Shops for normal requirements is not essential. For abnormal times he thinks the use of modern means of rapid communication would amply suffice for abnormal demands being executed from Europe.	.....	10. From the evidence before me I do not consider it worth while to continue the Workshops on their present footing. See remarks above on queries Nos. 2 and 8.
.....	.....	11. Nothing has been shown as to the nature of the special demands on the Shops proving that such could not be met equally well if not better elsewhere.

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Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
and required to be of superior workmanship; how much of it is for the Public Works Department, how much for other Government Departments, and how much for private individuals?	the past three years, he states that about half of the total work is for the Public Works Department, about one-third for other Government Departments, and about one-sixth for private individuals.	
12. How do the rates of issue for manufactured articles compare with similar articles obtainable from European market?	12. The rates are higher than English prices, but they include a considerable amount of profit which is returned to Government.	.....
13. Are the charges made to customers, whether Government Department or private individuals, based on estimates accepted in full by them regardless of the actual cost incurred by the Workshops, or is all work charged at actual cost.	13. All charges are based on estimates, except repair works and special jobs which cannot be estimated for. The estimates are accepted and paid in full on the work being approved. No other procedure could possibly be adopted.	.....
14. How far it has been conclusively proved that the Workshops at the present time meet demands which cannot otherwise be met in the country.	14. The proof required can only be obtained by closing the Shops, a measure which the Superintendent predicts would result in heavy loss to Government for the following reasons:— (a.) Delay and uncertainty in supply of work. (b.) Increased prices for the same or inferior work. (c.) Loss by sale of the buildings, machinery, &c. (d.) Loss of the services of a number of skilled men of various trades who are now available for work in any part of the Presidency. The Superintendent concludes with the remark that the discussion which has taken place will be of the greatest value if it results in the Workshops being placed on a proper footing as regards Capital and Revenue Accounts.	.....

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Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
.....	.....	12. While admitting that the rates are higher than the English prices, the Superintendent considers that a large share of the profit is returned to Government, forgetting apparently that the departments concerned have to bear the charge for this profit.
.....	.....	13. No remark necessary, as the procedure now followed is the only feasible one.
.....	.....	14. Of the four contentions urged by the Superintendent of the Shops, the only one which I consider valid is the probable loss of the services of certain artificers who are now available for work in other parts of the Presidency; but even this loss will, it is thought, in time be recouped.

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Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
	In a separate letter submitted by the General Superintendent, No. 3067 W., dated 2nd March 1882, he offers the following suggestions :— He considers that the broad principles upon which a Government Workshop should be conducted are the following :	
	1. No Government officer should be compelled to get work done at the Workshops. All ordinary work will thus be executed in the open market and the Workshop be resorted to only for special work.	.....
	2. The Workshop should have moderate capital, carrying such a rate for interest that the latter shall be in fair proportion to the outturn.	.....
	3. Capital and Revenue Accounts should be kept with a view to preventing extraordinary expenditure being mixed up in the accounts, and thus concealing the real working of the Shop during any particular years.	.....
	4. The percentage charged for the execution of work should be just sufficient to meet all Shop expenses including interest on Capital, provided that "Capital" has not been unduly increased from exceptional circumstances, such as removal to more expensive buildings with cost of removing and resetting up shafting and machinery.	.....
	5. If Capital has thus been unduly increased, and the Workshop is unable to pay the full amount of interest, the Government should make up the deficit, provided they are satisfied from the Revenue Account that the earnings are in fair proportion to the expenditure.	.....
	The Superintendent then goes on to enlarge on several of the questions already discussed above. He adverts to the inestimable value of the Workshops to Government during the late famine; to the good	.....

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Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
.....	.....	1. Unobjectionable, if it be decided to maintain the Shops.
.....	.....	2. Do. do.
.....	.....	3. Do. so far as understood.
.....	.....	4. The percentages charged should in addition to those specified by the Superintendent cover all administrative charges, depreciation on block and plant, pensionary and interest charges.
.....	.....	5. As a fact the Government does this now.
.....	.....	As regards the final contentions of the Superintendent regarding the great value of the work done during the famine, repairs to the Madras Pier in 1868 and 1870, it may, without in any way de-

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Chief points brought forward in the Correspondence.	Opinions	
	General Superintendent, Public Works Workshops.	Superintending Engineer of the Circle.
	work done by it for the Harbour Works, but for which the Harbour would have had to maintain its own machine shop, and to the repairs executed to the Pier in 1868 and in 1870. With reference to the losses shown in the accounts of the past two years, he points out that, taking the accounts from the commencement in 1867, it is found that after paying all charges including interest there remains a balance of Rs. 1,09,746 in favor of the Workshops. He remarks at the same time that every rupee of net profit made by the Shops means money taken away from irrigation and other works on which it was intended to be spent. He alludes to how the Shops have suffered by the large increase of stock by injudicious purchases in former years, and observes that there has been no such increase since 1879, and that the Shops are not likely to suffer from similar mismanagement in future. With regard to the heavy expenditure under "General Charges," the Superintendent shows that it has been caused by expenses attendant on the removal from Chepauk, but that since 1879 there has been a steady reduction under this head. He summarises all the facts of the case as follows:— 1. The Workshops have suffered considerably by the action of Government (in the matter of the removal) by mismanagement in the matter of stock. 2. Compensation is necessary and should take the form of a clear distinction being drawn between the Capital and Revenue Accounts when considering the present working of the Shops. 3. From the evidence furnished by the officers of various Government Departments, it would appear that there is a considerable quantity of work which they prefer to get executed at the Workshops.	

