...nt the recommendation
...made in para 2 of his
...letter.

S
W 8

obstruction of road
Traffic on Coleroon
flood Anicut

Chilly
13/8/95

No 2064 W dy 19 August 1895

DESPATCHED
19 AUG. 95
2,218

To The Supdg. Engineer, II Circle

Cir

0352

Govt. of Madras.
PUBLIC WORKS

Phantom

G.O. 1967 1895 No 2065 W.

Sir for the new
H.E. the Governor's Band.
Telegram from the
Supdg Engineer Trichy
Estimate for —,
Comd to officer Concerned
the work ordered to
be commenced at
once.

Te 19/8

out the recommendation made in para 2 of his letter.

S
4/8

obstruction of road.
Traffic in Colaroon
flood Canal.

CE/Hill
13/8

No. 2064 W., 19th August 1895

DESPATCHED
19 AUG. 95
2.218

To
The Supdtg. Engineer, V Circle

Cir

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper:—

Telegram from the Secretary to the Government of India, Public Works Department, to the Secretary to the Government of Madras, Public Works Department, dated Simla, 14th August 1895, No. 316 B.

Your telegram August 12. Estimate Bandsman's quarters sanctioned. Letter follows.

ORDER—dated 19th August 1895, No. 2065 W., Public Works.

Communicated to the officers concerned with reference to G.O. No. 1826 W., dated 24th July 1895.

2. The work should be commenced at once.

(True Extract.)

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

To the Consulting Architect to Government.
" Military Secretary to His Excellency the Governor.
" Examiner, Public Works Accounts.

Exd. T. K. Narayana Aiyangar.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1895} Madras.

PUBLIC WORKS.

Dated August, 19th.

Read. *Encl.*

G.O., 19th Aug. 1895, No. 2065 W.

AUGUST.

Quarters for the men of His Excellency the Governor's Band

Telegram from the Government of India sanctioning the estimate for —, communicated to officers concerned and the work ordered to be commenced at once.

INDIAN TELEGRAPHS. Monthly Number. 888

Code Class. DS

From (Office) Simla

To (Office) Ootacamund

Words. 185 Day. 14 Hour. 16 Minute. 9 Official Instructions. Do 18

To (Person) Madras works

From (Person) works

316 B your telegram August 12 estimate Landsmans quarters sanctioned letter follows F.C.I.

Word Srm.

Sent to LN.

Telegraph Master.

Recd. from LN.

At Hrs. Mts. by

Mts. by

OOTACAMUND 14-8-95

*.—No 29 T-18 4-24-60,000.

P. W. CURRENT No. 6352

Government of Madras.

189 5.

P. W. DEPARTMENT.

CURRENT No.

From

The Govt of India

No. 316B

Dated 14. 8. 95

Received 15-8-95.

ENCLOS

SUBJECT.

H.E. the Govr Bombay

Sanctioning construction

of Quarters for the —

DISPOSAL.

Circ: 19-8-95

No. dated

PUBLIC WORKS DEPARTMENT.

No. 2065 W dy 19th August 1895

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

Telegram from the Govt of India, No. 316B dy 14th August 1895

Communicated to the officers concerned with reference to G.O. 1826W dy 24th July 1895.

The work should be commenced at once.

C to M 15/8/95

95

To

The Consg. Archt. to Govt

The Mily. Secy. to H.E.

the Governor

" Secy. P. W. Accts.

DESPATCHED 20 AUG. 95

(40—4,000—14-3-95.)

Funds

6. Destruction of surplus & useless Records - Measures
for the ——. G.O. 2449 W dt 2.10.94
" 2901 W dt 13.11.94
" 3137 W dt 7.12.94
" 168 W dt 28.1.95

27. Drawing Branch of the Chief Engineer's Office
Reduction of the staff of the —
G.O. 3270 W dt 20.12.94

28. Service Books

29. Inventory of Valuable Stock

W Submitted for approval
R.P.
31 Maggs.

Rwr.

SAW Please send us files accordingly. Also, a copy of the list for my information
R.P.
31 Maggs.

O/24/5

ngalore Harbour - Report on its present condition
G.O. 1032 W dt 21.4.94

Deputation of Mr G.T. Walch to report on the best means of improving it - G.O. 1968 W dt 10.8.94

Mr Walch's Preliminary Report
G.O. 2558 W dt 13.10.94

Report on the condition of —
G.O. 336 W dt 9.2.95.

9. Adirampatnam Harbour - Deputation of an Engineer officer to examine the — & advise on how best to meet the landing and shipping difficulty there encountered in view to the Mayaveram - Muttupet Railway Extension to the port being rendered remunerative.
G.O. 1631 W dt 2.7.94

Report on the — G.O. 2505 W dt 10.10.94

10. New Pier at Tuticorin - Construction of the —
G.O. 552 W dt 28.2.94
" 2154 W dt 31.8.94

11. Drainage of the swamps round Masulipatam
G.O. 1657 W dt 3.7.94
" 2902 W dt 13.11.94

12. Coonum Improvement Scheme - G.O. 3164 W dt 10.12.94
" 190 W dt 24.1.95
" 349 W dt 12.2.95
" 381 W dt 14.2.95

13. Law College at Madras

Report of — Engineer to Mysore in connection with the Mysore Durbar on the question of utilising the water power available at the Cauvery Falls at Sivasamudra.
G.O. 2183 W/A dt 3.9.94

14 15. Road from Kodaikanal to Dyempollium - Lieut. A.J. Close, R.E. placed on duty in connection with the survey of a —, & graded as an Asst. Engr., Third Grade, Temporary
G.O. 1607 W/A dt 28.6.94

15 16. Water Power available at the Periyar Project Steps taken by the Secy of state to bring to public notice in England the ——.
G.O. 1431 W dt 9.6.95.

16 17. Coast Lights - Deputation of Mr Ashpitel to inspect & report on all the lights along the coast
G.O. 2233 W dt 6.9.94.

17 18. Inspection of Lighthouses - G.O. 2441 W dt 1.10.94
" 2734 W dt 26.10.94
" 1819 W dt 20.7.94

18 19. Works on Wards Estates

19 20. Presidency Public Works Stores

20 21. Presidency Public Works Workshops

21 22. Bezwada Workshops

22 23. Dowlaishweram Workshops

23 24. Govt. Brick and Tile Manufactory

6352

Govt. of 1895 Madras.

PUBLIC WORKS

Dated 1/4

Received

G.O. 19/8/1895 No. 2055

Quarters for the new
H.E. the Governor's Band.

Telegram from the
Govt of India Sanctioning
the estimate for —,
and to offices Concerned
the work need to
be commenced at
once. —

Subjects proposed for Part I of the Administration Report for 1894-95

1. Administration

2. Circle Charges

3. Divisional Changes — Godavari Central Division, Re-formation of, G.O. 686 W dt 22.3.95
P.W. Divisions, Kistna Distribution of the sanctioned establishment for the —, G.O. 1667 W dt 4.7.94
Coimbatore Division Reduction to 2nd class — G.O. 1682 W dt 6.7.94

4. Engineer Establishment — Correspondence with the Govt. of India regarding recruitment of the — G.O. 1641-2 W dt 2.7.94
" 2072 W dt 20.8.94
Revised cadre number for 1895 for Ex: Engineers G.O. 639 W dt 16.3.95.

5. Casualties — Retirement of Mr. A.M. Hayes G.O. 2665 W dt 20.10.94
" 3125 W dt 6.12.94
" 2872 W dt 10.11.94

" " Mr. C.J. Peters G.O. 3094 W dt 3.12.94
" 3272 W dt 20.12.94

6. Grants and Expenditure

7. Madras Harbour Works

Public W

ADMINISTRATION REPORT

OF THE

PUBLIC WORKS DEPARTMENT,

(GENERAL, BUILDINGS AND ROADS BRANCH),

MADRAS PRESIDENCY,

FOR THE YEAR

1894-95.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS,

1895.

ADMINISTRATION REPORT

OF THE

PUBLIC WORKS DEPARTMENT, MADRAS

(GENERAL, BUILDINGS AND ROADS BRANCH),

FOR THE YEAR 1894-95.

I.—GENERAL REMARKS.

Administration.—The Honourable Colonel J. Pennycuick, R.E., continued to hold the position of Chief Engineer of the Department and Secretary to Government throughout the year, while Colonel Drake-Brockman, R.E., retained the position of Chief Engineer for Irrigation and Joint Secretary to Government in the Irrigation Branch.

2. *Circle charges.*—The circle charges were administered as follows:—

The I Circle, with head-quarters at Dowlaishweram, was in charge of Mr. G. D. Wybrow until the 2nd June 1894, when he proceeded on furlough. Mr. J. E. Paul, Executive Engineer, then officiated as Superintending Engineer until the 6th July 1894, when he was relieved by Mr. A. H. Garrett, Superintending Engineer, 3rd Class, temporary rank, who continued in charge for the remainder of the year. The II Circle, head-quarters, Bezwada, was held by Mr. J. W. Martin up to the 5th April 1894, when he proceeded on furlough. Mr. A. S. Russell, Executive Engineer, held temporary charge until the 29th of the same month, when Major W. L. C. Baddeley, R.E., assumed charge and retained it for the rest of the year. Colonel A. T. Fraser, R.E., continued to administer the III Circle, head-quarters, Bellary, until his retirement in August 1894, when he was succeeded by Lieut.-Col. C. C. Rawson, R.E. The latter officer having been transferred in March 1895, the charge of the circle for the rest of the year devolved on Mr. C. H. T. Norfor, Superintending Engineer, 3rd Class, temporary. The IV Circle, head-quarters, Coimbatore, was held throughout the year by Mr. J. Hannan. The V Circle, head-quarters, Madras, was administered by Mr. J. C. Larminie up to 16th March 1895, except for a period of absence on privilege leave from 16th August to 21st October 1894, when Mr. J. P. Davidson officiated. Mr. Larminie proceeded on furlough on the 16th March 1895 and was succeeded by Lieut.-Col. C. C. Rawson, R.E. Major O. V. Boddy, R.E., took over charge of the VI Circle, head-quarters, Trichinopoly, from Lieut.-Col. A. W. Smart, R.E., at the end of the previous official year, and he continued to hold it until the 21st December 1894, when, having obtained furlough, he was relieved by Mr. W. Hughes, B.A., who remained in charge for the rest of the year. The office of Consulting Architect continued in the hands of Mr. H. Irwin, C.I.E., and Mr. S. D. Pears, as Superintendent of Works, remained in charge of the head works of the Periyár Project.

3. *Divisional changes.*—The Gódávari Western division was divided into two separate divisions as follows:—

(1) *Gódávari Western Division.*	(2) *Gódávari Central Division.*
Sub-divisions.	Sub-divisions.
(1) Eastern.	No. 1.
(2) Western.	No. 2.
(3) Tank and Embankment.	

The necessity for this measure had been apparent for some time previously, but owing to the want of executive staff it had to be deferred.

Sanction was accorded in the previous year to the re-arrangement of the Public Works divisions of the Kistna district, and in accordance with this authorisation the following sub-divisional charges were formed:—

Division.	Sub-Division.
Kistna Eastern	1. Cowtaram. 2. Northern. 3. Southern.
Do. Northern	1. Head-quarter. 2. Guntúr. 3. Muniyeru project.
Do. Western	1. Eastern. 2. Western. 3. Western Delta project.

The Coimbatore division was reduced from the first to the second class, and the clerical staff reduced accordingly.

4. *Casualties.*—There were no deaths among the superior officers of the department. The following officers retired on the pensions earned by their length of service:—

Mr. C. J. Peters, Executive Engineer, 1st Grade.
„ G. E. Manson, „ 2nd „
„ W. Jopp, „ 2nd „
„ A. M. Hayes, „ 2nd „
„ S. Subbarayachariyar, „ 3rd „

and Colonel A. T. Fraser, R.E., Superintending Engineer, 1st Class, temporary, was relegated to military duty on completion of 55 years of age.

5. *Grants and Expenditure.*—The following statement shows the grants and expenditure of the year under the different finance heads:—

Fund and financial heads.	Original grant.	Revised estimate.	Actual expenditure.
	Rs.	Rs.	Rs.
Imperial Military works	65,000	78,600	..
Do. Civil „	31,000	28,800	..
Provincial Civil „	23,09,000	22,26,000	..
Local Incorporated funds	47,000	36,000	..
Do Excluded „	1,8',887	1,32,708	..
Estate works	24,378	19,103	..
Total ..	..	..	..

6. *Madras Harbour Works.*—The official year 1893–94 closed with the completion of the north pier head by the setting in position of the iron caisson at that arm, and the year under review has seen the successful construction and setting in position of a similar caisson, which has completed the southern arm of the harbour. The two caissons thus terminating the north and south pier heads form the eastern entrance to the harbour with a width of 515 feet 6 inches and a depth of 39 feet alongside each of the pier heads for a length of 175 feet. 820 lineal feet of the north pier have been completed and raised to a height of 13 feet above mean sea level by the addition of a capping of large concrete blocks made *in situ*, weighing about 250 tons each, and covering four courses of the bonded blockwork. A lighthouse of mass concrete has been built upon the north pier head caisson. The lower chamber of

the lighthouse has been designed as a tidal observatory, and in December the self-registering tidal instruments were erected, and commenced a new series of tidal observations.

North pier head.—During the month of April the cylindrical mass of concrete formed in the caisson at the close of last year was united with the bonded blockwork behind it, by building a backing of mass concrete. To confine the concrete to the required position until set, a temporary wall of blocks had to be built up to high water level on either side of the pier. This was then caulked below water by divers to form a water-tight mould. The work was completed by the end of April, but owing to a continued and unusual rough sea washing round the caisson at this point, it was impossible to raise the blocks again before the end of September. This delayed all progress to the north pier capping by five months. Similar delay did not occur at the south pier on account of its sheltered position. When it was evident that delay at the north arm was unavoidable, it was decided to transfer the all-round titan crane to the south pier head, where it was required for setting the second caisson; and this was done in four days, after having raised and replaced in better positions 104 wave-breaker blocks along the north arm.

The rubble base around the caisson and along the pier was consolidated or paved with concrete for a length of 94 lineal feet.

The total length of the north pier, as now completed, is 3,816 feet 9 inches from the end of the cassion at the pier head to the first block set on shore in 1876.

South pier head.—Between June and October seven courses or 168 blocks were set by divers. The blocks were then left in position to compress the foundation of the caisson during the monsoon. In March 1895 six courses, or 243 blocks in all, were removed, and the caisson was set in position. The total length of pier built and removed in the official year was 127 feet 6 inches. On two occasions when the foundation was almost ready to receive the caisson, some of the old wall blocks slipped falling upon the newly-prepared base. The removal of these blocks considerably delayed the work and necessitated the divers and all hands working day and night so as to complete the work before the May monsoon set in. The official year closed with the completion of the construction of both arms of the harbour and pier heads in accordance with the sanctioned design. The capping of concrete along both arms, a small portion of the rubble base protection, and the south pier head lighthouse comprise all that remains to complete the works. The total length of the south pier as completed is 3,931 feet $1\frac{1}{2}$ inches from the end of the caisson to the first block set on shore in 1877. During May and June 38 wave-breaker blocks were added to the south pier wave-breaker screen, extending it as far as possible until the caisson was placed in position.

Pallávaram quarries and concrete-making machinery.—The total outturn of concrete during the year was 6,312 cubic yards. 11,820 tons of chips were received from the quarries for concrete work and $881\frac{3}{4}$ tons of large rubble were received and deposited along the protective works to the north of the harbour.

Supply of Portland cement.—Thirteen thousand nine hundred and seventy-three casks containing 2,495 tons of Portland cement were received from England during the year, and an indent for a further supply of 2,500 tons was forwarded to the India Office. The balance of cement in store on the 31st March 1894 was 5,759 casks containing 1,028 tons, while the issues during the year ending 31st March 1895 were 10,427 casks containing 1,862 tons, leaving a balance on hand at the close of the official year of 9,304 casks or 1,661 tons.

Protective works north of the harbour.—In May 1894 the first line of revetment to the north of the harbour settled down considerably at the original gap known as "Masulah Boat bay," leaving the line of rails and sleepers suspended. Near "Carlton House" further settlement also took place. It was thus necessary to deposit $881\frac{3}{4}$ tons of large rubble boulders at the weakest points along the line of revetment. The bay at the extreme end of these protective works increased by 160 feet between March and December 1894, but at the close of the official year the high water line had advanced seawards again to the original position.

Foreshore south of the harbour.—There was an advance of foreshore seawards during the year of about 160 feet, but since December 1894 the high water mark returned shorewards by 60 feet.

Sea bottom within the harbour.—The depth of water inside the harbour remained the same, and, although the high water line varied its position according to the direction of wind and sea, there has been no permanent advance of foreshore during the year. The high water line along the southern half of the harbour has, however, shown a tendency to recede, while close to the southern arm the water line was 40 feet *inshore* of its position at the close of the previous official year.