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Examiner of Public Works Accounts.	Consulting Engineer for Railways.	Chief Engineer.
		tracting from these and other services, be hoped that through the increased facilities already existing, &c., as before pointed out, and the impetus which would be given to private undertakings of the desired character, the requirements even during exceptional times would be amply met. It appears to be forgotten that it has been owing in very great measure to the ephemeral expansion given to the machinery of the Shops, and the great overmanufacture of useless articles for stock during the late famine that the Capital Account was raised to an extent which has unduly weighted the whole concern, and probably more than anything else has drawn attention to its unremunerative character. The causes in fact which produced the fictitious success now quoted as the strongest reason for continuing the Shops are those which in very great measure have contributed to the losses of the past two years. As regards the concluding remarks of the Superintendent, see observations above on query No. 7.

A.

NOTICE.

The undersigned have this day established themselves as Engineers, at No. 5, Clive Street, Calcutta, under the style of Oldham Brothers.

ROBERT AUGUSTUS OLDHAM,
M. Inst. C.E., M. Inst. M.E., &c.

EDWARD JACKSON,
M. Inst. C.E., &c.

15th April 1882.

With reference to the above, we have, by Power of Attorney, authorised Messrs. Samuel Stewart Gladstone, Robert Gladstone, John Francis Ogilvy, George Francis Mewburn, Charles Henry Moore, and Henry Neville Gladstone, partners in the firm of Messrs. Gillanders, Arbuthnot & Co., and William Buckley Gladstone, and John Thompson, assistants to the said firm, jointly and severally to sign for our firm per procuration.

OLDHAM BROTHERS,
Engineers and East India Agents,
110, Cannon Street, London, E.C.,
and
5, Clive Street, Calcutta.

15th April 1882.

From R. A. OLDHAM, Esq., M. Inst. C.E., M. Inst. M.E., &c., to Colonel R. H. SANKEY, R.E., Chief Engineer, Public Works Department, dated 110, Cannon Street, London, E.C., 15th April 1882.

As an old Public Works officer, allow me to ask your support on behalf of the Engineering branch of Messrs. Oldham Brothers, of 110, Cannon Street, London, and 5, Clive Street, Calcutta.

In giving to our firm the privilege of tendering for, or supplying you with any description of engineering work or machinery, you may rely upon the utmost care being taken that the very best materials and workmanship are supplied, and that the lowest possible prices are charged.

Being fully aware, from my personal experience in India, that the Government rules restrict Public Works officers from dealing direct with firms in England, I have hitherto been unable to address you on this subject. In order, however, to obviate this difficulty, we have now established ourselves in Calcutta, at the address given in the preceding paragraph.

I am also well aware that you are not in the position to remunerate us for getting up plans and specifications for any engineering work or scheme, and to prevent any misapprehension on this head, I would state that we are fully prepared to supply you with every information in our power *without charge*, provided that, when you are making inquiries, you will tell us, as plainly and fully as you are in the position to do, the probabilities of the inquiries leading to business, so that we may be able to form an opinion as to whether it is merely an approximate estimate you require, or a *bona fide* and definite tender.

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B.

List of works ordinarily carried on in the Public Works Workshops, the demand for which could not be satisfactorily met by private agency in Madras.

MANUFACTURE.

Steam boilers, tubular and flue.
Dredging machinery.
Boring apparatus.
Gearing for sluice shutters, lock gates, &c.
Wrought-iron girders for bridges, roofs, &c.
Heavy forgings of all kinds.
Heavy castings, such as columns with ornamental capitals, pillar letter-boxes, &c.
Large bells for churches, &c.
Heavy turning, boring and planing.
Archimedian water lifts.
Súrki screens.
Pumps, deep well and hand.
Machines for special works, such as testing coin, stone-crushing, tile-moulding, &c.
Scales of every description.
Standard weights and measures.
Iron roofs.
Locks of all kinds.
Heliostats, Roorkee and Begbie's pattern.
Signalling lamps of all kinds.
Road-tracing instruments.
Engine-turned stamps.
Pattern making and other wood work that is of a special character.

REPAIRS.

Steam engines, pumps, and all kinds of machinery.

Theodolites, levels, compasses, sextants, barometers and all kinds of mathematical instruments.

Repairs and jobs of the most varied description. Among those recently carried out may be mentioned—

Repair of a large iron bowsprit broken in two by a collision.
Repairs to divers' helmets and air pump.
Repairs to mowing machine.
Welding screw piles 37 feet long 6 inches diameter.
Repairing a large iron buoy by putting in a new plate.
Making up large wire ropes for lightning conductors.

Plans, estimates, and designs are furnished when required, and men are sent to any part of the Presidency with tools for fitting up work, driving machinery, &c.

MADRAS, 3rd March 1882.

(Signed) W. L. C. BADDELEY, Lieutenant, R.E.,
General Superintendent, Public Works Workshops.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 80.

READ—the following papers :—

Precis of opinions on retention or otherwise of the Public Works Workshops at Madras.

No. 80-A.

Note by the Chief Engineer, Public Works Department.

The long pending question as to the further retention of the Public Works Workshops at Madras has now arrived at a stage admitting of a final decision.

2. My general opinions on the subject were expressed in considerable detail in my note of the 28th November 1881, and a careful *précis* of all the latest correspondence, showing the various questions at issue, with my own opinion recorded on those of the several officers who have been consulted, is herewith forwarded for information.

3. Setting aside all minor points at issue, it has become clear that the shops though shown to have worked at considerable profit during the famine years, have since then retrograded altogether in this respect.

4. In paragraph 3 of his letter printed with G.O., 12th December 1881, No. 3081 W., the Examiner gives the loss on working the shops during 1879-80 and 1880-81 as Rs. 40,000, and although improvement may to some extent be looked for under the reductions already carried out, and those which may still be feasible, by reducing the amounts charged against the Capital Account, there is only too much reason to conclude that a condition of indebtedness exists and must become chronic.

5. This unsatisfactory state of matters is chiefly due to the large and costly buildings and plant which have to be maintained in order to meet the ever-varying demands of manufacture and repair of articles of all classes for the Public Works and other Government Departments, as also for private individuals.

6. Practically speaking they are merely jobbing shops, and, in the effort to show a profit on commercial principles, are compelled to undertake heterogeneous manufactures, which from their constitution they are necessarily quite unable to carry out economically.

7. Driven thus to seek for work on all sides, including such as can be obtained from private parties, they necessarily stand in the way of the development of private enterprise in the same line.

8. Viewed from another stand-point also there is a very serious drawback to the continuance of the shops on their present footing. The total amount of outturn (annually about two lakhs in value) is so small as to make the entertainment of a thoroughly trained Mechanical Engineer at its head an impossibility, the cost of such an officer in original salary and subsequent increments being too heavy a burthen for the establishment. The result is that Superintendents have to be appointed from officers on the regular departmental establishment. None of these are necessarily experts in the particular line, and one and all must vacate on promotion from Assistant

to Executive Engineer, as the shops are unable to bear the increased salary. This will ere long be the case with the present incumbent. No continuity of Superintendents is thus possible.

9. My own view, therefore, as expressed in the annexed précis of correspondence, is that the shops should be abolished—

First, as being in a condition of chronic deficit;
Second, as directly interfering with private enterprise;
Thirdly, as presenting insuperable difficulties in the way of providing for their proper and continuous supervision by a thoroughly trained Mechanical Engineer.

10. That very opposite views are entertained by other highly qualified officers will at once be observed from the précis of correspondence, and these views are doubtless shared by many others in the department whose opinions deserve every consideration.

11. That the shops were started to carry out work which at the time of their creation it was not possible to get readily done elsewhere is not only true, but the same contention is still to some extent valid, and further that the presence of a large Government Workshop capable of turning out a great variety of work, though at an unduly high price, is a convenience to this and other departments cannot be denied.

12. Further, that some inconvenience will follow such a drastic remedy from the present defects as their total abolition may also be accepted.

13. Notwithstanding these and other contentions which I have replied to in the précis, I am of opinion that the shops should not continue to be maintained on their present footing.

14. One of the three following courses are thus it seems open to Government:—

(1.) To maintain the shops on much the same footing as at present, though relieved as much as possible of certain items now standing against the Capital Account, so as to admit of their having a better chance in future of working to show a profit.

(2.) To get rid of all buildings and plant and retain only those portions which may be required for the execution of such repairs and trifling matters of manufacture as Executive Engineers cannot have locally executed.

(3.) To dispose of the whole concern and trust to the open market for all manufactures and repairs.

15. As regards the *first* alternative, it will be observed that the matter is discussed under point No. 7 in the annexed précis, and the mode of giving the needful relief to the Capital Account pointed out. Should this method of dealing with the question commend itself to Government, the appointment of a Committee for giving effect to the proposals would apparently be most satisfactory.

16. In reference to the *second* alternative which as the *via media* I venture myself to recommend, a year or more would probably be required before it could be given full effect to. The intentions of the Government with a complete statement of the buildings, machinery and plant to be eventually disposed of, should be widely published for six or nine months, and tenders invited from persons desirous of starting a private workshop in Madras to take its place as much as possible. During the interval thus insured the shops could gradually contract their operations so as to test the value of private enterprise, and allow our own officers and those of other departments to become gradually acquainted with the new state of matters.