Expenditure.—The total outlay on the works, including the expenditure on the protective works north of the harbour, was Rs. 2,74,280–11–8, made up as follows:—

	RS.	A.	P.
Outlay on works	2,76,122	9	5
Do. on establishment	44,843	2	10
Total ...	3,20,965	12	3
Outlay on tools and plant	— 1,148	14	0
Net debit to suspense heads ...	— 45,536	2	7
Net outlay in the year ...	2,74,280	11	8

The year closed with a cash balance of Rs. 68,616 and a balance of Rs. 80,180 in material, cement and stores, or a total unexpended balance upon the sanctioned estimate of Rs. 1,48,796. A revised estimate providing for a total expenditure of Rs. 1,27,52,508 has since been submitted for sanction. The following is a summary of progress:—

Number of items.	Particulars and quantity of works during official year 1894–95.	Sub-heads of work.	North pier. Concrete capping.	North pier. Wave-breaker.	North pier. Base protection.	North pier. Pier head backing.	South pier. Pier head at 40 feet below sea level.	South pier. Wave-breaker.	Titan and railway lines laid and removed for work.	Total concrete made for work.	Pallávaram quarries outturn.	Protective works.	Total expenditure.
		Column.	A	B	C	D	E	F	G	H	I	J	K
1	Total quantity of rubble stone received on works.	..	..	..	..	..	..	..	..	..	881¾	881¾	..
2	Total quantity of blasted chips.	..	..	..	..	..	..	..	..	..	11,820	..	..
3	Concrete blocks set and removed by divers.	No.	..	..	..	24	28 Permanent. 352 Temporary. 380 Total blocks in works in addition to setting of south pier head caisson.	..	..	..	..	..	..
4	Concrete blocks raised and re-deposited in wave-breaker.	..	..	104	..	..	..	..	..	..	..	..	..
5	Concrete deposited in wave-breaker, additional.	..	..	..	..	..	..	38	..	..	..	..	..
6	Total outturn of concrete.	C. yds.	5,197¼	..	674	790½	2,410¼	..	..	9,072	..	..	..
7	Advance or progress of completed superstructure.	Rg. ft.	..	..	..	..	52′ 3″ Permanent advance including caisson. 75′ 3″ Temporary advance and removal. 127′ 6″ Total length.	..	..	..	..	..	..
8	Advance or progress of capping superstructure.	„	830	..	..	..	..	..	..	..	..	..	..
9	Concrete blocks made *in situ*.	No.	33	..	..	..	..	..	..	..	..	..	..
10	Rabble base protected with concrete.	Rg. ft.	..	..	94	..	..	..	..	..	..	..	..
11	Titan and mixed gauge, railway lines, &c.	„	..	..	..	..	..	..	11,177	..	..	..	..
12	Expenditure under sub-heads of work approximately.	..					2,39,077				16,358	165	2,55,600

Miscellaneous.—The machinery cranes, railway lines, &c., were kept in repair, and the usual haulage by the Harbour Works locomotives for the Traffic department was continued during the year.

7. *Mangalore harbour.*—The question of the best means of improving the harbour at Mangalore has engaged the attention of Government on several occasions, and it was recently decided to obtain the services of a specially qualified officer to survey the port and suggest the measures necessary for its improvement. Mr. G. T. Walch, late a Chief Engineer of the Public Works Department, was finally selected during the year to pursue the requisite investigations. The port consists of an open roadstead where large vessels anchor from one to two miles from the shore and a "backwater" forming an inner harbour used by the smaller sea-going craft. Access to the inner harbour is through the channel by which the waters of the two rivers—Nétrávati and Gurupur—find their way to the sea, the channel being kept open, even when the river-supply fails, by tidal scour. There is a sandy barrier between the backwater and the sea, but it is so narrow, low and unstable, that it is easily breached when the level of the backwater is raised by river floods. The consequence is that new openings to the sea are constantly formed, creating difficulties and uncertainty in the way of shipping, which constitute great drawbacks to trade. There does not appear to have been any deterioration in recent times of the open sea anchorage for large vessels, and any improvement of this anchorage could only be effected by an artificial harbour on the general lines of the one at Madras. The cost of such improvements would be prohibitory, and the investigation now in hand will therefore be confined to the means of making the best of the inner harbour and its entrance.

8. *Adirámpatnam harbour project.*—In connection with the contemplated extension of the Máyavaram-Muttupet Railway to Adirámpatnam in the Tanjore district, the Local Board desired that the question of improved facilities for the landing and shipping of goods at the port should be investigated. An officer of the Public Works Department was accordingly deputed to report on the subject. He described the so-called port as a shallow bay, situated about 30 miles west of Point Calimere and protected by two sandspits or shoals, the margin being slushy for some 2,000 feet seawards from the custom house. For the next 2,000 feet seawards the bed falls to 4·84 feet below mean low spring tide level. Of recent years the depth of water has diminished owing to natural causes, and vessels of every size are now obliged to anchor 8 or 10 miles out. Boats, however, approach the custom house through a channel excavated through the slush, the excavated spoil forming a bank on which loading and unloading is carried on. The channel carries only a few inches of water at low tide, and it is possible to deepen and widen this channel and form a better road with the spoil for a length of 2,000 feet from the custom house. Thence a pile pier would be required, but to reach even a depth of 5 feet at low tides a length of 2,000 feet of pier would have to be constructed. The work would be expensive, stone for the roadway not being available at a less distance than 25 miles; while the pier piles would have to be sunk 10 feet through slush and sand before even firm soil would be reached. These facts, coupled with the steadily deteriorating character of the bay, indicate pretty clearly that no improvement is possible within any practical limit of cost.

9. *Drainage of the swamps round Masulipatam.*—On the occasion of a late inspection of the town of Masulipatam, the Sanitary Commissioner brought to notice its insanitary condition owing to defective drainage. The town is situated on a flat alluvial plain formed by the river Kistna, which stretches at this point several miles out to sea, with so small a gradient that ships have to anchor off the port at a distance of nearly seven miles. These being the physical conditions of the site, it necessarily follows that difficulty must exist as to the surface and sub-soil drainage of the town. The fluctuation of the latter is from 3 feet to 6 feet in the best parts of the town and from 6 feet to the surface in less fortunate parts. A heavy, but not extraordinary, fall of rain, 8 to 9 inches in the 24 hours, is sufficient to transform the environs of the town, usually known as the "swamps," into seas of water. There exist six outlet channels for surface drainage to the sea, but these are evidently insufficient, and

inquiries are now being made as to whether it would be practicable and remunerative to reclaim these swamp lands by means of embankments and suitable drainage works on the methods successfully adopted in the fens of Lincolnshire and in Holland.

10. *Cooum improvement scheme.*—The insanitary condition of the river Cooum within the limits of the town of Madras has long engaged attention. In 1890, the Government appointed a committee to consider the general question of water-supply and drainage, and on receipt of its report decided to obtain the opinion of a sanitary expert from England. Mr. Edward Cousins, C.E., was accordingly sent out, and arriving at Madras towards the close of 1891, spent six months there in collecting information and studying local conditions. He found that, for a period of about nine months in every year, the Cooum near its mouth lies as a lagoon filled with an admixture of fresh and salt water in the centre of the town, that it is but seldom that any appreciable quantity of fresh water is received by the river during the long time it is cut off from the sea, but that a considerable addition is made to its contents and to the contents of the connected canals, by the discharge of large quantities of sewage which is poured into them daily from a great number of sewers. It is estimated that over one million gallons of sewage is thus poured every day into this stagnant brackish pool. The solid contents of the sewage settle to the bed of the river and form layer upon layer of deposit, emitting noxious exhalations which are apparent at a considerable distance. Thus the river in its present condition is a standing menace to the health of the inhabitants of Madras, and even when tidal it is a source of great danger, inasmuch as the decomposed deposits on the bed are disturbed by the action of the tidal water and throw off noxious gases. A great part of this sediment is doubtless removed when the river is in flood and flowing freely outwards to the sea, but this only occurs for two or three months of the year; for the remaining nine or ten months the mouth of the river is blocked by the bar, and the matters held in suspension are once more deposited. No scheme of drainage for the town of Madras could thus be in the remotest degree satisfactory which did not provide for the total elimination of all sewage matter from the river Cooum. Mr. Cousins' scheme provided accordingly for such elimination, as well as for special treatment of the river itself. He proposed the construction under the sand bar at the mouth of the river of a masonry culvert 520 feet in length terminating in six cylindrical steel pipes, each 3 feet in diameter, which are to be carried seawards an additional distance of 220 feet, so as to reach deep water. It was calculated that the discharge of water from the river and its replacement by sea-water occurring at each tide through the opening would, as long as the sewage which now falls into the Cooum is excluded from it, suffice to keep the river pure and clean. The total cost of the work was estimated at Rs. 3,07,876. The Chief Engineer and the Sanitary Engineer were of opinion that this scheme would scarcely secure such an efficient cleansing of the Cooum as is desirable, and His Excellency the Governor in Council agreed in this view. Owing, moreover, to the abandonment of the proposed drainage scheme, which was decided after careful consideration, it will be impossible to calculate upon the total elimination of sewage from the Cooum, and it is on this account the more necessary that any scheme for the purification of the river that may be adopted shall ensure the replacement by sea-water at regular intervals of a very considerable proportion of its contents. On these grounds the Government came to the conclusion that the proposals formerly put forward by the Chief Engineer in modification of those made by Mr. Jones would provide for a degree of circulation in the river which would meet the necessities of the case. These proposals included as the principal feature of the arrangements the construction of a canal from the north side of the harbour to the boat basin in the Buckingham canal which is connected with the river. This would permit of the entry twice in the 24 hours of a large body of water at one point of the connected waters of the Buckingham canal and the Cooum, and for its discharge at another and a distant point, and would thus effect a continual replacement of a considerable portion of the contents of the canal and river. Such a canal would, moreover, be of great value to the harbour and the commerce of the city. It is roughly estimated that the cost of this proposal would be some eight lakhs of rupees, involving an annual charge for interest and sinking fund of Rs. 40,000. The Chief Engineer was requested to make arrangements for drawing up detailed estimates of the outlay that the execution of this project would involve, and an officer is now specially engaged on the work.

11. *Visit of the Chief Engineer to Mysore.*—The Mysore Government has had under consideration for some time the question of utilizing the water-power available at the Cauvery falls at Sivasamudra for the production of mechanical energy, and understanding that Colonel Pennycuick, R.E., Chief Engineer and Secretary to the Madras Government, had devoted much attention to the question in connection with the Periyár project, the Durbar requested His Excellency the Governor in Council to permit that officer to pay a visit to the falls and report on the feasibility or otherwise of the scheme, all expenses incurred being paid by the Mysore State. In pursuance of this request, Colonel Pennycuick visited the locality in September 1894 and drew up a report which was transmitted to the Mysore Government. The conclusion arrived at was that the physical conditions of the ground are as favourable as can be desired for the generation of power, but, that it was impossible without further investigation, the nature of which was indicated, to estimate with any accuracy the power which could be developed or the cost of the necessary works, the amount of water available not being at present known.

12. *Road from the Palnis.*—The subject of opening up communication between the Upper and Lower Palnis and the plains has recently engaged attention. It is considered of great importance that the plateau of the Lower Palnis should be developed. The country is said to be extremely rich and well adapted for the growth of coffee and cardamoms, of which several plantations already exist, while the natural forests are most valuable; the population also shows a tendency to rapid increase. Several officers have been engaged on the requisite investigations. The work was finally entrusted to Lieutenant Close, R.E., who towards the close of the year submitted a project for a road from Kodaikánal to Atur, a distance of 45 miles, at an estimated cost of Rs. 4,04,536; but it will be necessary to add 4 miles to the distance and Rs. 10,000 to the cost for a direct road from Atur to Ambattarai, which is the nearest railway station. The question of whether the road should be constructed is purely a financial one, depending on what contribution the Government is prepared to make towards the cost, and whether the District Board will contribute the balance. So far as the development of the Lower Palnis is concerned, it will be sufficient to construct the road as far as its junction with Law's Ghât, leaving the improvement of the latter, which completes the communication with Kodaikánal, for execution at a future date; but this could only save something less than one-fourth of the total cost. It was pointed out that the construction of a bridle-path would probably cost Rs. 85,000, and that this, as regards Kodaikánal, would be of no use, as it would not compete with the existing road by Periyakulam, which is only 43 miles in length, of which 31 are on a good cart-road. How far it would be of value for the Lower Palnis is a question which has been remitted to the District Board which has the whole matter now under consideration.

13. *Water-power in connection with the Periyár.*—The fact that an enormous water-power would be avilable at Kuruvanuth on the completion of the works for the diversion of the Periyár has long been known to all those who are interested in the subject. The question as to the best means of utilizing this power came under the consideration of Government in 1892. The works are designed and intended primarily for purposes of irrigation. The amount of water-power available depends, therefore, mainly on the amount of water which has to be drawn from the lake for use in the Vigai valley, but arrangements have been made so that, if necessary, a minimum of 500 cubic feet per second can be drawn off without intermission or interruption from year's end to year's end, and this minimum will be available for the development of power. The actual fall is about 1,200 feet, and the power which could be obtained from 500 cubic feet a second with this fall would be about 50,000 horse-power. This power would be available day and night, and if it were proposed, as for most manufacturing purposes would probably be the case, to work for only 10 hours out of the 24, it would be practicable, without detriment to irrigation, to send down a rather larger proportion of the daily supply during these hours. It may therefore be assumed, without risk of error, that for practical work 60,000 horse-power would be available throughout the year. The best method of obtaining this power from the water, irrespective of the question of its utilization when obtained, is one of great interest both from a mechanical and a

financial point of view, as there is no place in the world where so large a body of water is obtainable under complete control with so great a working head. These facts were, in the opinion of Government, so important as to justify a reference to the best engineering specialists at home. The papers on the subject, including surveys of the ground, were accordingly forwarded to the Secretary of State for India in view to some practicable scheme being elaborated. Lord Kimberley appointed a committee in London, composed of the following gentlemen, to consider the question:—

Colonel J. Pennycuick, R.E., *Chairman.*
Professor W. C. Unwin, F.R.S.
" G. Forbes, F.R.S.
" W. C. Roberts-Austen, C.B., F.R.S.

It was clear to the committee that on the completion of the Periyár project there would be a large amount of power available for industrial purposes, and that the development and utilization of this power would be of the greatest importance to the Government of India from an administrative as well as from a financial point of view. The subject was considered under two main branches, firstly, the development of the power at the site of the works by suitable hydraulic apparatus; and, secondly, its utilization on the spot or transmission to distant places at which it may be more effectively utilized. No recommendation was made as to whether the apparatus necessary for bringing this power into use should be constructed by the Government of Madras, or whether the right to the use of the water would be leased to one or more contractors, leaving the latter to make their own arrangements for its utilization. The committee, however, suggested that early steps should be taken for giving the utmost possible publicity to the fact that this power will shortly become available, with a view to the submission of practical proposals for its development, there being a great probability of new industries being attracted to the district by the mere existence of a source of power which appeared to the committee to be one of the cheapest in the world. The reports on the subject were accordingly published in the *Fort St. George Gazette* and communicated to Engineering newspapers and institutions, the Colonial office, and the Agents-General for the Colonies.

14. *Coast lights and lighthouses.*—The question of the improvement of the coast lights of this Presidency has occupied the attention of Government for some years past. It was finally decided during the year that Mr. Ashpitel, Assistant to the Chief Engineer for Irrigation and Under Secretary, Irrigation Branch, who had given special attention to the study of lights and lighthouses in Europe, should be deputed with the Presidency Port Officer to inspect all the lights along the coast, go thoroughly into and report on the question of the suitability or otherwise of the position of each light, of the structure from which it is displayed, and also of the light itself for the purpose for which it is required. His inquiries were further to extend to the adequacy and competence or otherwise of the establishments maintained for each light, the consumption of oil and other stores, and the accommodation for the staff attached to the several lights.

The following lighthouses were also inspected by officers of the department during the year:—

Hare Island, Tuticorin.	Cochin.	Mangalore.
Seven Pagodas.	Calicut.	Negapatam.
Pulicat.	Cannanore.	Madras.
Armeghon.	Tellicherry.	

15. *Works in Wards' estates.*—The works in the following estates were in charge of the Public Works Department during the year:—

Ganjám Division.	*Gódávari Western Division.*
(1) Aska.	(4) Lakkavaram.
(2) Bodagoda.	(5) Tangellamúdi.
(3) Dhárákóta.	

The statement below exhibits the outlay as compared with the grant for works:—

Estates.	Buildings.				Communications.			
	Original works.		Repairs.		Original works.		Repairs.	
	Revised grant.	Outlay.	Revised grant.	Outlay.	Revised grant.	Outlay.	Revised grant.	Outlay.
Ganjám Division.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Aska	5,000	4,999	..	..	..	..	..	..
Dhárákóta	..	..	500	499	..	..	70	70
Bodagoda	..	..	500	500	..	..	130	129
Pedda Kimedi estate	..	..	1,050	924	..	..	..	..
Total	5,000	4,999	2,050	1,923	..	..	200	199
Gódávari Western Division.								
Tangellamúdi	..	..	..	..	..	..	..	..
Lakkavaram	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..

N.B.—The figures do not include establishment charges.

Aska estate.—The expenditure of Rs. 4,999 under "Buildings—Original works" was incurred on the following works:—

	Rs.
(1) Constructing malukdar's quarters at Aska	4,644
(2) Demolishing Aska malukdar's quarters	355

The former work was making good progress.