17. Judiciously carried out, I am convinced that the measure would be attended with but small inconvenience, and would in any case afford an opportunity for deciding whether the reasons for abolishing the shops as a Government concern rested on a thoroughly sound basis.

18. When reduced to the limits of a simple repair establishment, either on the present site or another, the shops would become merely a sub-division attached to the Foundry (locomotive) under charge of a good Foreman Mechanic; and even this might

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in time disappear if subsequent experience proved that resort might be had entirely to the open market for even the small class of work which would be left.

19. The *third* alternative would, I confess, it appears to me to be too drastic, though of course it could be led up to by allowing ample time for giving publicity to the intentions of Government and for giving full effect to the measure.

OOTACAMUND, 6th July 1882. (Signed) R. H. SANKEY, Colonel, R.E., Chief Engineer, P.W.D.

No. 80-B.

Note by the Chief Engineer for Irrigation.

In my opinion the only question for my consideration is, can the work required by the Irrigation Branch, Public Works Department, be done, readily and effectually, without the aid of Public Works Workshops. If it can, the workshops should cease to exist.

2. The work required is, such as iron girder bridges, sluice and valve lifting gear, lock gates, involving iron and brass casting, repairs to pumps, steam-engines, dredges, &c. I understand that at present much of this work could not be turned out at Madras, except at the Gun Carriage Manufactory, where the charges are very heavy; but as regards iron girders, screw gearing for shutters, &c., such work could be obtained either from Calcutta or Bombay at rates not exceeding, in all probability, the rates now charged at the Public Works Workshops, and I do not see that inconvenience would result from this work being obtained either from Calcutta or Bombay.

3. As regards repairs to steam-engines, &c., however, it is necessary that there should be as little delay as possible, and until this work can be done by private firms at Madras, I think it will be necessary to retain the workshops on a smaller scale.

4. To close the workshops at once would, I think, cause great inconvenience, but as I believe that it is mistaken policy for Government to interfere in any way with private trade, and that the closing of the workshops would create a demand locally which private enterprise would before long supply, I consider the second course proposed by the Chief Engineer is in every way suitable, if regarded as a step towards the total abolition of the workshops.

5. The up-country workshops at Dowlaishweram and Bezvada are very differently circumstanced; the works necessitate the employment of complicated machinery which may require repairs without delay, and if the Railway Workshops can be made available for training apprentices, there should be no difficulty in obtaining men to fill vacancies in the establishments.

10th July 1882. (Signed) J. O. HASTED, Col., R.E., Ag. Chief Engineer for Irrigation.

No. 80-C. Note by the Consulting Engineer for Railways.

The question as to the retention or abolition of the Public Works Department Shops at Madras does not directly affect the Railway Branch, and I presume that my opinion on the points at issue is called for on general grounds, as affecting the operations of the department at large.

I entertain no doubt that the sole *raison d'être* of the shops is that they should provide for the execution of work which cannot be done elsewhere,—either as cheaply, as well, or as quickly. If the required work can be executed elsewhere, on satisfactory conditions as to these three points, the shops should cease to exist.

With respect to economical work. The papers circulated leave no room for doubt that, of late years, the shops have been worked at considerable loss; while there is no reason to suppose that the prices charged for the outturn have been lower than would have been charged by private firms.

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With respect to efficient work. On this point I can see no ground for doubting that the requirements of the department could be met in the open market,—whether in Madras, Calcutta, Bombay, or England,—as satisfactorily as they have been met in the shops attached to the Public Works Department. Indeed, the list of manufactures given by the Superintendent of the Shops contains so many articles which may be termed *specialities*, as to satisfy me that, unless the local conditions are of an unusual nature, the work must of necessity be turned out better by firms that make such specialities their particular study. I need only refer to such articles in the list as "Steam Boilers," "Dredging Machinery," "Boring Apparatus," "Bells for Churches," "Machines for testing coin, stone-crushing, tile-moulding," &c., &c., &c.

With respect to expedition in the execution of work. This is the only point on which I am inclined to question the expediency of abolishing the shops; but this opinion has reference not so much to new manufactures as to repairs. There must be many cases in which the immediate repair of machinery, instruments, &c., is of urgent importance; and I do not think that it would be wise at present to trust to the open market in Madras for the execution of such work. In course of time, experience will probably show that the maintenance of a special establishment is unnecessary, even for work of this nature.

For these reasons, I concur with Colonel Sankey in giving preference to the second of the three courses named by him as being open to Government, but in the expectation that its adoption will in course of time lead probably to the third course, viz., the abolition of the shops and the disposal of the entire concern.

11th July 1882. (Signed) J. SHAW-STEWART, Colonel, R.E.,
Consulting Engineer for Railways.

No. 81.

ORDER—dated 12th August 1882, No. 2064 W., Public Works.

The Right Honorable the Governor in Council, concurring in the opinions expressed by the Chief Engineer, Public Works Department, and the Chief Engineers of the Irrigation and Railway Branches, resolves to restrict the operations of the Public Works Workshops at Madras in the manner proposed by Colonel Sankey in clause 2, paragraph 14 of his Note, dated 6th July 1882, above recorded.