Dhárákóta estate.—The expenditure of Rs. 499 under "Buildings—Repairs" was on three buildings in Dhárákóta palace. Two of these were completed and the other was still in progress. The outlay of Rs. 70 under "Communications—Repairs" was on the maintenance of Dhárákóta-Mundamari road, which was completed during the year.

Bodagoda estate.—The expenditure of Rs. 500 under "Buildings—Repairs" was on three works, two of which were completed and one was still in progress. The outlay of Rs. 129 under "Communications—Repairs" was on repairing the road from the palace to the police station.

Pedda Kimedi estate.—A sum of Rs. 924 was spent against an allotment of Rs. 1,050 in repairing the houses occupied by the Gayatri Pattamahadevi and late Raja's sister. The short outlay was due to the very unsatisfactory work done by contractors which necessitated other arrangements being made at the close of the year for carrying on the works.

Lakkavaram and Tangellamúdi estates.—No work under "Buildings" or "Communications" was executed in these estates during the year.

16. *Public Works Stores.*—The opening balance of the year was Rs. 2,13,650-1-8. The receipts during the year were—

	Rs.	A.	P.
From London	29,419	1	6
" Public Works divisions	7	14	6
" Public Works Workshops	928	13	8
" Local purchases	28	14	10
Total ...	30,384	12	6

The issues were—

	Rs.	A.	P.
To Public Works Department	9,978	1	10
" Public Works Workshops	17,997	14	9
" State Railways	259	9	0
" Articles valuing Rs. 10 and below transferred to other divisions and departments	33	1	6
	42	8	10
" Other departments	48	9	11
" Private sales			
Total ...	28,359	13	10

leaving a closing balance of Rs. 2,15,675-0-4, which, although less than the reserve limit of Rs. 2,25,000 sanctioned in G.O., No. 3268 W., dated 19th December 1894, yet includes the value of a large quantity of surplus and obsolete stores, a list of which was prepared and submitted for the orders of Government.

Surplus stores to the value of Rs. 476-6-6 were sold during the year.

Special stores to the value of Rs. 68,691-10-1 were obtained from England on account of other divisions and departments and despatched to their destinations.

Instruments, tools and machinery were issued numerically to Public Works Provincial service, but at a valuation to irrigation works and other departments to the extent of Rs. 9,626-15-0.

Thirty-nine consignments were received from England, and there were 35 shipments to other Public Works divisions as against 41 and 39 in the previous year.

17. *Public Works Workshops.*—A report on the financial results of the working of the Public Works Workshops is submitted to the Government annually by the Examiner of Public Works Accounts.

The value of work executed in the shops during the year was Rs. 91,628-0-3 against Rs. 1,09,612-3-10 in the previous year, showing a decrease of Rupees 17,984-3-7.

The following statement shows the work done as compared with that of previous year :—

—	1893-94.	1894-95.	Difference. More.	Difference. Less.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Work done for Public Works Department, including Military Works and State Railways	80,385 2 10	67,543 4 3	..	12,841 14 7
Other Government departments	27,007 0 0	22,658 15 0	..	4,348 1 0
Private parties	2,220 1 0	1,425 13 0	..	794 4 0

The value of machinery and plant at the beginning of the year was Rs. 96,721-1-2. After deducting the usual 4 per cent. for depreciation, amounting to Rs. 3,868-13-6, and adding receipts amounting to Rs. 3,233-14-4, the balance at the close of the year amounted to Rs. 96,086-2-0. The expenditure on tools and plant and machinery was Rs. 3,651-15-10 and that on new plant was Rs. 3,233-14-4, while the balance of materials on hand at the end of the year was Rs. 7,289-11-5 against the sanctioned reserve limit of Rs. 25,000.

18. *Bezwada Workshops.*—The outturn of these shops during the year amounted to Rs. 1,53,952 against Rs. 1,85,807 of the previous year. The stock of sawn wood comprising the balance at debit of the "Sawpit account" was taken by Lieutenant Lord, Assistant Engineer, in October 1894, with the result that there was a loss of Rs. 3,506 on the book value. Proposals were submitted for the adjustment of this loss against the profit accruing on the re-valuation of articles in the divisional stores on the basis of local rates. The total receipts at one per cent. on the transactions of the year on account of general charges amounted to Rs. 871, while the charges debited to this head were Rs. 889, resulting in a small loss of Rs. 18 against a profit of Rs. 693 in the previous year.

19. *Dowlaishweram Workshops.*—The following is a statement of the work done in the shops, excluding the centages during the year under review as compared with the previous year :—

—	1894-95.	1893-94.	More than 1893-94.	Less than 1893-94.
	Rs.	Rs.	Rs.	
1. Work done for the Public Works Department excluding centage	61,313	52,020	9,293	
2. Work done for other departments excluding centage.	2,961	1,568	1,393	..
3. Work done for private parties excluding centage ..	2,045	1,550	495	..
Total ..	66,319	55,138	11,181	..

The value of work was thus Rs. 11,181 more than in the previous year. The increase appears under all three heads shown above, but is principally due to greater progress made in the sanctioned works of the Gódávari Eastern division. The cost of general charges (establishment, repairs to buildings, purchase of new tools and repairs of tools, &c.) amounted to Rs. 8,222 against the centages of Rs. 10,236 actually obtained, resulting in a profit of Rs. 2,014.

20. *Government brick and tile manufactory.*—About 3,253,250 bricks, 153,050 flooring tiles and 103,130 Mangalore pattern roofing tiles, and a large quantity of terra-cotta were manufactured and supplied to Government works; 440,418 bricks and 79,870 tiles were sold to contractors and others at an advanced rate of 24½ per cent.

The tramway and the steam machinery plant are all at work and are found to be very useful. The pugging of the clay for bricks is a great improvement on the former plan of hand and bullock labour.

The Government lime-kilns were removed from the basin to the site of the Government brickfields. New kilns were constructed and lime is now being manufactured.

21. *Roads.*—The following statement shows the length of road communication maintained by public authorities in Madras during the year 1894-95 :—

Name of division.	Name of district.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by local authorities.	Length of unmetalled roads maintained by local authorities.	Total of metalled roads.	Total of unmetalled roads.
Ganjám and Rushikulya ..	Ganjám ..	16·50	..	732	22	748·50	22·
Vizagapatam ..	Vizagapatam ..	..	..	347	546	347·	546·
Gódávari (Eastern and Western).	Gódávari ..	5·00	..	758	137	763·	137·
Kistna (Northern, Eastern and Western)	Kistna ..	0·62	33·75	563	220	563·62	253·75
Nellore	Nellore ..	0·40	..	988	101	988·40	101·
Bellary	Anantapur ..	..	..	250	461	250·	461·
	Bellary ..	..	..	130	777	130·	777·
Cuddapah	Cuddapah ..	..	..	326	795	326·	795·
Kurnool	Kurnool ..	..	..	507	181	507·	181·
Coimbatore	Nilgiris ..	53·45	7·41	64	486	117·45	493·41
	Coimbatore ..	..	..	935	639	935·	639·
Salem	Salem ..	..	..	554	1,405	554·	1,405·
West Coast	Malabar ..	73·00	..	474	889	547·	889·
	South Canara ..	..	..	148	917	148·	917·
North Arcot	North Arcot ..	..	..	1,476	..	1,476·	..
Chingleput	Chingleput ..	..	..	607	77	607·	77·
South Arcot	South Arcot ..	..	60·00	895	234	895·	294·
Tanjore and Negapatam ..	Tanjore ..	..	147·50	148	1,342	148·	1,489·50
Trichinopoly	Trichinopoly ..	20·87	..	533	132	553·87	132·
Madura	Madura ..	..	..	572	706	572·	706·
Tinnevelly	Tinnevelly ..	..	..	818	124	818·	124·
Consulting Architect ..	Presidency ..	4·30	..	..	..	4·30	..
	Total ..	174·14	248·66	11,825	10,191	11,999·14	10,439·66

22. *Destruction of useless records.*—The accumulation of records year by year has caused considerable pressure on the limited space available in public offices, but except in certain special cases no systematic arrangements were in operation for eliminating surplus or useless papers. Proposals were accordingly invited by Government for dealing with the matter. The records of the Examiner's office had previously been dealt with on well-considered proposals brought forward by the present Examiner. The records of the Public Works Secretariat are now undergoing review in accordance with suggestions made by the Secretary which embrace the following measures :—

Copies of Papers.

To destroy.

(1) All spare copies of Proceedings of the Government of India and the Local Government in other departments *in excess of three.*

Note.—There will then remain the originals in all cases and spare copies up to the limit of three.

(2) All spare copies in excess of five of Proceedings of Government in the Public Works Department when over ten years old.
(3) All spare copies of Gazettes after binding one complete set for future reference.
(4) All loose sheets containing notes of the circulation and registry of papers *after one year*.

Note.—Bound volume of registers should be preserved.

(5) All spare copies of Standing Orders to Codes on which action has been taken.

Before destroying spare copies of Proceedings of other departments, their numbers and dates are communicated to those departments in order that they may have an opportunity of taking over any papers which may be of use to them.

Original Documents.

To destroy.

(1) All periodical returns that have been printed after one year.
(2) All periodical returns that have not been printed after one year.
(3) All statements other than periodical returns that have been printed after one year.
(4) Reports regarding change of appointment after one year.

Note.—A separate record of this information is kept in registers.

(5) Applications for leave after one year.

Note.—This information is also separately recorded.

(6) Budget estimates of other Governments after five years.
(7) Administration reports of other Governments after five years.
(8) Budget estimates of Municipal and District Boards after one year.
(9) Annual reports of Municipal and District Boards after one year.
(10) Lists of surplus stores after one year.
(11) Unanswered reference lists after one year.
(12) Indian daily weather reports after one year.
(13) Madras daily weather reports after one year.

It is possible that during the progress of the work other items will suggest themselves and in this case further orders of Government will be taken.

The books in the library were also carefully examined and a number of publications found to be either obsolete or surplus were sold after it had been ascertained that they were not wanted by other offices.

A limit was also prescribed beyond which certain periodical publications were not to be retained.

The result of these measures will set free a large amount of space for the records of future years.

23. *Drawing branch of the Chief Engineer's office.*—Under the provisions of orders of Government issued in 1889, a small drawing office, formed from the staff of the old Lithographic Press, was retained as part of the office of the Chief Engineer, Public Works Department, the duties of the draughtsmen being to prepare, on behalf of all departments of Government, enlargements of drawings for lithography by the Revenue Survey office. In course of time most of these enlargements were undertaken by the Revenue Survey office itself, and the work in the drawing office of the Chief Engineer was correspondingly diminished. It was thus found practicable to reduce the staff from four draughtsmen on Rs. 320 to one on Rs. 30, the one draughtsman retained being brought on the general establishment of the Chief Engineer's office and employed exclusively on work of the Public Works Department.

24. *Service books.*—The orders with respect to the due and correct maintenance of service books are reported to have received careful attention at the hands of officers of the Public Works Department, except in one instance in the Gódávari Western division and in a few cases in the Vizagapatam division. Early completion of these books was promised.

25. *Inventory of valuable stock.*—The returns of stock were correctly maintained and rendered to the Examiner by all officers of the Public Works Department.

II.—PROGRESS OF WORKS.

I.—IMPERIAL—MILITARY WORKS.

26. **Ganjam.**—The only work on which outlay was incurred during the year was constructing a well for the use of the public in lieu of the one reserved for the exclusive use of the regiment at Berhampur. Estimate Rs. 1,530 — Rs. 486 were spent during the year against the grant of Rs. 480. The total outlay up to the end of the year was Rs. 1,510 against the estimate of Rs. 1,530. The work was almost completed.

27. The expenditure on repairs was Rs. 1,015 against an allotment of Rs. 1,000 incurred for repairing the Military buildings at Berhampur and for paying the house-rent and compensation for quarters for medical and military subordinates.

28. **Vizagapatam.**—A sum of Rs. 1,585 against an allotment of Rs. 1,520 was spent on the following Minor original works which were all completed during the year:—

(1) Quarters for two hospital assistants at Vizianagram, estimate Rs. 890.
(2) Huts for two hospital sweepers at Vizianagram, estimate Rs. 170.
(3) Huts for four hospital bearers at Vizianagram, estimate Rs. 290.
(4) Sinking a well near Regimental hospital at Vizianagram, estimate Rs. 600.

The excess was trifling.

29. The expenditure on repairs was Rs. 2,623 against an allotment of Rs. 2,650 for repairing the buildings in the cantonment of Vizianagram and also for paying municipal assessment on military buildings at Vizianagram and house-rent and compensation for quarters for medical and military subordinates.

30. **Godavari (Eastern).**—The expenditure on repairs was Rs. 584 against an allotment of Rs. 628 on account of compensation for quarters to sergeant instructors, East Coast Rifle Volunteers at Rajahmundry and Cocanada, which amounted to Rs. 480, and for the following works:—

(1) Cutting a doorway in block No. 4 of East Coast Rifle Volunteer Armoury, outlay Rs. 5.
(2) Temporary verandahs to Military Pension office at Rajahmundry (old district jail), outlay Rs. 55.
(3) Watching military buildings at Samalkot, Rs. 44.

31. **West Coast.**—The following works were completed and made over for occupation:—

(1) Substituting asphalte floor in place of wooden floor of central block, West Hill, Calicut; estimate Rs. 2,830, outlay Rs. 2,469.
(2) Quarters for 11 men of the Army Hospital Native Corps, Cannanore; estimate Rs. 2,980, outlay Rs. 2,832.

32. The following minor works were carried out:—

(1) Lightning conductors to the military buildings at West Hill, Calicut, were put up, and Rs. 551 were spent bringing the total expenditure to the end of the year to Rs. 981.
(2) The Officer's Mess house at Malapuram was also provided with a lightning conductor at a cost of Rs. 44.
(3) A sum of Rs. 150 was spent in erecting a latrine for the guard-room at West Hill, Calicut.
(4) The roof of the armoury of Volunteer Rifles, Tellicherry, was renewed at a cost of Rs. 354.
(5) The detail hospital cook-room at Cannanore was converted into a mortuary for Native Infantry, expenditure Rs. 186.

33. The expenditure on repairs was Rs. 23,926 against a grant of Rs. 26,000. The military buildings and cantonment roads at the several military stations in the division were repaired and maintained in good order.

34. **Coimbatore.**—The only work completed under the head of minor works was putting up bamboo-fencing and constructing two cess-pools in the rest-house compound at Méttupálaiyam; estimate Rs. 100, expenditure Rs. 93.

35. The total outlay under Military Repairs was Rs. 10,704 against an allotment of Rs. 9,000. Of this Rs. 795 were paid for rents of hired buildings for military subordinates. The following are the principal works carried out during the year:—

(1) Repairs to sergeants' quarters, Lawrence Asylum, Ootacamund; estimate Rs. 2,650, expenditure Rs. 2,668.

(2) Repairs to Lawrence Asylum buildings, Lovedale; estimate Rs. 7,820, expenditure Rs. 8,338.

(3) Repairs to rest-house at Méttupálaiyam; estimate Rs. 200, expenditure Rs. 205.

(4) Repairs to rest-house at Pódanúr; estimate Rs. 200, expenditure Rs. 181.

There were besides seven petty works costing under Rs. 200.

36. **Salem.**—Out of a grant of Rs. 160, Rs. 153 were spent on repairing the sergeant-instructor's quarters at Yercaud and Jalarpet. House-rent amounting to Rs. 12 was paid for a building hired for sergeant-instructor at Jalarpet up to 10th March 1894, on which date Mrs. Liptrot's house was purchased and handed over to the Public Works Department by the Revenue Department.

37. **North Arcot.**—No works were carried out under this head except the payment of compensation for quarters hired during the year for the sergeant-instructor at Rénigunta.

38. **South Arcot.**—The work of constructing an armoury with magazine and store-room and quarters for the sergeant-instructor attached to the South Indian Railway Volunteer Corps at Cuddalore was resumed and work to the value of Rs. 4,488 was carried out during the year. The lower story forming the magazine and armoury with store-room was completed; doors fitted; materaials for concrete for steps, latrine and cook-room under collection. Of the total outlay during the year, Rs. 2,040 and Rs. 1,311 were debited to deposit contributions and miscellaneous advances, respectively, leaving a balance of Rs. 1,137 to be debited to Imperial Military against the grant of Rs. 1,013.

39. Besides the above work, Rs. 180 were spent in hiring quarters for the sergeant-instructor attached to the South Indian Railway Volunteer Corps at Cuddalore.

40. **Negapatam.**—The work of repairing the buildings occupied by the sergeant-instructor of the South Indian Railway Volunteer Rifle Corps at Negapatam commenced in the previous year, was resumed and completed at an outlay of Rs. 612, the total outlay being Rs. 994. A sum of Rs. 55 was also paid as Municipal tax on the building.

41. **Trichinopoly.**—The following minor works were completed:—

(1) Building a compound wall around the grand magazine at Trichinopoly; estimate Rs. 785, outlay Rs. 793.

(2) Putting up two windows to the old magazine attached to the Commissariat buildings at Trichinopoly to convert it into a guard-room for the Pension Pay office, outlay Rs. 40.

(3) Extending the drain from the masonry cistern in rear of warrant officers' quarters at Trichinopoly to carry water from bath room outside the compound, outlay Rs. 28.

42. A sum of Rs. 8,806 was spent in repairing several buildings and maintaining the cantonment roads, the latter by the Municipality from the contribution of Rs. 1,188 received from the Public Works Department.

43. **Madura.**—A sum of Rs. 225 was paid for rent for quarters occupied by the sergeant-instructor, South Indian Railway Volunteer Corps.

44. **Tinnevelly.**—A sum of Rs. 165 was paid for rent of quarters hired for the sergeant-instructor of the same corps.

II.—IMPERIAL—CIVIL BUILDINGS.

45. **Ganjam.**—Post office at Kassibugga; estimate, Rs. 1,720, outlay Rs. 357 during the year. The total outlay up to end of the year was Rs. 1,792 against an estimate of Rs. 1,720. Work completed and handed over to Postal Department.

46. Improvements to Post office at Chatrapur; estimate Rs. 610, outlay Rs. 40 during the year. The total outlay up to end of the year was Rs. 648. The work was completed in March 1894, but final payment made in 1894–95.

47. The expenditure under repairs was Rs. 614 against an allotment of Rs. 370. The following works were executed:—

(1) Repairing Post office at Parlákimedi, estimate Rs. 270.
(2) ,, ,, at Chatrapur, estimate Rs. 200.
(3) ,, ,, at Aska, estimate Rs. 270.

The first work was an incomplete one of the previous year; a sum of Rs. 246 was spent on it during the year without special allotment. Hence the excess over grant under this head.

48. **Vizagapatam.**—A sum of Rs. 1,023 was spent against an allotment of Rs. 1,240 in repairing the Post offices at Párvatípuram and Vizagapatam, and Telegraph office at Vizagapatam. The lapse of grant was chiefly due to savings on estimates.

49. **Godavari (Eastern).**—The only work in progress was providing Horbury's patent latrine for Telegraph office at Cocanada at a cost of Rs. 277 against an allotment of Rs. 290.

50. A sum of Rs. 1,333 was spent against an allotment of Rs. 1,330 in repairing Telegraph offices at Cocanada and Rajahmun ry, and Post offices at Peddápuram and Tuni.

51. **Kistna (Western).**—Putting in a pipe from the good-water channel to supply water to the salt factory at Nizampatam was completed at a cost of Rs. 27.

52. **Kistna (Northern).**—Repairs to Telegraph offices at Bezwada and Guntúr were completed at a cost of Rs. 436.

53. Repairs to the Post office at Bezwada at a cost of Rs. 99 were carried out on the annual maintenance estimate. The building being in an unsafe condition, the Post office was removed to a rented building towards the latter part of the official year.

54. **Kistna (Eastern).**—Bungalow on Orr's Hill. The *minus* outlay of Rs. 236 represents the sale-proceeds of certain old materials obtained by demolishing some portion of the bungalow.

55. The Telegraph office at Masulipatam was repaired at a cost of Rs. 282.

56. **Nellore.**—Repairs to the incomplete works of the previous year, such as Post offices at Ramayapatam, Kávali and Gudur, were carried out, the outlay being Rs. 205.

57. **Bellary.**—Four works under this head were commenced, viz., repairs to the Post offices at Anantapur, Gooty and Adóni and to the Telegraph office at Guntakal. All were completed, except the Post office at Gooty which was in progress.

58. **Cuddapah.**—Repairs to the Post offices at Cuddapah and Madanapalle were completed at a total cost of Rs. 271.

59. **Kurnool.**—The Post offices at Pyápali and Nandyal were repaired.

60. **Salem.**—Combined Post and Telegraph office at Vániyambádi was completed and handed over to the Postal Department in August 1894.

61. Improvements to the postmaster's quarters at Jalarpet were completed, and the building handed over in July 1894.

62. A compound wall in the front of the Post office at Suramangalam was also completed.

63. Annual repairs to the Post office building at Salem were completed.

64. **North Arcot.**—Repairs to the Post office at Vellore—an incomplete work of the previous year—was completed at a cost of Rs. 3,148 against the revised estimate of Rs. 3,070.

65. **Coimbatore.**—Expenditure under repairs, postal, was Rs. 738 against a grant of Rs. 650. The principal works carried out during the year were—

(1) Repairs to Post office at Wellington; estimate Rs. 220, expenditure Rs. 237.

(2) Repairs to Post office at Kotagiri; estimate Rs. 200, expenditure Rs. 210.

66. Expenditure under telegraph was Rs. 676 against an allotment of Rs. 710. The only work carried out was repairs to the Telegraph office at Ootacamund, which was completed.

67. **West Coast.**—No new works were undertaken under this head during the year. The Postal buildings at the undermentioned stations were repaired at the cost set against each:—

	Rs.
(1) Malapuram	262
(2) Puthur	15
(3) Vayitri	29
(4) Mattamcherry	25
(5) Cannanore	198
(6) Beypore	50
(7) Palghat	51
(8) Pandalur	74
(9) Tellicherry	186
(10) Devala	93
(11) Manantoddy	45
(12) Mangalore	42

68. **South Arcot.**—A sum of Rs. 62 was spent on adding a telegraph room to the combined Post and Telegraph office at Cuddalore—an incomplete work of the previous year; total outlay on the work Rs. 367.

69. The office of the Superintendent of Post offices, Cuddalore division, at Manja Kuppam was repaired at an outlay of Rs. 284.

70. **Tanjore.**—The Post offices at Tanjore and Kumbakónam were repaired at a cost of Rs. 180.

71. **Negapatam.**—The work of constructing, in the interests of the Salt Revenue Department, a dam across the Valavanar, commenced in the previous year on a sanctioned estimate of Rs. 8,900, was abandoned after a net outlay of Rs. 132 had been incurred.

72. The Post office at Mimbisal and the Government Telegraph office at Negapatam were repaired at a cost of Rs. 147 and Rs. 80, respectively.

73. **Trichinopoly.**—Alterations to the left wing of the European infantry bomb-proof barracks for the office of the Deputy Commissioner of Salt and Abkári Revenue at Trichinopoly were carried out at an outlay of Rs. 898.

74. Teppakulam Post office and the General Post and Telegraph office at Trichinopoly including the room occupied by the Superintendent of Post offices, were repaired at an outlay of Rs. 279. Repairs to the quarters occupied by the Superintendent of Post offices and the testing of lightning conductors attached to the General Post and Telegraph office were in progress. Repairs to the Government Telegraph office at Trichinopoly were also in progress.

75. **Madura.**—Repairs to the British Post office at Peermede and Ammayanáyakkanúr and removing and refixing a zinc tube, &c., in the wall of the Post office at Ramnad were completed, the outlay on all being Rs. 104.

76. **Tinnevelly.**—Repairs to the Post offices at Palamcottah, Tenkási, Srívaikuntham and Vásudévanallúr were carried out by this department, and those at Nagercoil and Kóttayam were executed by the Travancore Government, the outlay on all being Rs. 734. The Telegraph office at Tuticorin was also repaired at an outlay of Rs. 200.

77. **Presidency.**—Rupees 869 were expended on several minor works in the Post and Telegraph offices, Madras.

III.—PROVINCIAL—CIVIL BUILDINGS.

78. **Ganjam.**—The following works were in progress or completed:—

(1) Combined office for the Stationery and Town Sub-Magistrates at Berhampur; estimate Rs. 14,400, outlay Rs. 7,976 against a grant of Rs. 8,120. Main building completed, latrine work approaching completion. The lapse was due to non-receipt of a bill for payment for the value of wire-netting supplied.

(2) Improvements to the District Jail at Berhampur; estimate Rs. 7,930, outlay Rs. 6,963 against a grant of Rs. 6,935. Work completed, except the drain in the female ward. Excess over grant was trifling.

(3) Sub-Registrar's office at Purushottapur; estimate Rs. 2,060, outlay during the year Rs. 138. Work completed.

(4) Improvements to the Protestant cemetery at Berhampore; estimate Rs. 700, outlay during the year Rs. 15. Work completed.

(5) Compound wall around the Public Works Department bungalow at Ichchhápuram; estimate Rs. 270, outlay during the year Rs. 237. Work completed.

(6) Demolishing the church at Chicacole; estimate Rs. 310, outlay during the year Rs. 296. Work completed.

(7) Old Range office building at Russellkonda; estimate Rs. 500, outlay during the year Rs. 473. Work in progress.

(8) Sub-Registrar's office at Suradá; estimate Rs. 2,400, outlay during the year Rs. 1,425. Work in progress.

(9) Sub-Registrar's office at Ichchhápuram; estimate Rs. 2,400, outlay during the year Rs. 474. Work in progress.

79. There was an excess expenditure of Rs. 559 over the grant under minor original works, due to the adjustment of wood work supplied from Government Workshop, Dowlaishweram, for Suradá Sub-Registrar's office.

80. The number of works under repairs during the year was 11, and 9 of these were completed. The outlay under this head was Rs. 1,463 against an allotment of Rs. 1,470.

81. **Vizagapatam.**—The following works were completed or in progress during the year:—

(1) Additions and alterations to the Hill Jail at Párvatípuram; estimate Rs. 13,300, outlay during the year Rs. 2,967 against a grant of Rs. 2,885. Blocks Nos. 1 to 4 were completed and made over to the Superintendent.

(2) Hospital and compound wall in the Hill Jail, Párvatípuram; estimate Rs. 8,856, outlay during the year Rs. 2,148 against a grant of Rs. 2,000. Concrete foundations were laid and doors and windows and wood work for the roof were made up. The original position of the hospital was in the north-east corner of the compound, but as it was found, after excavating the foundations, that the soil consisted of made earth and that the site had been used for depositing night-soil, another position at the south-east corner of the Jail compound was chosen; the new site is a good one, as the soil here is hard gravel at a slightly higher level.

(3) Dismantling and reconstructing Superintendent's office and store-rooms, Lunatic Asylum, Waltair; estimate Rs. 3,880, outlay Rs. 516 against a grant of Rs. 516. The work was completed and made over to the Superintendent, Lunatic Asylum.

(4) Repairing the Government Normal School at Vizagapatam; estimate Rs. 2,960, outlay during the year Rs. 116. The work was completed and made over to the Educational Department.

82. A sum of Rs. 1,394 was spent during the year under Minor original works against a grant of Rs. 1,400.

83. The expenditure on repairs to public buildings was Rs. 2,986 against a grant of Rs. 3,080. All the sanctioned works under this head were completed, excepting repairs to Police lines, Párvatípuram, which will be completed during the early part of 1895–96.

84. **Godavari (Eastern).**—The following works were completed or in progress during the year:—

(1) District Munsif's court house at Rajahmundry; estimate Rs. 12,700, outlay during the year Rs. 1,540 against a grant of Rs. 1,500. The work was practically completed during 1893–94 and formally taken over by the Judicial Department on the 7th July 1894.

(2) Combined office for the Deputy Thasildar and Town Sub-Magistrate at Cocanada; estimate Rs. 16,860, outlay during the year Rs. 10,393 against a grant of Rs. 10,000. The centre and outer walls were raised to the required height and most of the roofing materials, &c., were supplied. The excess was trifling and was due to the adjustment of stock articles issued to work.

(3) Kitchen with circular cooking range in the Central Jail at Rajahmundry; estimate Rs. 3,270, outlay during the year Rs. 1,423 against a grant of Rs. 1,402. The building was handed over to the Jail Department on 23rd April 1895.

(4) Civil debtors' ward in the Central Jail, Rajahmundry; estimate Rs. 2,830, outlay during the year Rs. 2,847 against a grant of Rs. 2,830. The work was completed and handed over to the Jail Department on 23rd April 1895.

(5) Improvements to the Sea Customs godowns at Cocanada; outlay during the year Rs. 3,522 against a grant of Rs. 3,550. Work in progress.

(6) Sub-Registrar's office at Biccavole; estimate Rs. 2,600, outlay during the year Rs 1,518 against a grant of Rs. 1,750. The work is approaching completion and will shortly be made available for the Sub-Registrar. The grant could not be fully worked out as anticipated, as the work had to be stopped for a time owing to certain disputes regarding the ownership of the materials supplied by the contractor.

85. A sum of Rs. 6,786 was spent during the year against a grant of Rs. 7,302 under minor original works. The lapse of grant was due to stoppage of further payments on police station house at Pithápuram owing to bad work done on the same and to non-receipt of the materials in time for wire-fencing round the compound wall of Rajahmundry taluk cutcherry. The principal works carried out during the year are detailed below:—

	Outlay. Rs.
(1) Compensation for land and building occupied by the Police station-house at Rajahmundry	2,250
(2) Improvements to Bhadráchalam taluk cutcherry	711
(3) Extensions, &c., to out-houses of Bhadráchalam dispensary ...	1,159
(4) Police station house at Pithápuram	1,015
(5) Second class Police station house at Tuni	1,010
(6) Trial borings at Kóta	16
(7) Rain-gauge pillars at Rámachandrapuram and Almur	5
(8) Do. at Coringa	18
(9) Do. at Prattipadu	2
(10) Do. at Pithápuram	2
(11) Do. at Central Jail, Rajahmundry	24
(12) Bathing-cistern in the close prison ward, Central Jail, Rajahmundry	22
(13) Solitary cells for females in the Central Jail, Rajahmundry ...	328
(14) Four stalls and two tiffin-rooms for Superintending Engineer's office	113
(15) Water-supply pipes for the close prison, Central Jail, Rajahmundry	7
(16) Record-racks for the District Munsif's court-house at Rajahmundry	104
Total ...	6,786

86. The outlay on repairs was Rs. 6,636 against a grant of Rs. 6,300, and the following are some of the principal works carried out:—

	Outlay. Rs.
(1) Repairs to Central Jail buildings at Rajahmundry	1,634
(2) Improvements to the compound wall of Old District Jail at Rajahmundry	528
(3) Repairing the palisading in the head-works sub-division ...	276
(4) Repairing Deputy Superintendent's quarters at Workshop compound	177
(5) Repairs to head-works Sub-division officer's quarters	369
(6) Repairing Superintendent's quarters and out-houses, Central Jail, Rajahmundry	1,938
(7) Repairs to taluk cutcherry at Peddápuram	248
(8) Repairs to Collector's cutcherry building at Cocanada	293

87. **Godavari (Western).**—The following works were completed or in progress:—

(1) District Munsif's court-house at Tanuku; estimate Rs. 18,410, outlay during the year Rs. 2,325 against a grant of Rs. 2,571. Work completed; short outlay was trifling.

(2) First-class taluk cutcherry at Ellore; estimate Rs. 36,980, outlay Rupees 10,213 against a grant of Rs. 10,000. Work nearly completed; excess over grant was trifling.

(3) First-class taluk office at Kovur; estimate Rs. 35,270, outlay during the year Rs. 7,091 against a grant Rs. 6,500; work in progress. The excess over grant was due to the debit of Rs. 1,067 by Gódávari Eastern division on account of wood work, for which no funds were provided in 1894–95.

(4) Sub-Registrar's office at Attili; estimate Rs. 3,810, outlay Rs. 1,998 against a grant Rs. 2,000; work in progress.

(5) Sub-Registrar's office at Mummidwaram; estimate Rs. 3,900, outlay Rs. 2,115 against a grant Rs. 2,000; work in progress.

(6) Hospital building at Polavaram; estimate Rs. 2,650, outlay Rs. 226 against a grant Rs. 100. Excess over grant was trifling.

88. A sum of Rs. 323 was spent during the year under minor original works against a grant of Rs. 400. Five works were put in hand during the year, of which three were completed.

89. The number of repair works in progress or completed during the year was 12 at a cost of Rs. 1,203 against a grant of Rs. 900—short outlay trifling.

90. **Kistna (Northern).**—Head Assistant Collector's residence at Bezwada; estimate Rs. 10,600, total outlay to date Rs. 10,833, outlay during the year Rs. 615. The building was completed in the previous year except wire-fencing and sinking a well, which were finished during the year under review. There was still a drain to be dug at a cost of Rs. 225, for which land had been applied for.

91. Head Assistant Collector's office, Bezwada; estimate Rs. 20,700, outlay Rs. 20,923, outlay during the year Rs. 654. The building was occupied by the office in the previous year. Only wire-fencing and a latrine were carried out during the year.

92. Taluk cutcherry at Gurazala; estimate Rs. 40,700, total outlay Rs. 38,999, outlay during the year Rs. 13,492. The building was approaching completion towards close of the year. A well remained to be sunk.

93. Taluk cutcherry at Narasaraopet; estimate Rs. 36,620, total outlay Rs. 30,923, outlay during the year Rs. 14,355. Roofing and flooring were in progress at end of March 1895. A well was being sunk.

94. District Munsif's Court, Narasaraopet; estimate Rs. 17,300, total outlay Rs. 15,181, outlay during the year Rs. 5,369. The building was completed and handed over to the District Munsif in March 1895.

95. Deputy Collector's office, Narasaraopet; estimate Rs. 19,130, total outlay Rs. 18,062, outlay during the year Rs. 7,850. The building was almost completed at the end of March 1895.