2. The Chief Engineer, Public Works Department, will report at an early date the measures he would propose for carrying this decision into effect.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers.
To the Consulting Architect to Government.
" General Superintendent, Public Works Workshops.
" Chief Engineer, Public Works Department.
" Chief Engineer for Irrigation.
" Consulting Engineer for Railways.
" Examiner of Public Works Accounts.
" Financial Department.
" Revenue do.
" Military do.

Ed. S. T. Austin.
Spare Copies

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BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of [1882] Madras.

PUBLIC WORKS.

Dated August, 12th.

Encl. *Encl.*

G.O., 12th Aug. 1882, No. 2064 W.

AUGUST.

Nos. 80-81.

Public Works Workshops at Madras.

Restricting the operations of the — in the manner proposed by the Chief Engineer, Public Works Department, and requesting him to report the measures he would propose for carrying out the same.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

No. 192.

READ—the following letter from Colonel H. L. PRENDERGAST, R.E., Superintending Engineer, V Circle, to the Chief Engineer, Public Works Department, dated Madras, 13th September 1882, No. 2161 :—

I have the honor to inform you that I have discussed with the General Superintendent of the Public Works Workshop your memorandum, No. 628, of the 24th ultimo, and Lieutenant Baddeley has given me the enclosed papers on the subject of closing the workshops.

Letter, No. 1447, dated 7th September 1882.
" 1090, " 8th " "
Lists A, B, C, and D.
One Block Plan.

2. The first step has been taken, in the refusal to accept work except for the Public Works Department and with the exception of work in the instrument department. I have also recommended, in my letter, No. 2118, of the 9th instant, that no work should be done after the 30th November for other departments.

3. The next point (paragraph 9 of Lieutenant Baddeley's letter) is that Public Works officers should refrain from giving orders to the workshop. But I would say nothing about the cost of work, when the workshops are closed the market prices must be accepted, and I would call upon departmental officers to abstain from applying to the workshop generally, or unless they cannot get their requirements elsewhere. There may be some trouble, some delay and extra cost, but these drawbacks are inevitable.

4. There is work now in hand in the workshop, but as it will gradually fall off there can be a reduction made in the number of workmen, while at the same time the machinery can be kept in order. Lieutenant Baddeley considers that it is of much importance that the shops should not be altogether closed; so that on inspection it may be evident that the machinery is in working order.

5. The maintenance of a small workshop will (paragraph 10) be expensive in comparison with the small amount of work to be done. The details will require careful consideration, for it appears to me that when work is generally transferred elsewhere the rest may likewise follow. Still a small workshop will not cause any heavy expense : while at the same time it cannot be expected to be self-supporting. In paragraph 17, Lieutenant Baddeley represents the need of an instrument-maker and a shop for him to carry out repairs. I consider this is highly desirable : but yet in working out the principle of abolition, if the Revenue Survey Department can get

their instruments repaired elsewhere, the Public Works Department can do so also. There may, however, be a small instrument department maintained with a small working shop without much expense.

6. As to reduction of establishment: this should be carried out on the general principle of reduction, such as took place in the Public Works Department recently, transfers being made where practicable. Care should be taken that in all cases three months' notice to quit should be given in good time. In fact, as a precaution, this had better be given to all employed in the workshops.

7. The list of buildings, A, gives the total cost of construction, Rs. 2,07,910. No allowance is made in these figures for depreciation. The value as a selling price will have to be considered before tenders for purchase or rent may be received.

List B is a valuation statement of machinery and plan, amounting to Rs. 81,464. This is the last valuation made nearly five years ago, and must therefore be considered as higher than the present price. It has also been stated lately by the General Superintendent that much of the machinery is old, so that it compares unfavorably in both make and cost with modern machinery. I allude to the reference made by the Superintending Engineer of the II Circle as to defective parts and high cost of articles sent to the Kistna. Hence it must be expected that there will be offers of much less than book value.

List C gives a description of the nature of work done in the workshops: the value is entered in paper D.

The paper D is a draft notice, inviting tenders for purchase or hire of the shops.

8. A serious difficulty arises in the question of the future location of the stores and such minor working shop as may be retained. The machine shop and office rooms are in the main building, the instruments and valuable small stores are in the upper-storey; while the heavy stores are in the separate building, called the store-shed on the block plan, and the State Railway stores are in the store-yard. The machine shop must go with the work-sheds, and it is not possible to divide the main building so that a part might be kept for the Government Stores Department. Hence, if an offer for the whole premises be accepted, the Government property will have to be removed and another place must be found. There are no Government buildings available, and therefore they must be built.

But in the event of no suitable offer being made, the present work-yard and buildings will remain on the hands of the Government, and as this cannot be considered an impossible contingency it will not do to incur the expense of constructing new buildings beforehand. I can only suggest that plans and estimates be made at once for future requirements, and that it be notified in the call for tenders that the premises can be taken over at a future date, say, after the 30th June or from such date as will allow of four months' interval for the construction of the buildings.

9. The Public Works Stores must, it is presumed, be kept up (paragraph 13 to 15) and will require a store-shed, there must be an enclosed yard for heavy stores and the State Railway stores, there must be an instrument shop and workshop. The Government machinery stores can be left where they now are in a part of the old Mint premises. It is desirable that Sub-Engineer Francis should be available to look after the machinery at the General Hospital and the Guindy Water Works, and he might do so as a sub-divisional officer under the Presidency Executive Engineer, having also charge of the repair shop.

10. For the present I would ask for orders on the following points:—

I. Will orders be given to Public Works officers to abstain from making demands on the workshop? Paragraph 3 above.

II. Shall there be a small workshop maintained?
III. And an instrument-maker's shop? } Paragraph 5 above.

IV. Shall the General Superintendent make a list of establishment to be kept for II and III and for the stores? Paragraph 6 above.

V. Is it contemplated that there should be a new set of buildings, and estimates prepared, as suggested in paragraph 8 above?

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Enclosure.

From Lieutenant W. L. C. BADDELEY, R.E., General Superintendent, Public Works Stores and Workshops, to the Superintending Engineer, V Circle, dated Madras, 7th September 1882, No. 1447 W.

With reference to your No. 1952 of 28th August 1882, I have the honor to submit my proposals for carrying into effect the orders of Government in No. 2064 W. of 12th August 1882.

Map.
List of Buildings.
" of Works.
" of Machinery, &c.
Draft Circular.
Chief Engineer's letter, No. 628 E., of 24th August 1882.

2. The General Superintendent of the Public Works Stores and Workshops is in charge of the following:—

1. Public Works Stores and Mathematical Instrument Department.
2. Public Works Workshops.
3. State Railway Stores.
4. Government Machinery Stores.
5. Machinery at the General Hospital for working the punkahs, and Water Works at Guindy.

3. The Public Works Stores and the Public Works Workshops occupy the same buildings, all office work connected with State Railway stores is conducted in the Public Works Stores office, and all State Railway stores in the custody of the General Superintendent are stacked in the Public Works store-yard.

4. The mathematical instrument department is usually considered as part of the workshops, but it is now necessary to recognize the difference, for the repair of instruments is totally distinct from repairs to machinery, and it does not follow that because Government wish to close the workshops they should also wish to abolish the mathematical instrument department.

5. The Government machinery stores are situated in a portion of the old Mint which is adjacent to the Public Works Stores and Workshops.

6. The machinery at the General Hospital and the Guindy Water Works is worked by employés of the workshops, and all office work is carried on in the office of the Public Works Workshops.

7. As matters now stand, the iron and heavy goods belonging to the Public Works Stores are kept in the shed marked on plan as "store-shed," while the instruments and other valuable articles are kept in a portion of the upper-storey of the "main building," and the repair of instruments is carried on in a portion of the lower-storey of the same building.

It is impossible to reserve any portion of the present building for the Public Works Stores and mathematical instrument department, for the only building suitable for the purpose is the main building, and this must be given up to the firm which takes over the workshop, for it contains the machine shop and all the office-rooms.

It is difficult in a short letter to anticipate all the suggestions that, from an inspection of the plan, might appear feasible for setting aside a portion of the building for the Public Works Stores and mathematical instrument department; but after careful consideration I am confident that such an arrangement would be impracticable.

8. When the buildings now occupied by the Public Works Stores and Workshops have been sold or leased, it will be necessary for Government to arrange for the custody of the stores, and the performance of the duties connected with—

1. Public Works Stores and Mathematical Instrument Department;
2. State Railway Stores;
3. Government Machinery Stores;
4. Machinery at the General Hospital and Guindy Water Works,

and therefore, when I have submitted my proposals for the abolition of the Public Works Workshops, I shall offer certain suggestions which, I trust, will be found of some value in arranging for carrying on the work detailed above.

9. At present the Public Works Workshop executes a considerable amount of work for *all* departments of Government, and obviously therefore the first step towards reduction is the refusal of all work except for the Public Works Department, and this step has already been taken except in the mathematical instrument department.

Secondly, I would propose sending a circular to every Superintending Engineer for distribution, pointing out the necessity of encouraging private enterprise, and requesting that no work of any kind be sent to the workshop if it can be carried out at a reasonable rate by a private firm.

The result of this will be that a considerable reduction can be made in the number of workmen employed, and yet, as work will not be entirely stopped, the machinery and plant can be kept in working order, so that as soon as a firm comes forward to purchase or rent the concern it can be handed over ready for immediate use.

This is, in my opinion, a most important point, for if the shops were totally closed and the machinery left idle for six months, the depreciation in this climate would be so great that a large portion would become unserviceable, and it requires no argument to prove that an intending purchaser of a large concern like the Public Works Workshops would be more inclined to make a liberal offer for an establishment in working order than for one which had been idle for some time.