96. Sub-Registrar's office at Sattenapalle; estimate Rs. 4,530, total outlay Rupees 4,018, outlay during the year Rs. 1,237. The building was completed except flooring with asphalte and painting.

97. Taluk cutcherry at Guntúr; estimate Rs. 43,500, outlay during the year Rs. 2,010. Collection of materials started and land acquired.

98. Quarters and out-houses for Executive Engineer, Kistna Northern division, Bezwada; estimate Rs. 10,235, outlay during the year Rs. 3,622. Materials were collected and wood work was prepared in workshops.

99. Purchase of Club building for use of Kistna Northern Division office. The purchase was effected in March 1895 and improvements were put in hand; estimate Rs. 3,130, outlay during the year Rs. 2,884, including purchase value.

100. Two rain-gauge pillars were constructed at Bezwada and Tiruvur, and a latrine built in the compound of Superintending Engineer's office, Buckinghampett, Bezwada.

101. **Kistna (Eastern).**—Taluk cutcherry, Nandigáma; estimate Rs. 31,400, outlay up to date Rs. 31,122, outlay during the year Rs. 6,116. The work was completed and handed over to the Revenue Department.

102. Taluk cutcherry, Gannavaram; estimate Rs 31,675, total outlay Rs. 25,217, total during the year Rs. 21,750. Walls were raised to the required heights, door frames were fitted up and roofing work in progress.

103. Record-room in the compound of Collector's office at Masulipatam; estimate Rs. 14,234, total outlay Rs. 15,147, outlay during the year Rs. 3,699. In consequence of the insufficient strength of the iron joists of the roof and first floor, the concrete roof and floor were removed, the number of joists in the first floor doubled, and plank flooring substituted and an ordinary terrace roof put up. The above alterations were nearly completed.

104. Taluk office at Masulipatam; estimate Rs. 36,400, total outlay Rs. 36,826, outlay during the year Rs. 1,454. Main building was handed over for occupation by the Tahsildar. All the out-houses were completed and only the road remained to be completed.

105. Improving District Munsif's court at Masulipatam; estimate Rs. 3,900, total outlay Rs. 4,465, outlay during the year Rs. 4,465. The work was commenced in June and completed as per estimate in December 1894, but the number of new rafters required for the verandahs was under-estimated owing to the difficulty in ascertaining their condition before demolishing the roof. A revised estimate was being prepared.

106. Deputy Tahsildar's office at Avanigadda; estimate Rs. 19,200, total outlay Rs. 984, outlay during the year Rs. 771. Part of the concrete was laid in April and work stopped for want of allotment in the final issue of the budget for 1894–95. A watcher was employed to look after the lime. The lime has since been sold and the sale-proceeds will be credited to the work in 1895–96.

107. **Kistna (Western).**—Taluk office at Tanali; estimate Rs. 38,320, outlay during the year Rs. 10,299. Superstructure completed; wood work nearly completed; pine ceilings in progress.

108. A sum of Rs. 195 was spent on minor original works on the following works:—

(1) Rain-guage pillars and fence at Nizampatam salt factory, outlay Rs. 21.
(2) Treasury-room in the central court-yard of Bápatla taluk office, outlay Rs. 174.

109. **Nellore.**—Deputy Collector's cutcherry at Atmakúru; estimate Rs. 20,780, total outlay Rs. 18,784. Main building was completed and handed over to the Revenue Department in October 1894. The wire-fencing was in progress.

110. Head Assistant Collector's cutcherry at Gudur; estimate Rs. 21,080, total outlay Rs. 21,400. Work completed and handed over to the Revenue Department in November 1894.

111. Police huts at Moolapett; estimate Rs. 2,550, total outlay Rs. 2,367. Work completed.

112. Sub-Registrar's office at Allúr; estimate Rs. 3,105, total outlay Rs. 1,212. Concrete foundations laid.

113. Residence for the Head Assistant Collector at Gudur; estimate Rs. 9,190, total outlay Rs. 2,571. Wood work prepared and foundations laid.

114. The following minor works were in progress:—

(1) Latrine for Government Training School, Ongole; estimate Rs. 570, total outlay Rs. 481.
(2) Wire fencing Government Training School, Ongole; estimate Rs. 150, total outlay Rs. 70.
(3) Police station at Allúr; estimate Rs. 2,120, total outlay Rs. 580. Materials collected.
(4) Clearing site, Head Assistant Collector's cutcherry, Gudur; estimate Rs. 200, total outlay Rs. 194. Completed.
(5) Rest-house at Kávali; estimate Rs. 1,650, total outlay Rs. 278. Materials collected.
(6) Clearing site of Deputy Collector's cutcherry at Atmakúru; estimate Rs. 70, total outlay Rs. 67. Completed.
(7) Examining civil buildings in Kandukúr sub-division; estimate Rs. 50, outlay Rs. 4. Completed.

115. **Buckingham Canal.**—The expenditure was incurred in maintaining a watcher and paying additional remuneration to the lighthouse superintendent at Seven Pagodas. A sum of Rs. 2,358 was paid as compensation for the lands belonging to the Seven Pagodas.

116. **Bellary.**—Four additional blocks of cells for the District Jail, Bellary; estimate Rs. 31,173, outlay Rs. 31,149. The work was completed and handed over to the Jail authorities.

117. Additions and improvements to the Collector's office at Bellary; estimate Rs. 7,200, outlay Rs. 3,505. The work was started in January 1895. The additions and improvements consist of the construction of a store-room, a tiffin-room, ryots' shed, latrine, coach-house and urinal, and were in progress.

118. Sub-Registrar's office, Siruguppa; estimate Rs. 2,780, outlay Rs. 1,280. The front wall was built to a height of 8 feet and the outer walls to 6 feet.

119. Sub-Registrar's office, Harpanahalli; estimate, Rs. 2,810, outlay Rs. 2,298. The work was almost completed, that remaining to be done was flooring to main building, cement-plastering, pointing and painting.

120. Sub-Registrar's office, Alúr; estimate Rs. 2,620, outlay Rs. 620. The progress on the work was slow. Foundations were completed and the basement was in progress. The original contract was cancelled and no further delay was anticipated.

121. Taluk cutcherry at Hindupur; estimate Rs. 34,600, outlay Rs. 8,035. The progress on this work was not good up to August, due to the absence of the contractor in Bellary, where he had other works in hand. When the walls were about one foot above ground level, it was found necessary to demolish two courses over the whole building owing to inferior mortar and bad workmanship. The walls were then built up afresh and were again ordered to be demolished to top of concrete. The contractor then came to live at Hindupúr and has since made good progress.

122. Taluk cutcherry, Gooty; estimate Rs. 35,204, outlay Rs. 14,599. The walls were raised to an average height of 10½ feet above plinth.

123. Taluk cutcherry, Tadpatri; estimate Rs. 36,270, outlay Rs. 9,716. The foundation is of trap stone and the superstructure of Cuddapah limestone in 9″ courses. All arches have been dispensed with owing to the foundation being on black cotton.

124. Taluk cutcherry, Dharmavaram; estimate Rs. 35,682, outlay Rs. 5,970. The work was started in February 1895. Good stones were brought to site from a distance of 4 miles, where a good quarry of grey granite was found. The wood and iron work was ordered from Madras.

125. Taluk cutcherry, Madakasíra; estimate Rs. 33,793, outlay Rs. 5,670. Work commenced in February 1895, foundation trenches were excavated and a fair quantity of materials collected. Some difficulty was experienced in procuring cooly labour in this taluk, as the coolies prefer working in gardens.

126. Police office, Aanantapur; estimate Rs. 27,800, outlay Rs. 5,021. Concrete was laid in the building for foundation. Excellent progress made though the work was marked out at end of February 1895.

127. Additions and improvements to the combined Superintending and Executive Engineer offices, Bellary; estimate Rs. 6,550, outlay Rs. 7,316. The work was completed in the previous year. The *minus* outlay during the year represents the value of materials adjusted.

128. Sub-Registrar's office, Rayadrug; estimate Rs. 2,750, outlay Rs. 2,750. Work completed.

129. Eighteen minor original works were put in hand during the year, of which five remained to be completed. The outlay was Rs. 6,526 against an allotment of Rs. 6,740.

130. Fifty-one repair works were in hand, of which 42 were completed; the outlay amounted to Rs. 10,115 against a grant of Rs. 10,804.

131. **Cuddapah.**—Sub-Magistrate's office, Pfléru; estimate Rs. 10,851, outlay Rs. 10,905. Work completed.

132. Sub-Registrar's office, Kadiri; estimate Rs. 2,775, outlay Rs. 2,765. Work completed.

133. Taluk cutcherry, Ráyachóti; estimate Rs. 35,120, outlay Rs. 12,347. Foundations and basements were completed, and walls raised to 8½ feet, and that of jail wards to 7 feet. The walls of the public latrine were raised 3½ feet; 375 cubic feet of teak scantlings were stored at site of work.

134. Taluk cutcherry, Proddatur; estimate Rs. 30,090, outlay Rs. 5,080. Foundations were dug and wood work, such as doors and windows, were carried to site.

135. The following minor works were completed:—

(1) Constructing Sub-Registrar's office at Pfléru; estimate Rs. 2,462, outlay Rs. 2,569.

(2) Improving and repairing the Mahal at Gurhamkonda—two estimates Rs. 3,420, outlay Rs. 3,085.

(3) Teakwood racks for Sub-Magistrate's cutcherry at Pfléru; estimate Rs. 195, outlay Rs. 179.

136. The total outlay on these and other petty works was Rs. 1,094 against a grant of Rs. 1,200.

137. The expenditure on repairs was Rs. 5,497 distributed over 35 buildings.

138. **Kurnool.**—Taluk cutcherry, Allagadda; estimate Rs. 36,523, outlay Rupees 33,614. Work completed; a portion of road way near the trunk road had to be completed.

139. Taluk cutcherry, Pattikonda; estimate Rs. 36,610, outlay Rs. 4,411. Work not commenced, as the site of the building was not settled. Materials under collection.

140. District Munsif's court-house at Nandyal; estimate Rs. 17,355, outlay Rs. 16,101. Work completed.

141. Head Assistant Collector's residence, Nandyal; estimate Rs. 12,481, outlay Rs. 7,827. Masonry work nearly finished. Doors, &c., completed, wood work of roof erected; out-houses—masonry finished; well, &c., in progress.

142. Forest bungalow at Nandyal; estimate Rs. 2,700, outlay Rs. 2,862. Work completed. Cracked walls had to be pulled down necessitating the removal and replacement of the roof twice over. Extra work was also done to the roof of the kitchen and to the stables in raising their floor level.

143. A sum of Rs. 1,944 was spent during the year under minor original works against a grant of Rs. 1,475.

144. Under repairs Rs. 2,992 were expended against the year's grant of Rs. 3,000.

145. **West Coast.**—An expenditure of Rs. 4,263 was incurred on the Collector's office, Calicut. Moochies' room was completed and handed over for occupation during the year and the lightning conductor was being fixed. The outlay on the work up to the end of the year amounted to Rs. 2,05,503 against an estimate of Rs. 1,94,615.

146. The following works were in progress:—

(1) Court-house for the District Munsif at Karkal; Rs. 7,807 were spent against the grant of Rs. 8,470; total outlay to end of the year Rs. 13,021. Superstructure, central compartment built 10½ feet high, that of wings to full height of 13½ feet; wire-fence ready, as also cut stone. Foundation and basement to ryots' sheds, stables, and latrine built up.

(2) Sub-Registrar's office, Hosdrug; estimate Rs. 3,650, outlay Rs. 2,548, grant Rs. 2,550. Superstructure completed and almost all wood work of roof put up. Cut-stone steps built, ceiling planks, &c., ready.

(3) Sub-Registrar's office, Mudbidri; Rs. 2,252 were spent against a grant of Rs. 3,065. Superstructure completed; roofing almost completed.

(4) Improvements to special Assistant Collector's office at Malapuram; estimate Rs. 7,580, expenditure Rs. 5,721. Additions to the office completed except painting which was in progress; roofing of old building in steady progress. Compound wall completed.

(5) Providing iron gratings and railings to wells in the Lunatic Asylum, Calicut; estimate Rs. 2,080, expenditure Rs. 1,858. Work completed, except putting up the pully expected from Bombay.

(6) Deputy Tahsildars' offices at Anjengo and Tangasséri were in progress by the agency of the Travancore Government Public Works Department; but the accounts not having been received up to date, the outlay incurred cannot be given.

147. The following works were completed and made over to the departments concerned:—

(1) Combined office for the Tahsildar and Deputy Tahsildar at Mangalore; the total outly to end of the year was Rs. 39,999 against an estimate of Rs. 46,000. A considerable saving of about Rs. 5,900 will be effected. The year's grant of Rs. 14,036 was fully utilized.

(2) Sub-Registrar's office at Baindur; estimate Rs. 4,270, expenditure Rs. 4,476.

(3) Sea Custom house, Barkur; estimate Rs. 6,600, expenditure Rs. 6,478.

(4) Sub-Registrar's office at Tanur; estimate Rs. 3,500, outlay Rs. 3,413.

(5) Sub-Registrar's office at Andathode; estimate Rs. 3,930, outlay Rs. 3,793.

(6) Sub-Registrar's office, Vayittiri; estimate Rs. 6,360, outlay Rs. 6,361.

(7) Police huts at Sultan's battery; estimate Rs. 3,230, outlay Rs. 3,295.

(8) Improvements to the District Judge's court at Mangalore; estimate Rs. 810, outlay Rs. 738.

(9) Converting three blocks of unmarried men's barracks of the late regiment at Mangalore into nine quarters for 42 Police constables; estimate Rs. 1,000, outlay Rs. 840.

(10) Additions and alterations to the Taluk cutcherry, Perinthalamana; estimate Rs. 1,040, outlay Rs. 1,061.

(11) Improvements to the northern verandah of the public offices at Ponnáni; estimate Rs. 1,650, outlay Rs. 1,650.

(12) Renewing floors of old wards of sub-jail, Chowghat; estimate Rs. 490, outlay Rs. 454.

(13) Improvements to the Deputy Tahsildar's cutcherry at Vayittiri; estimate Rs. 2,300, outlay Rs. 1,955.

(14) Constructing a latrine to Sub-Registrar's quarters at Vayittiri; estimate Rs. 220, expenditure Rs. 196.

(15) Additions and alterations to the Police Inspector's quarters at Vayittiri; estimate Rs. 1,170, outlay Rs. 913.

148. Under repairs Rs. 11,512 were expended against the year's grant of Rs. 10,000, and several buildings were repaired and kept in good order.

149. Special repairs to the District Munsifs' courts at Coondapoor and Puttur were undertaken during the year, and Rs. 1,820 and Rs. 1,401 were expended against estimates of Rs. 2,560 and Rs. 2,720, respectively.

150. **Coimbatore.**—The following major works were in progress during the year:—

(1) Additions and improvements to Government House, Ootacamund; estimate Rs. 7,79,150, expenditure to end of 1893–94 Rs. 7,61,339, grant for the year Rs. 16,200, and outlay Rs. 13,411. The items of the above work on which expenditure was incurred are detailed below:—

	Expenditure during the year.
	Rs.
Providing furniture	3,687
Constructing four cisterns, two dams, and six sheds for washermen (completed)	609
Providing partition in bed-room (completed)	88
Converting tent godowns into four servants' godowns	196
Providing store-room for cook and coachmen's quarters	150
Constructing a shed for calves	9
Certain original works to cook-room, coachmen's quarters and servants' godowns of Lower Norwood	705
Providing store-room for dispensary	90
Constructing stables for eight horses	13
New piping with hydrants and hand fire-engines	1,259
Constructing quarters with out-houses for the Head Bandsman ...	5,095
Constructing tent store and tent lascar's godowns	1,186
Value of broken bricks written off the stock return by debit to work ...	324

The grant was not fully spent owing to the additional allotment of Rs. 3,000 for stables having been given late in the year.

(2) Sixty warders' huts in the Central Jail at Coimbatore; estimate Rs. 14,040, previous expenditure Rs. 6,278, grant for the year Rs. 6,040, expenditure during the year Rs. 5,200. A further adjustment of Rs. 484 will be made in the supplemental accounts on account of supplies made by the Jail Department. The work was completed and the balance is the saving on estimate.

(3) First-class taluk cutcherry at Bhaváni; estimate Rs. 29,250, previous year's expenditure Rs. 8,916, grant for the year Rs. 17,250, expenditure during the year Rs. 17,442. The building was nearly completed, roof work being in progress.

(4) First-class taluk cutcherry at Kollegal; estimate Rs. 34,040, expenditure during the year Rs. 8,682 against a grant of Rs. 8,000. Brickwork to basement nearly completed. Wood work ready at Erode. Brick-making and collection of materials in progress.

(5) Taluk cutcherry at Gopichettipálaiyam; estimate Rs. 29,550, grant for the year Rs. 8,500, outlay Rs. 9,638. Work up 3 feet above basement. Excess over grant due to the excellent progress made in the last two months of the year.

(6) Head Assistant Collector's office at Polláchi; estimate Rs. 14,650, grant for the year Rs. 10,950, outlay Rs. 6,459. Short expenditure due to dilatoriness on the part of the contractor.

(7) Deepening the main gate well in the Central Jail, Coimbatore; estimate Rs. 5,650, previous expenditure Rs. 1,062, grant for the year Rs. 3,088, expenditure Rs. 1,104. Work in abeyance for want of a pumping machine, which was despatched from Bombay in April.

(8) Sub-Registrar's office at Erode; estimate Rs. 3,360, expenditure in previous year Rs. 1,411, grant for the year Rs. 1,530, outlay Rs. 1,673. Work completed.

(9) Sub-Registrar's office at Dhárápuram; estimate Rs. 3,250, expenditure to end of 1893–94 Rs. 1,722, grant for the year Rs. 1,468, outlay Rs. 1,468. Work completed.

(10) Sub-Registrar's office at Polláchi; estimate Rs. 3,300, previous expenditure Rs. 1,214, grant for the year Rs. 2,086, expenditure Rs. 1,980. Work completed, except a portion of asphalte flooring. As per agreement the work ought to have been completed by the 15th February 1894, but it was delayed owing to the dilatoriness of the contractor.

(11) Sub-Registrar's office at Udamalpet; estimate Rs. 3,250, previous expenditure Rs. 139, grant for the year Rs. 3,112, outlay Rs. 3,030. Work completed, and final payment made in April 1895.

(12) Out-houses and compound wall to the Deputy Tahsildar's cutcherry at Aravakurchi; estimate Rs. 3,400, previous expenditure Rs. 1,000, grant for the year Rs. 2,400, outlay Rs. 2,244. Work completed.

(13) Converting the Sapper Hospital on Stonehouse Hill, Ootacamund, into quarters for native bachelor clerks; estimate Rs. 2,700, expenditure Rs. 2,413. Work completed.

151. A sum of Rs. 13,648 was spent on minor works against a grant of Rs. 13,028. The principal works costing more than Rs. 500 each were the following:—

(1) Extending the main gate way and providing new gates at the Central Jail, Coimbatore; estimate Rs. 1,540, expenditure during the year Rs. 436, outlay to date Rs. 1,590.

(2) Constructing pillars with iron railings and gate way between No. 1 block and stores in the Central Jail, Coimbatore; estimate Rs. 1,310, outlay Rs. 1,407.

(3) Extending and improving the strong-room of the Treasury at Coimbatore; estimate Rs. 520. outlay Rs. 498.

(4) Out-houses and certain improvements to the District Court at Karúr; estimate Rs. 1,860, outlay Rs. 1,851.

(5) Providing record and stationery room for the Private Secretary's office, Government House; estimate Rs. 1440, outlay Rs. 1,342.

(6) Two latrines for the police lines at Wellington; estimate Rs. 590, outlay Rs. 434.

(7) Extending coach-house and providing room for the horse-keeper on Stonehouse Hill; estimate Rs. 650, outlay Rs. 521.

(8) Converting lumber-room into record-room in the Collector's office at Ootacamund; estimate Rs. 1,360, expenditure Rs. 1,218.

(9) Stables and coach-house on Stone-house Hill, Ootacamund; estimate Rs. 2,050, outlay Rs. 1,818.

(10) Improving the floor of Sappers lines near Kelso road, Ootacamund; estimate Rs. 1,550, outlay Rs. 1,557.

(11) Improvements to police station-house at Masinagudi; estimate Rs. 1,000, outlay Rs. 977.

152. Besides the above, 24 works were in progress during the year, of which 17 were completed.

153. A sum of Rs. 25,092 was spent on repairs against a grant of Rs. 24,737, and the principal works carried out were the following costing over Rs. 500 each:—

(1) Renewing shutters of doors and windows in the Central Jail at Coimbatore; estimate Rs. 2,330, outlay Rs. 1,718. Completed.

(2) Repairing the Government School for Mistresses at Coimbatore; estimate Rs. 520, outlay Rs. 555. Completed.

(3) Repairing the taluk cutcherry at Karúr; estimate Rs. 1,130, outlay Rs. 1,133. Completed.

(4) Repairing roof of Government Secretariat offices on Stonehouse Hill, Ootacamund; estimate Rs. 1,000, outlay Rs. 883.

(5) Annual repairs to Government House, Ootacamund; estimate Rs. 2,990, outlay during the year Rs. 112, total outlay Rs. 3,156.

(6) Annual repairs to Government House, Ootacamund; estimate Rs. 6,860, outlay Rs. 5,749.

(7) Repairs to Deputy Tahsildar's cutcherry at Gúdalúr; estimate Rs. 725, outlay Rs. 680.

(8) Annual repairs to old warders' quarters on Jail Hill, Ootacamund; estimate Rs. 800, outlay Rs. 800.

(9) Gravelling roads and compound of St. Thomas' Church at Ootacamund; estimate Rs. 560, outlay Rs. 537.

(10) Repairs to Deputy Tahsildar's cutcherry at Coonoor; estimate Rs. 600, outlay Rs. 380.

(11) Painting and wood-oiling and other petty repairs to Taluk cutcherry at Erode; estimate Rs. 600, outlay Rs. 586.

(12) Annual repairs to Government Secretariat offices and peons' lines on Stonehouse Hill; estimate Rs. 1,350, outlay Rs. 1,316.

(13) Repairing Police Inspector's quarters and lines at Gúdalúr; estimate Rs. 790, outlay Rs. 330.

154. Besides the above, 105 works were in progress, 58 of which were completed.

155. **Salem.**—The following works were completed:—

(1) Twenty-three police huts at Tiruppattúr; estimate Rs. 6,500, outlay Rs. 5,959.

(2) Thirty police huts at Vániyambádi; estimate Rs. 8,030, outlay Rs. 8,192.

(3) Third-class police station at Yercaud; estimate Rs. 1,930, outlay, Rs. 1,640.

(4) Railings, gates, &c., to excise yard round the central tower in the Central Jail, Salem; estimate Rs. 1,900, outlay Rs. 1,692.

(5) Five police huts at Yercaud; estimate Rs. 2,540, outlay Rs. 2,285.

(6) Improvements to the Sub-Magistrate's cutcherry at Razipur; estimate Rs. 1,650, outlay Rs. 1,576.

(7) Store-room in the Central Jail, Salem; estimate Rs. 2,240, outlay Rs. 2,382.

(8) Improvements to the Central Jail at Salem; estimate Rs. 3080, outlay Rs. 2,069.

(9) Additional class-room in the Government Girls' School at Krishnagiri; estimate Rs. 630, outlay Rs. 643.

(10) Improvements to clerks' quarters at Yercaud; estimate Rs. 4,200, outlay Rs. 4,285.

(11) Drains to clerks' quarters at Yercaud; estimate Rs. 48, outlay Rs. 33.

156. The following major works were in progress:—

(1) Fifty close prison cells in the Central Jail, Salem; estimate Rs. 21,300, grant Rs. 2,520, expenditure during the year Rs. 2,590, outlay to date Rs. 19,874.

(2) Taluk office at Tiruppattúr; estimate Rs. 36,600, grant Rs. 5,500, outlay during the year Rs. 5,320, expenditure to date Rs. 29,213.

(3) Taluk office at Tiruchengódu; estimate Rs. 33,660, grant Rs. 15,541, outlay during the year Rs. 15,557, expenditure to date Rs. 35,104. The estimate is under revision.

(4) Civil debtors' ward in the Central Jail at Salem; estimate Rs. 6,710, grant Rs. 2,784, outlay during the year Rs. 2,725, expenditure to date Rs. 6,321.

(5) Head Assistant Collector's cutcherry at Tiruppattúr; estimate Rs. 16,900, grant Rs. 10,000, outlay during the year Rs. 10,005, expenditure to date Rs. 10,005.

(6) District Munsif's court at Salem; estimate Rs. 14,750, grant Rs. 13,750, outlay during the year Rs. 13,756, expenditure to date Rs. 13,756.

(7) Improvements to the Collector's office at Salem; estimate Rs. 9,620, grant Rs. 2,500, expenditure during the year and to date Rs. 2,523.

(8) Sub-Registrar's office at Paramathy; estimate Rs. 3,150, grant Rs. 1,800, expenditure during the year and to date Rs. 1,800.

(9) Improvements to Deputy Tahsildar's office at Yercaud; estimate Rs. 4,080, grant Rs. 1,036, expenditure Rs. 1,048.

157. Rupees 6,040 were spent on minor works against a grant of Rs. 6,000, and a sum of Rs. 1,630 was spent on repairs against an allotment of Rs. 1,750.

158. **North Arcot.**—The following major works were completed:—

(1) Sub-Registrar's office at Tiruvelliyur; estimate Rs. 3,750, expenditure Rs. 3,972.

(2) Ten police huts at Puttur; estimate Rs. 3,430, expenditure Rs. 3,023.

(3) Additions to the quarantine ward to the Central Jail at Vellore; estimate Rs. 5,300, outlay Rs. 5,342.

(4) Sub-Registrar's office at Punganúr; estimate Rs. 3,170, expenditure Rs. 3,571.

(5) Boundary wall round the cemetery at Pákala; estimate Rs. 2,512, expenditure Rs. 1,766.

(6) Seven police huts at Rénigunta; estimate Rs. 2,650, expenditure Rs. 2,613.

(7) Converting old barracks at Arni into police huts; estimate Rs. 5,120, expenditure Rs. 4,585.

159. The undermentioned incomplete works were in progress:—

(1) Taluk cutcherry at Chendragiri; estimate Rs. 34,920. The progress on this work was not so satisfactory as could be expected owing to the interference of the late contractors, whose contract was cancelled on account of slow progress, the difficulty of procuring labour and to the consequent importation of labour from different parts of the country.

(2) Taluk cutcherry at Wandiwash; estimate Rs. 34,850. The work was nearing completion.

(3) Police station at Tiruchánúr; estimate Rs. 2,760. This work would have been completed, had it not been for the failure of the contractor who was involved in a civil suit.

(4) Deputy Tahsildar's office at Ambúr; estimate Rs. 16,550. A portion of grant allotted for this work had to be surrendered owing to the site not having been made over to the department earlier.

(5) Circular kitchen with 12 cooking places at the Central Jail, Vellore; estimate Rs. 4,000. This was a minor work of the previous year, but on the revision of the estimate, it was treated as a major work.

(6) Sub-Registrar's office at Sholinghur; estimate Rs. 3,000. The grant allotted for the work had to be surrendered as the site was not handed over till the end of the official year.

160. Eighteen minor works were in progress, of which seven were completed. The aggregate outlay during the year was Rs. 1,409 against an allotment of Rs. 2,000.

161. Under repairs the outlay was Rs. 1,709 against an allotment of Rs. 2,500. Twenty works were in progress, of which six were completed.

162. **Chingleput**—Five minor original works were under execution, of which one was completed. The year's outlay was Rs. 4,355 against a grant of Rs. 4,100.

163. There were in all 27 repair works under execution, 20 of which were completed; the outlay was Rs. 4,241 against a grant of Rs. 3,900.

164. **South Arcot.**—The new Munsif's court-house at Tirukkóyilúr, estimate Rs. 15,050; the Sub-Registrar's office at Bhuvanagiri, estimate Rs. 2,980; and the Sub-Registrar's office at Mannárgudi, estimate Rs. 4,090, were completed at an outlay of Rs. 14,903, 2,893 and 4,161, respectively.

165. At the new Taluk office, Chidambaram, the wood work was completed, plastering completed except record-room and police guard-room; cutstone work nearly completed. Ceiling completed, except for record and police guard rooms. The expenditure to end of the year was Rs. 30,688 against an estimate of Rs. 40,745. The outlay during the year was Rs. 9,512.

166. Sub-Registrars' offices at Gingee and Tiruvannámalai, and Stationary Sub-Magistrates' offices at Tirukkóyilúr, Tindivanam and Kallakurchi were commenced and work to the extent of Rs. 1,420, 1,875, 2,864, 4,971 and 3,450, respectively, was carried out during the year.

167. An outlay of Rs. 3,441 was incurred on eight minor original works against a grant of Rs. 3,840.

168. Rupees 5,737 were spent on repair works against a grant of Rs. 6,040.

169. **Tanjore.**—The principal major works under execution were:—

(1) Constructing police lines for Tanjore town, estimate Rs. 25,955; work in progress; outlay Rs. 14,968 against a grant of Rs. 14,955.

(2) Police lines for Tanjore taluk, estimate Rs. 6,970; work almost completed; grant and outlay Rs. 5,470, respectively.

(3) Police lines near Mahamaghakulam, estimate Rs. 23,400; work in progress; outlay Rs. 10,310.

(4) Police lines near Pettah station, Kumbakónam, estimate Rs. 9,120; work almost completed; outlay Rs. 8,957.

(5) Sub-Registrar's office at Pápanásam; estimate Rs. 2,860, outlay Rs. 2,159.

(6) Sub-Registrar's office, Kumbakónam; estimate Rs. 3,040, outlay Rupees 1,736. The last two works were almost completed.

170. A sum of Rs. 2,027 was spent during the year on minor original works against a grant of Rs. 2,000.

171. Twenty-one repair works were in progress on which the outlay was Rs. 2,575, the principal works being repairing Tanjore Palace window (almost completed) and repairing Sub-Court at Kumbakónam ; work almost completed.

172. **Negapatam.**—The construction of the District Munsif's court-house at Tirutturaippúndi was resumed and work to the extent of Rs. 9,500 was carried out during the year. Total outlay on the work Rs. 12,000 against an estimate of Rs. 15,310.

173. The Sub-Registrars' offices at Adichapuram and Nagore—incomplete works of previous year—were completed with an outlay of Rs. 2,021 and 1,588, respectively.

174. On the Sub-Registrar's office at Arantángi ; estimate Rs. 3,330, the expenditure was Rs. 2,630 against a grant of Rs. 2,630. The work was nearly completed.

175. Ten minor original works were in progress, of which four were completed. Expenditure Rs. 799 against a grant of Rs. 800.

176. Seventeen repair works were in progress, of which five were completed. The year's expenditure was Rs. 2,468 against a grant of Rs. 2,500.

177. **Public Works Stores and Workshops.**—Against the final grant under Provincial Civil Buildings of Rs. 60 for minor original works and Rs. 763 for repairs for the Public Works Stores division, the outlay was Rs. 49 and 763, respectively. In the Public Works Workshops division Rs. 1,450 were spent under Provincial Civil Buildings, Repairs, the grant being Rs. 1,500.

178. **Trichinopoly** —The following works were completed or were in progress during the year :—

(1) Adding verandahs to the close prison blocks of the Trichinopoly Central Jail ; estimate Rs. 4,750. Work completed at an outlay of Rs. 4,737.

(2) First-class Taluk cutcherry at Musiri ; estimate Rs. 34,405, outlay Rupees 32,985, of which Rs. 3,981 were spent during the year. The work was completed, but accounts were not closed, as the contractor refused to receive payment. The matter was under inquiry.

(3) First-class Taluk cutcherry at Jayankondasólapuram ; estimate Rs. 38,510. In progress. Of the total outlay of Rs 30,984, Rs. 12,000 were spent during the year.

179. Nine minor works were completed and four were in progress, the outlay on all these being Rs. 1,915.

180. A sum of Rs. 2,908 was spent on repairs to several buildings.

181. **Madura** —The following works were completed during the year :—

(1) Office for the Executive Engineer, Madura Division ; estimate Rs. 15,400, outlay Rs. 15,772, of which Rs. 6,790 were spent during the year.

(2) Government Girls' School at Madura ; estimate Rs. 7,200, outlay Rs. 7,204.

(3) Office for the Assistant Inspector of Schools at Madura ; estimate Rs. 3,150, outlay Rs. 2,921.

(4) Nine head and 48 constables' huts at Madura ; estimate Rs. 19,400, outlay Rs. 19,442, of which Rs. 13,442 were spent during the year.

(5) Sub-Registrar's office at Védasandúr ; estimate Rs. 2,840, outlay Rs. 2,808, of which Rs. 268 were spent during the year.

182. The following works were in progress :—

(1) New vernacular record-room for the Collector's office in Tirumal Naik's palace and acquiring and enclosing lands round the palace ; estimate Rs. 60,700, outlay Rs. 1,615. Iron barred windows were being made.

(2) Office for the Head Assistant Collector at Ramnad ; estimate Rs. 17,700, outlay Rs. 5,398, of which Rs. 2,300 were spent during the year. Excavation for the foundation was made and concrete laid in.

(3) Residence for the Head Assistant Collector at Ramnad ; estimate Rs. 11,105, outlay Rs. 2,000. Materials were collected. Nine minor works were completed and four were in progress, the outlay on all these being Rs. 3,449.

183. Repairs to the Public Works Department bungalow and Sub-Collector's bungalow at Dindigul, Sub-Court at Madura, Sub-Registrar's office at Tiruvadanai, clearance of vegetation from the fort at Dindigul, providing iron doors to Civil wards in the District Jail at Madura and re-roofing the blocks of the District Jail were completed, also several petty repairs to buildings, at an aggregate cost of Rs. 6,237.

184. **Tinnevelly.**—Sub-Registrar's office at Sivagiri ; estimate Rs .2,920, outlay Rs. 2,822, of which Rs. 25 were spent during the year in completing the building.