10. As regards the maintenance of a small Government shop, except for repairs to mathematical instruments and work of that nature, I am of opinion that it will not be needed, for when once a private firm is established in the workshop buildings, it can easily execute every bit of work, down to the smallest repair; also it must be remembered that a shop which is only to be used by the Department of Public Works for repairs and trifling manufacture must be a most expensive one, for the cost of supervision and the outlay on machinery will be distributed over a very small quantity of work; for example the most trifling repairs will require castings of iron and brass, screws to be cut, surfaces to be planed, and various other processes which are continually in progress in a large shop, all of which will require steam-power, machinery, skilled-labor and supervision.

11. While the operations of the workshops are being steadily reduced in the manner described, the accompanying circular might be distributed in whatever manner Government think best.

12. Assuming that the publication of the views of Government leads to the transfer of the workshop to a private firm, it remains to be considered what is to become of the establishment, and my views on this are—

(1.) Mr. Francis, the Sub-Engineer, should be attached to the Presidency District where his services will be of the greatest value in looking after the machinery at the General Hospital and Guindy Water Works, he will also be available for any work in other districts which may require an experienced Mechanical Engineer.

(2.) Mr. Willis, the Overseer, who is a carpenter by trade, should be posted, if possible, to one of the workshops in the north of the Presidency, if not his services should be utilized whenever a foreman carpenter is required.

(3.) The Maistries are divided into two classes, one consisting of men who have served Government for a large number of years, and the other of men who have only been promoted within the last few years; the former class will probably retire from work when the workshop is transferred, and the latter will find ready employment under the new state of things.

(4.) The workmen, as a rule, will be employed by the firm which takes over the workshop, but there are some who, from length of service or by reason of injuries received while in Government employ, may be entitled to special consideration.

(5.) The clerks, who are not entitled to pensions, will, I hope, be absorbed into other Government offices, as vacancies occur.

13. I have now, I trust, shown how the workshops can be gradually reduced, and eventually handed over to private enterprise with the least inconvenience to the Public Works Department, the least loss to Government, and the least distress to the large number of men who now earn their living in the workshops, and I will therefore proceed to discuss the Public Works Stores.

It is unadvisable to do away with the Public Works Stores, for there must be a central depôt for preparing indents, receiving supplies, storing them, issuing as required, and performing the various duties connected therewith; also in combination with the stores it is absolutely essential that there should be a mathematical instrument department, where every instrument, &c., can be examined before issue, and repaired when necessary.

It will be impossible to reserve any portion of the present building for the Public Works Stores and the mathematical instrument department, and it will therefore be necessary to locate them elsewhere, bearing in mind the following conditions:—

(1.) The store-sheds must be of fairly strong construction, viz., brick in mortar with corrugated iron roof.

(2.) There should be a suitable room for the instrument shop.

(3.) There should be an enclosed yard for storing heavy machines and goods.

(4.) The stores should be as near as possible to the pier.

14. The question as to whether the Public Works Stores are to continue to carry on the work of landing and despatching all State Railway stores which are sent through Madras, will require consideration; in my opinion there is no more economical arrangement than to place the Public Works stores, State Railway stores, and mathematical instrument department under one officer.

15. The Government machinery stores should, I think, be handed over to the Ordnance Department, but if Government are of opinion that the Public Works Department should continue to have charge of all spare machinery belonging to the different departments of Government, this appointment should be combined with that of the Public Works Stores, &c.

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16. The machinery at the General Hospital and the Guindy Water Works should be placed in charge of the Executive Engineer, Presidency.

17. I must now revert to the question of keeping up a Government mathematical instrument department in connection with the Public Works Stores, either exclusively for the use of the Public Works Department or for the benefit of all Government departments. At present every instrument issued by the Public Works Stores is first passed through the mathematical instrument department, where it is examined and repaired if necessary; in like manner every instrument returned to store is examined in the mathematical instrument department and classed as "serviceable," "repairable" or "unserviceable." If the mathematical instrument department is abolished it will still be necessary for a mathematical instrument-maker to be attached to the Public Works Stores, but his services will never be fully utilized unless he has a shop in which he can carry out repairs. The mathematical instrument department now repairs all instruments, and executes a great variety of work for all departments of Government, and it is impossible, in my opinion, to propose any better or more economical arrangement than (in connection with the Public Works Stores) to maintain an instrument department for the repair of all Government levels, theodolites, &c., and for the manufacture of scales, seals, badges, weights, measures, &c., and the various other articles which are continually required by all departments of Government.

No. 193.

ORDER—dated 25th September 1882, No. 2488 W., Public Works.

With the letter above recorded the Superintending Engineer, V Circle, submits proposals for giving effect to the decision of Government, recorded in G.O., No. 2064 W., dated 12th August 1882, for restricting the operations of the Public Works Workshops at Madras to the execution of such repairs and trifling manufacture as may be required by the Public Works Department and cannot be executed in the open market, and for disposing of the buildings and plant which would thus become available.