185. Under minor works demarcating boundaries of public buildings in Sankaranayinárkóyil, Tenkási, Tenkarai and Sáttúr taluks and constructing eight rain gauge pillars were carried out ; also improvements to the compound wall in the District Munsif's court at Ambásamudram. The outlay on these was Rs. 1,438.

186. A sum of Rs. 1,117 was spent during the year on repairs to buildings, including assessment paid on those in charge of the department.

187. **Presidency.**—The following works were in progress or completed under the supervision of the Consulting Architect :—

(1) Connemara Library and connected buildings ; this building was completed except the tower ; out of a total height of 185 feet, 69 feet remained to be done. A portion of furniture for the theatre had not been supplied ; estimate Rs. 5,60,566, total outlay to end of the year Rs. 5,01,697.

(2) New Law College ; only about half the number of wells required for the foundations were sunk at the end of the previous official year. During the year under review the whole of these were completed and sunk, the foundations above the wells were laid, the basement raised and the greater part of the interior superstructure built ; estimate Rs. 3,41,360, total outlay Rs. 1,87,351, of which Rs. 1,29,746 were spent in the year.

(3) Additional accommodation on the north side of the Presidency College for the Professors of Biology and Physical Science ; foundations laid, basement raised and a greater portion of the first story built during the year ; estimate Rs. 62,870, outlay Rs. 35,457.

(4) Preparing the ground between the path leading to the fishermen village and the Presidency College at Chepauk as a cricket ground for the students of the Presidency College ; the greater portion of the ground was raised to the full height and some grass planted ; estimate Rs. 3,560, outlay Rs. 1,808.

(5) Additions and alterations to the old High Court buildings to accommodate the Stamp and Stationery office, Presidency Port office, Deputy Collector's office, &c. ; this was so far completed as to allow all the offices to be removed into the building. Petty requirements found necessary after occupation were being attended to ; estimate Rs. 66,920, total outlay Rs. 56,395.

(6) Converting the old Stamp and Stationery office buildings into offices for the Inspector-General of Registration, Registrar of Madras and Sub-Registrar of Sowcarpet, Madras ; this work was in very active progress during the last two months of the year so as to allow the Registrar-General's office to move into the buildings during May 1895 ; estimate Rs. 10,385, outlay Rs. 8,154.

(7) Constructing a verandah with terrace roofing around the Banqueting Hall and a carriage Porch ; the work could not be started till the Government left Madras for Ootacamund. Materials were collected and arrangements made to commence the work ; estimate Rs. 14,985, outlay Rs. 2,969.

(8) Improving water-supply, Government House, Guindy ; this work was fully completed at a cost of Rs. 7,595 against an estimate of Rs. 8,025.

(9) Additions to the Lying-in Hospital ; this work was commenced in March 1895 and by the end of that month foundations and basement were completed and most part of the timber work collected at site ; estimate Rs. 32,834, outlay Rs. 8,899.

(10) Improvements and additions to Her Majesty's Penitentiary ; this work was commenced in May 1893 and completed in September 1894 with a saving of Rs. 3,744 on the estimate of Rs. 50,000. It is now in the occupation of the Jail Department.

(11) Additional accommodation for the Press Department and Carpenter shed at Her Majesty's Penitentiary ; this work was commenced in June 1893 and completed in August 1894 ; estimate Rs. 9,300, total outlay Rs. 9,256.

(12) Re-roofing with Mangalore tiles Surgical sheds Nos. 2 and 3 at the General Hospital; this work was commenced in September and completed in November 1894, and immediately occupied; estimate Rs. 3,376, outlay Rs. 3,284.

(13) Re-roofing the workshed in Her Majesty's Penitentiary; this work was commenced in February 1894 and completed during the year at an outlay of Rs. 4,743.

(14) Constructing a public warehouse at the Custom House; this work was commenced in May 1894, and a great portion of it was completed, the plastering and flooring remaining to be done. It was stopped after an outlay of Rs. 31,213 had been incurred against an estimate of Rs. 43,657.

(15) Extending Chemical Laboratory, Medical College; estimate Rs. 17,410, outlay Rs. 5,837. Fair progress was made.

(16) Constructing iron-shed west of Sea Custom House; estimate Rs. 6,170, outlay Rs. 3,567. Work in progress.

188. Rupees 85,086 were expended on annual and general repairs to buildings in charge of this division; of this sum Rs. 6,316 was for municipal taxes on certain Public Works Department buildings and Rs. 1,466 for the conservancy of the Floating and Senate House latrines at Chepauk.

IV.—PROVINCIAL—COMMUNICATIONS.

189. **Ganjam.**—The following works were in progress or completed:—

(1) Iron bridge at Mahasinghi; estimate Rs. 55,100, expenditure during the year Rs. 4,094 against a grant of Rs. 3,390; 110 wells built 10 feet, 22 wells built 7 feet. Brick manufactured for the remaining wells. Lime manufactured for this season's work. Wells for one abutment sunk to full depth and earthwork for foundations taken out. Concrete begun.

(2) Ichchhápuram and Jarada road; estimate Rs. 39,400, outlay Rs. 735 against a grant of Rs. 2,000. Work completed. The short outlay was due to non-settlement of land compensation in the Civil Department.

(3) Improving and metalling the road from Govindapur to Lohagudi bungalow; estimate Rs. 9,670, outlay during the year Rs. 2,147 against a grant of Rs. 2,148. One mile and three furlongs completed; 30,008 cubic feet of metal was spread. 9,003 cubic feet gravel was collected and spread, 14,861 cubic feet of metal was collected, 14,000 cubic feet of earthwork was done and a big boulder blasted.

(4) Metalling the road from Udayagiri to Kalingia; estimate Rs. 4,250, outlay Rs. 647 against a grant of Rs. 511. Work completed.

(5) Tekkali-Anantagiri road; estimate Rs. 23,500, outlay during the year was only Rs. 224. Work completed.

(6 Metalling road from Kalingia to Tekkahalli; estimate Rs. 7,230, outlay Rs. 1,038 against a grant of Rs. 1,035. Work completed.

(7) Constructing Mohanagiri ghât road; estimate Rs. 12,000, outlay during the year was Rs. 4,273 against an allotment of Rs. 4,957. Mohanagiri ghât has been opened for traffic, about half the $2\frac{1}{2}$ miles was completed, revetment for the other half is in hand and the road dams have to be built to complete this work. The lapse of grant was due to two piece-workers and a large gang of coolies who came from Russellkonda leaving the work on account of fever, and the Sub-division officer had to depend latterly on local labour.

(8) Constructing road with masonry works from Kallikota to Boirani; estimate Rs. 71,200, outlay during the year was Rs. 9,500 against an allotment of Rs. 9,500; earthwork was practically finished except in the 11th, 16th, 17th, 19th and 20th miles where the work was in rapid progress. Materials for culverts and bridges were under collection.

190. A sum of Rs. 3,284 was spent under minor original works against an allotment of Rs. 3,000. The principal works carried out are detailed below:—

(1) Metalling the soft portion of road from Udayagiri to Dharmapur; estimate Rs. 1,140, outlay during the year Rs. 789. Work almost completed.

(2) Constructing Nos. 1 and 2 bridges on Lohagudi ghât road; estimate Rs. 1,190, outlay during the year Rs. 965. Work nearly completed.

(3) Diverting Londa ghât road between Kalingia and Udayagiri and constructing culverts required in the portions of road; estimate Rs. 1,400, outlay during the year Rs. 1,269. Work in progress.

191. The expenditure under repairs was Rs. 2,105 against an allotment of Rs. 1,500.

192. **Coimbatore.**—The following works were in progress:—

(1) Suspension bridge with 200 feet span and 10 feet roadway across the Kullar river; estimate Rs. 42,500, expenditure to end of previous year Rs. 43,885, grant for the year Rs. 12,085, outlay during the year Rs. 12,121. The work was completed and excess explained in the completion report.

(2) Iron girder bridge across Kullar river; estimate Rs. 28,600, expenditure to end of previous year Rs. 30,737, outlay during the year Rs. 82. This was the value of iron credited and used on other works.

(3) Iron girder bridge at Burlyar; estimate Rs. 15,600, previous expenditure Rs. 16,115, outlay during the year Rs. 188. This expenditure was for payment of arrears due.

(4) Temporary suspension bridge across the Kullar river; estimate Rs. 5,062, expenditure and grant during the year Rs. 1,784. This expenditure was an adjustment.

193. The only work in progress during the year under minor works was "providing side railings to the approaches of the Kullar suspension bridge;" estimate Rs. 1,030, expenditure Rs. 1,080.

194. The following repairs were executed at a cost of Rs. 43,415 against a grant of Rs. 43,000:—

(1) Annual maintenance of Ootacamund-Kullar road; estimate Rs. 35,000, expenditure Rs. 35,980.

(2) Special repairs to Ootacamund-Kullar road; estimate Rs. 28,640, previous expenditure Rs. 28,931, outlay during the year Rs. 791.

(3) Repairs to laterite roads leading to Government buildings; estimate Rs. 3,330, expenditure Rs. 2,911.

(4) Reconstructing revetment and enlarging the culvert in the 22nd mile; estimate Rs. 3,980, previous expenditure Rs. 2,003, outlay during the year Rs. 1,674.

(5) Renewing and repairing old platform bridges on Ootacamund-Kullar road; estimate Rs. 10,550, expenditure Rs. 4,039. Pyngadu wood was collected. A large saving is anticipated on this work.

195. Besides the above, a sum of Rs. 4,175-1-7 was incurred in rectifying the damages due to Nilgiri Railway operations on the Ootacamund-Kullar road, and the expenditure was transferred to Examiner's division to be debited to Imperial (Railway) funds.

196. A further sum of Rs. 2,112 was spent in covering over Mr. James' channel in the Benhope Forest Reserve, and the expenditure was transferred to the Examiner's division.

197. **West Coast.**—The improvements to the Chundale-Mysore road were continued. Rupees 16,198 were spent against an allotment of Rs. 16,500 for the year, bringing the expenditure up to the end of the year to Rs. 19,925 against the estimate of Rs. 37,400; about 119·847 cubic feet of metal was collected. A sum of Rs. 3,396 was also spent in maintaining this road during the year.

198. On improvements to Vayittiri-Gúdalúr road Rs. 3,129 were spent against an allotment of Rs. 3,500. Repairs to Nadgani bridge were completed.

199. The Calicut-Vayittiri road (39 miles) and Vayittiri-Gúdalúr road (47 miles) were kept in good repair during the year at a total cost of Rs. 59,395. All the inspection bungalows on these roads were maintained in good order.

200. **Madura.**—The following works were completed during the year:—

(1) Bridge over the Suriliyar at Uttamapálaiyam; estimate Rs. 42,800, outlay Rs. 40,892. The work was completed in 1893-94, but the outlay incurred in 1894-95, viz., Rs. 800, was on account of compensation for land taken up for forming the approaches.

(2) Bridge over Suriliyar at Veerapandi; estimate Rs. 40,600, outlay Rs. 36,826. This work was also completed in 1893–94, but the outlay during the year 1894–95 (Rs. 148) was for land compensation.

201. Cutting a trace of ghât road from Athur to road No. 49, Lower Palnis; estimate Rs. 3,940, outlay Rs. 1,537. In progress.

202. **Presidency.**—Rupees 13,501 were paid to the Madras Municipality for maintaining the roads and bridges over the Cooum river.

V.—PROVINCIAL—MISCELLANEOUS PUBLIC IMPROVEMENTS.

203. **Godavari (Eastern).**—The roads and drainage culverts in the Sappers cantonment at Dowlaishweram were repaired at a cost of Rs. 272 against a grant of Rs. 300.

204. **Kistna (Northern).**—Widening Ryves' canal; estimate Rs. 11,600, total outlay up to date Rs. 10,150, outlay during the year Rs. 172. The revetment was completed.

205. **Kistna (Eastern).**—The sea dyke at Masulipatam and the outlet sluice near the tidal lock at Masulipatam were repaired at an outlay of Rs. 800.

206. **Coimbatore.**—A sum of Rs. 294 was spent against an allotment of Rs. 400 for minor works, mostly on petty items at Ootacamund.

207. Rupees 568 were spent against an allotment of Rs. 1,000. Seven petty works costing less than Rs. 200 were in progress during the year.

208. **West Coast.**—A sum of Rs. 679 was spent on deepening the Kallai bar, Calicut, and Rs. 62 on some urgent repairs to revetment and groyne along the foreshore opposite to the Public offices, Ponnáni.

209. **Madura.**—Cutting a rough trace from Kodaikánal to Pillar rocks; estimate Rs. 2,560, outlay Rs. 2,519, of which Rs. 684 were spent during the year. The work was completed, but the land compensation remained to be adjusted.

210. **Presidency.**—Rupees 13,915 were expended in maintaining the Chepauk Park and Marina, the grass plots and trees in the old Fishing village site and on the conservancy of the Cooum river, and Rs. 216 were paid to the Telegraph Department as rent for the line from the clock at Messrs. Orr and Sons, Mount Road, to the Observatory.

VI.—LOCAL—INCORPORATED.

211. **Rushikulya.**—The Aska and Suradá road was maintained at a cost of Rs. 405.

212. **Godavari (Eastern).**—Maintenance of Kovur-Munjair junction canal; estimate Rs. 3,980, outlay Rs. 2,004 against a grant of Rs. 2,000.

213. Maintenance of road on the Gódávari left embankment for the first four miles below anicut; estimate Rs. 300, outlay Rs. 160 against a grant of Rs. 400. The lapse of grant was partly due to late receipt of order sanctioning the additional allotment and partly to bills for work done in March having been received too late for payment in that month.

214. **Godavari (Western).**—A sum of Rs. 3,045 was spent from the local fund contributions for raising river embankment from Vijeswaram to Polavaram and diversion of river bank at Pattisam 20 miles 2 furlongs from Vijeswaram.

215. **Kistna (Northern).**—Technical Institute and Jubilee Museum, Bezwada; estimate Rs. 27,500, total outlay Rs. 27,267, total outlay during the year Rs. 1,032. The wire-fencing and other small items were carried out during the year and the building handed over to the District Board, Kistna.

216. **Kistna (Eastern).**—Materials for constructing an iron girder bridge 33 miles 7 furlongs of Masulipatam canal, and a road culvert across the west side channel of the same canal were collected and the works were in progress; outlay Rs. 983 and Rs. 278 against estimates of Rs. 1,140 and Rs. 410, respectively.

217. **Kistna (Western).**—Improvements to good-water channel, Nizampatam, were carried out at a cost of Rs. 78.

218. **South Arcot, &c.**—Two hundred and seven and half miles of road on river and channel banks in the South Arcot, Tanjore and Negapatam divisions in the circle were maintained during the year at an outlay of Rs. 16,858, including Rs. 3,460 on account of maintenance of Védáranniyam canal.

219. **Trichinopoly.**—Road No. 20 from Sirudiyur to the lower anicut *viâ* Sengarayur, 20 miles, and the road along the Iyar Konakarai flood bank, $\frac{7}{8}$ mile, were maintained at a cost of Rs. 1,106 from the contribution of Rs. 1,070 made by the district board.

220. **Tinnevelly.**—A sum of Rs. 1,012 was spent from the grant made by the district board on repairing the road running along the bund of Srívaikuntam-Periyakulam tank. The work was completed with a total expenditure of Rs. 1,344.

VII.—LOCAL—EXCLUDED.

221. **Ganjam.**—The following works were completed or in progress:—

(1) Constructing masonry pillar at north end of the port of Ganjám; estimate Rs. 100, outlay during the year Rs. 41 against a grant of Rs. 41. Work completed.

(2) Erecting a temporary lighthouse at Calingapatam; estimate Rs. 180, outlay during the year Rs. 195 against a grant of Rs. 195. Work completed.

(3) Improving the lower platform of the flagstaff at Gopálpur; estimate Rs. 124, outlay during the year Rs. 99 against a grant of Rs. 100. Work completed.

(4) Fitting the new light to the obelisk at Calingapatam; estimate submitted for sanction, outlay during the year Rs. 1,218 against an allotment of Rs. 1,340. Work very nearly completed.

(5) Demarcating the port limits at Gopálpur; estimate Rs. 75, outlay during the year Rs. 67 against a grant of Rs. 75. Work completed.

222. A sum of Rs. 3 was spent in repairing light-keeper's quarters, flagstaff and signal room at Calingapatam; estimate Rs. 100. Work completed.

223. **Vizagapatam.**—The following works were completed or in progress:—

(1) Demarcating the port limits, Vizagapatam; estimate Rs. 60, outlay Rs. 8.

(2) Digging trial pits for the proposed Port officer's quarters at Vizagapatam.

224. **Godavari (Eastern).**—The Marine Villa at Cocanada was repaired at a cost of Rs. 126.

225. **Godavari (Western).**—A sum of Rs. 25 was spent on preliminary operations in connection with the construction of a lighthouse at Therthalamundi.

226. **Kistna (Eastern).**—Mr. Maiden's bungalow at Masulipatam was purchased at a cost of Rs. 4,500 as a residence for the Port Officer.