2. It is explained that the first step for the accomplishment of the object in view has already been taken in the refusal to accept work except that required by the Public Works Department and in the instrument shops.

3. These arrangements are approved. Officers of the Public Works Department will now be directed to abstain as far as practicable from giving orders for work at the shops, and no new work for other departments should be accepted after the end of the present year.

4. A small workshop will thus still be required for departmental purposes, and the nucleus of this may, for the present, be organized within the present shops. Tenders will meanwhile be invited for the purchase of the existing buildings and available plant, and as soon as they have been received and decided on, the reduced Government establishment may, if necessary, be removed elsewhere.

5. It may be practicable to have the mathematical instrument work of the department executed in Calcutta, should local firms be unable to take it up. The Surveyor-General will be communicated with on the subject.

6. As regards the disposal of the existing establishment, many of the workmen will no doubt find employment with the firms which will take over the work which the Government are now surrendering, and the others will be absorbed gradually. In any case no immediate action seems necessary, and the details of the process may well be left to be worked out by the Superintending Engineer as circumstances admit.

7. It is premature to issue any definite orders as to erection of new buildings at present. There will be ample time for decision on this question after tenders for taking over existing block and plant have been considered. Tenders may be received up to the 1st February next, and the interval should be utilized in printing and circulating lists, which should be accompanied by a lithograph block plan of the buildings, on a somewhat smaller scale than that sent up, and a small index map of Madras on the same sheet. The index map should show the situation of the shops with reference to a few of the most important places, *e.g.*, the harbour, railway stations, fort, &c.

8. The notices should be published in the *Fort St. George Gazette*, the *Bombay Gazette*, and the *Gazette of India*.

9. The General Superintendent of the Workshops will take the requisite action for giving effect to these orders, submitting drafts of notifications for insertion in the Gazettes outside the Presidency.

(Here enter No. 2489 W., dated 25th September 1882.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the General Superintendent, Public Works Workshops, with enclosures.
To Superintending Engineers.
To the Consulting Architect to Government.
" Chief Engineer for Irrigation.
" Consulting Engineer for Railways.
" Examiner, Public Works Accounts.
" Revenue Department.
" Military "
" Public, &c., Departments.

Exd. E. Fernandez.

8774/43

26-9-00

GENERAL.
ACCOUNT.

Govt. of {1882} Madras.

PUBLIC WORKS.

Dated September, 25th.

Recd. *Encl.*

G.O., 25th Sept. 1882, No. 2488 W.

SEPTEMBER.

Public Works Workshops at Madras

Orders on proposals of the Superintending Engineer, V Circle, for restricting the operations of the Public Works Workshops at Madras to the execution of such repairs and trifling manufacture as may be required by the Public Works Department and which cannot be done in the market.

No. 182 T/G.

2774/44

All communications should be addressed to the Chief Engineer.

From

The Chief Engineer, Bengal,

Public Works Department,

General

To

The Chief Engineer.

Public Works department Madras

Ootacamund

Dated Darjeeling the 20th October 1884.

Sir,

In reply to the enquiries made in your letter No. 630 E dated 6th ultimo, I have the honor to inform you that

(1) The P W Department workshops at Calcutta (Seebpore) take in work that may be offered for all departments of Government and the P W Department generally, without restricting it to such as may be required by the Calcutta Divisions only. As a rule, however, it is only from Executive Engineers of the P W Department in Bengal that indents are generally received. The procedure is that when an Executive Engineer, whether

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Beng.—P. W. D.—Genl.—Letter heading Ch. Engr. Side No. 32.

in Calcutta or in the Mofussil, has any wood or iron work to do which he cannot get done locally, he must indent for it on either the Cuttack, Dehree or Calcutta Workshop, whichever may be most convenient. On receiving the indent the Superintendent of the Workshop sends the Executive Engineer an estimate of the cost of making up the article, based on the sanctioned schedule of rates which may be in force at the time. If the Executive Engineer is satisfied with the Estimate, he gives the Workshop the order for the article. If not he gets the work done elsewhere in the market.

(2) The officer in charge of the Workshops at Calcutta is directly subordinate to the Superintendent of Works at Calcutta, who has the powers of a Superintending Engineer. He does not communicate direct with the Chief Engineer.

(3) The Workshops have not got any general Store Department attached

to them. If an Executive Engineer in the Mofussil wishes the Superintendent of the Workshops to procure stores or materials for him, the latter procures them and charges a percentage on the cost which is credited to the Workshops. 2774/47

(4) As a rule Executive Engineers procure their stores direct from dealers in Calcutta. There is no special arrangement made for supplying them, with the exception that at Calcutta there is a large brick factory at Akra in special charge of one officer, from which all Executive Engineers at Calcutta obtain their bricks and Soorkee on indent. Lately a large stock of limestone has been laid in at Akra and lime is now supplied in addition to bricks and Soorkee.

I have the honor to be
Sir
Your most obedt Servant

H.T. Tiers Coll R.E.
Chief Engineer

Accompaniment
Nil