227. A wind indicator was fixed at the Port office at Masulipatam at a cost of Rs. 144.

228. Repairs to the lighthouse at Point Divi were completed at a cost of Rs. 694 and materials collected at a cost of Rs. 128 for providing rails and sleepers for the port crane at Masulipatam.

229. **Buckingham Canal.**—Alterations to lighthouse superintendent's quarters, &c., at Monapalem; estimate Rs. 2,740, outlay Rs. 2,680.

230. Constructing a block of cook-rooms for light-keepers at Pulicat; estimate Rs. 760, outlay Rs. 760.

231. Re-building cook-room and godown for light house superintendent, Pulicat; estimate Rs. 610, outlay Rs. 606.

232. Repairing and white-washing superintendent's and light-keeper's quarters at Seven Pagodas; estimate Rs. 214, outlay Rs. 209.

233. **West Coast.**—The following works were completed:—

(1) Improvements to the Port office at Beypore; estimate Rs. 1,460, outlay Rs. 1,350.

(2) Re-erecting the light house at Coondapoor on a new site; estimate and expenditure Rs. 100.

(3) Converting the existing vacant buildings in the light house bastion at Tellicherry into quarters for light-keepers; estimate Rs. 241, outlay Rs. 256.

(4) Improvements to the revetment of the Cruz Milagre dam at Cochin; estimate and expenditure Rs. 360.

(5) Erecting the sea wall north of groyne N at foreshore, Vypeen; estimate Rs. 700, outlay Rs. 693.

(6) One boundary pillar at Cochin, cost Rs. 100.
One " " at Maday " " 100.
One " " at Chowghat " " 150.
One " " at Attupuram " " 115.
Two " " at Ponnáni " " 230.

234. Improvements to the groyne at Gangolly (Coondapoor) were undertaken and Rs. 722 spent against a grant of Rs. 1,500. About one-fourth of the eastern rough-stone groyne, road reclamation, planking, sand filling to road, and about 30 feet of the western groyne were completed.

235. Under repairs the following works were carried out:—

(1) Repairs to Boat jetty at Cannanore, expenditure Rs. 1,248.
(2) Groyne B along foreshore at Cochin, expenditure Rs. 751.
(3) Repairs to light house at Calicut, outlay Rs. 158.

236. **Negapatam.**—Two stone groynes on the west side of the island in the Negapatam harbour, incomplete works of the previous year were completed during the year with an outlay of Rs. 715. The total expenditure was Rs. 2,399 against an estimate of Rs. 2,680.

237. The construction of a training groyne, Negapatam harbour, estimate Rs. 2,250; also an incomplete work of the previous year was completed during the year with an outlay of Rs. 780. Total expenditure on the work Rs. 1,986.

238. An outlay of Rs. 414 was incurred on repairs to the jetty and other marine works at Porto Novo.

239. Rupees 181 were spent in carrying out petty repairs to the jetty wall at the Negapatam harbour.

240. **Madura.**—Constructing a residence with out-houses for the Port Officer at Pámban; estimate Rs. 6,400, outlay Rs. 4,978. The work was in progress. Walls of main building raised to full height and lower terrace nearly put on. Tiled-roof to kitchen was put on and walls roughly plastered. Three minor works, viz., Port Officer's office at Pámban, constructing two godowns to the same, and reconstructing the Deputy Telegraph Master's quarters were in progress; the outlay being Rs. 2,445.

241. Repairs to the Port Officer's bungalow at Pámban were completed at a cost of Rs. 256.

242. Repairs to the light house at Manapad were completed; outlay Rs. 2,262, of which Rs. 1,270 were spent during the year.

243. An estimate of Rs. 1,91,500 for constructing an iron screw pile pier at Tuticorin was submitted in February 1895 for the sanction of Government; but it was returned for revision, with instructions that a turn-table should be provided in lieu of the reverse curve and back shunt originally proposed. In connection with the pier, it was considered necessary to reclaim the foreshore, and a revised estimate of

Rs. 37,500 for this work was sanctioned in September 1894. This amount has been included in the pier estimate above referred to, so that the total cost of the pier and reclamation may be shown together. The reclamation work was given out on contract in December; but the contractor having died subsequently, the contract had to be cancelled and renewed in the name of his brother. Further, the amount of compensation to be paid for the corner of Messrs. Ralli Brothers' compound had not been settled, and as the corner of the compound could not be acquired until the question of compensation was decided, the railway siding to the beach for the carriage of sand could not be laid down. No reclamation was therefore carried out during the year and the grant for the work (Rs. 37,500) had to be surrendered. About Rs. 3,000 worth of work was done on the coral stone bund, and the railway siding to the sand hill was completed. The total outlay on the pier to the end of the year was Rs. 97,630. The iron work was finished and the planking nearly completed. Hand-rails were being fixed.

244. **Presidency.**—Rs. 7,233 were expended under this head for original works and repairs of the Senate House.

VIII.—MISCELLANEOUS—DEPOSITS CONTRIBUTIONS.

245. The following works required by the Municipality of Bezwada were in progress:—

(1) Constructing three ghâts for bathing, &c., on the Kistna anicut; estimate Rs. 7,000, contribution Rs. 1,834, outlay Rs. 720. The necessity of passing water through the Bezwada under-sluices prevented any progress being made with this work.

(2) Fixing stanchions and chains on Bezwada under-sluices; estimate and contribution Rs. 650, outlay Rs. 613.

(3) Making three cuts through the spoil bank of the Bundar canal for foot traffic from Buckinghampet; completed at a cost of Rs. 698.

246. **Coimbatore.**—The following works were executed during the year:—

(1) Fixing a stained glass window in St. Stephen's Church at Ootacamund; expenditure Rs. 113.

(2) Additions and improvements to the chancel of All Souls' Church at Coonoor; expenditure Rs. 814.

Both works were completed and balances were returned to depositors.

(3) Fixing a cast iron socket pipe-sluice in Areapuram channel; expenditure Rs. 11.

247. **Salem.**—Out of a sum of Rs. 37 recovered from the Manager, Sholagiri Estate, in January 1894 for boring operations in the Sittipalli anicut, Rs. 25 were spent, and the balance Rs. 11 not being required was refunded to the manager of the estate in July 1894 and accounts closed.

248. **Presidency.**—Rs. 4,088 were expended during the year in carrying out certain works for the Military Female Orphan Asylum buildings.

26. *Expenditure on real works.*—In 1894 the Chief Engineer drew the attention of officers of the department to the necessity for preventing lavish expenditure on materials brought by contractors for works to be constructed by themselves, and called for information calculated to show the proportion between expenditure on such materials and real work. The information for the year 1894–95 has now been received and tabulated, the results being given below:—

STATEMENT showing the percentage of expenditure on real work during 1894–95.

Division.	Total expenditure under all heads during 1894–95.	Expenditue on real work.	Expenditure on materials.	Percentage of column 3 on column 2.
1	2	3	4	5
	Rs.	Rs.	Rs.	
Rushikulya	2,57,565	2,57,565	..	100·0
Kistna Eastern	2,80,588	2,80,588	..	100·0
Buckingham Canal	2,12,944	2,12,944	..	100·0
Chingleput	1,98,073	1,98,073	..	100·0
Tanjore	1,93,893	1,93,893	..	100·0
Tinnevelly	2,34,429	2,34,429	..	99·5
Trichinopoly	1,38,982	1,38,322	660	99·0
Negapatam	1,62,246	1,60,679	1,567	98·9
Gódávari Eastern	1,78,524	1,76,716	1,808	98·6
Nellore	2,07,985	2,05,241	2,744	98·2
South Arcot	2,29,678	2,25,736	3,952	97·9
Vizagapatam	66,539	65,195	1,344	97·8
Gódávari Western	2,45,120	2,39,823	5,297	97·3
North Arcot	2,34,801	2,28,470	6,331	97·2
Madura	3,12,235	3,03,515	8,720	96·6
Kurnool	1,45,475	1,40,607	4,866	96·2
Salem	1,17,029	1,12,658	4,371	95·3
West Coast	2,06,622	1,96,997	9,625	94·3
Kistna Western	3,20,269	3,02,280	17,989	94·1
Consulting Architect	5,52,950	5,20,494	32,456	93·9
Coimbatore	2,26,239	2,12,491	13,748	92·7
Ganjám	79,619	73,871	5,748	89·8
Kistna Northern	2,36,600	2,12,529	24,071	* 89·5
No. I Periyár	6,36,243	5,69,737	66,506	84·9
Cuddapah	1,18,386	1,00,616	17,770	83·5
Bellary	1,49,175	1,24,638	24,537	

* NOTE.—In this division one set of piece-workers supplies materials and another set uses them. The case of a contractor being paid for his materials to the detriment of his construction work never occurs.

The object in view in publishing these results is to prevent a lavish, not judicious, expenditure on materials, particularly towards the close of the year when money is sometimes thus spent to avoid its lapse. If it is necessary to lay in a stock of materials at this period so as to start a work rapidly at the begininng of the next official year, it would, as was explained to officers of the department, be better to defer payment to contractors till the ensuing year's allotment became available. The bulk of the expenditure would then be on real work.

A

Statement showing the percentage of expenditure on real work during 1894-95.

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	Rs	Rs	Rs	
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✓ Chingleput	1,98,073	1,98,073	"	100·0
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✓ Tinnevelly	2,34,429	2,34,429	"	100·0
✓ Trichinopoly	1,38,982	1,38,322	660	99·5
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✓ Godavari Eastern	1,78,524	1,76,716	1,808	98·9
✓ Nellore	2,07,985	2,05,241	2,744	98·6
✓ South Arcot	2,29,678	2,25,736	3,952	98·2
✓ Vizagapatam	66,539	65,195	1,344	97·9
✓ Godavari Western	2,45,120	2,39,823	5,297	97·8
✓ North Arcot	2,34,801	2,28,470	6,331	97·3
✓ Madura	3,12,235	3,03,515	8,720	97·2
✓ Kurnool	1,45,475	1,40,607	4,866	96·6
✓ Salem	1,17,029	1,12,658	4,371	96·2
✓ West Coast	2,06,622	1,96,997	9,625	95·3
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✓ Ganjam ✓	79,619	73,871	5,748	92·7
✓ Kistna Northern	2,36,600	2,12,529	24,071	89·8 *
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26- Expenditure on real work.

In 1894 the Chief Engineer drew the attention of officers of the Dept to the necessity for preventing lavish expenditure on materials brought by Contractors for work to be constructed by themselves, and called for information calculated to shew the proportion between expenditure on such materials and real work. The information for the year 1894-95 has now been received and tabulated; the results being given below.-

(Here enter Statement A)

The object in view in publishing these results is to prevent a lavish, not judicious expenditure on materials, particularly towards the close of the year when money is sometimes thus spent to avoid its lapse. If it is necessary to lay in a stock of materials at this period so as to start

to work rapidly at the beginning of the next official year, it would, it was explained to officers of the Department, be better to defer payment to Contractors till the ensuing years allotment became available: the bulk of the expenditure would then be a real work.

Articles for the Administration Report - Part I.



ADMINISTRATION REPORT

OF THE

PUBLIC WORKS DEPARTMENT,

(GENERAL, BUILDINGS AND ROADS BRANCH),

MADRAS PRESIDENCY,

FOR THE YEAR

1894-95.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS,

1895.

ADMINISTRATION REPORT

OF THE

PUBLIC WORKS DEPARTMENT, MADRAS

(GENERAL, BUILDINGS AND ROADS BRANCH),

FOR THE YEAR 1894-95.

I.—GENERAL REMARKS.

Administration.—The Honourable Colonel J. Pennyeuick, R.E., continued to hold the position of Chief Engineer of the Department and Secretary to Government throughout the year, while Colonel Drake-Brockman, R.E., retained the position of Chief Engineer for Irrigation and Joint Secretary to Government in the Irrigation Branch.

2. *Circle charges.*—The circle charges were administered as follows:—

The I Circle, with head-quarters at Dowlaishweram, was in charge of Mr. G. D. Wybrow until the 2nd June 1894, when he proceeded on furlough. Mr. J. E. Paul, Executive Engineer, then officiated as Superintending Engineer until the 6th July 1894, when he was relieved by Mr. A. H. Garrett, Superintending Engineer, 3rd Class, temporary rank, who continued in charge for the remainder of the year. The II Circle, head-quarters, Bezwada, was held by Mr. J. W. Martin up to the 5th April 1894, when he proceeded on furlough. Mr. A. S. Russell, Executive Engineer, held temporary charge until the 29th of the same month, when Major W. L. C. Baddeley, R.E., assumed charge and retained it for the rest of the year. Colonel A. T. Fraser, R.E., continued to administer the III Circle, head-quarters, Bellary, until his retirement in August 1894, when he was succeeded by Lieut.-Col. C. C. Rawson, R.E. The latter officer having been transferred in March 1895, the charge of the circle for the rest of the year devolved on Mr. C. H. T. Norfor, Superintending Engineer, 3rd Class, temporary. The IV Circle, head-quarters, Coimbatore, was held throughout the year by Mr. J. Hannan. The V Circle, head-quarters, Madras, was administered by Mr. J. C. Larminie up to 16th March 1895, except for a period of absence on privilege leave from 16th August to 21st October 1894, when Mr. J. P. Davidson officiated. Mr. Larminie proceeded on furlough on the 16th March 1895 and was succeeded by Lieut.-Col. C. C. Rawson, R.E. Major O. V. Boddy, R.E., took over charge of the VI Circle, head-quarters, Trichinopoly, from Lieut.-Col. A. W. Smart, R.E., at the end of the previous official year, and he continued to hold it until the 21st December 1894, when, having obtained furlough, he was relieved by Mr. W. Hughes, B.A., who remained in charge for the rest of the year. The office of Consulting Architect continued in the hands of Mr. H. Irwin, C.I.E., and Mr. S. D. Pears, as Superintendent of Works, remained in charge of the head works of the Periyár Project.

3. *Divisional changes.*—The Gódávari Western division was divided into two separate divisions as follows:—

(1) *Gódávari Western Division.*	(2) *Gódávari Central Division.*
Sub-divisions.	Sub-divisions.
(1) Eastern.	No. 1.
(2) Western.	No. 2.
(3) Tank and Embankment.	

The necessity for this measure had been apparent for some time previously, but owing to the want of executive staff it had to be deferred.

Sanction was accorded in the previous year to the re-arrangement of the Public Works divisions of the Kistna district, and in accordance with this authorisation the following sub-divisional charges were formed:—

Division.	Sub-Division.
Kistna Eastern	1. Cowtaram. 2. Northern. 3. Southern.
Do. Northern	1. Head-quarter. 2. Guntúr. 3. Muniyeru project.
Do. Western	1. Eastern. 2. Western. 3. Western Delta project.

The Coimbatore division was changed from the first to the second class, and the clerical staff reduced accordingly.

4. *Casualties.*—There were no deaths among the superior officers of the department. The following officers retired on the pensions earned by their length of service:—

Mr. C. J. Peters,	Executive Engineer,	1st	Grade.
„ G. E. Manson,	„	2nd	„
„ W. Jopp,	„	2nd	„
„ A. M. Hayes,	„	2nd	„
„ S. Subbarayachariyar,	„	3rd	„

and Colonel A. T. Fraser, R.E., Superintending Engineer, 1st Class, temporary, was relegated to military duty on completion of 55 years of age.

5. *Grants and Expenditure.*—The following statement shows the grants and expenditure of the year under the different finance heads:—

Fund and financial heads.	Original grant.	Revised estimate.	Actual expenditure.
	Rs.	Rs.	Rs.
Imperial Military works	65,000	78,600	..
Do. Civil „	21,000	23,800	..
Provincial Civil „	23,09,000	22,26,000	..
Local Incorporated funds	47,000	36,600	..
Do. Excluded „	1,82,887	1,32,708	..
Estate works	24,378	19,103	..
Total ..	..	..	..

6. *Madras Harbour Works.*—The official year 1893–94 closed with the completion of the north pier head by the setting in position of the iron caisson at that arm, and the year under review has seen the successful construction and setting in position of a similar caisson, which has completed the southern arm of the harbour. The two caissons thus terminating the north and south pier heads form the eastern entrance to the harbour with a width of 515 feet 6 inches and a depth of 39 feet alongside each of the pier heads for a length of 175 feet. 830 lineal feet of the north pier have been completed and raised to a height of 13 feet above mean sea level by the addition of a capping of large concrete blocks made *in situ*, weighing about 250 tons each, and covering four courses of the bonded blockwork. A lighthouse of mass concrete has been built upon the north pier head caisson. The lower chamber of

the lighthouse has been designed as a tidal observatory, and in December the self-registering tidal instruments were erected, and commenced a new series of tidal observations.

North pier head.—During the month of April the cylindrical mass of concrete formed in the caisson at the close of last year was united with the bonded blockwork behind it, by building a backing of mass concrete. To confine the concrete to the required position until set, a temporary wall of blocks had to be built up to high water level on either side of the pier. This was then caulked below water by divers to form a water-tight mould. The work was completed by the end of April, but owing to a continued and unusual rough sea washing round the caisson at this point, it was impossible to raise the blocks again before the end of September. This delayed all progress to the north pier capping by five months. Similar delay did not occur at the south pier on account of its sheltered position. When it was evident that delay at the north arm was unavoidable, it was decided to transfer the all-round titan crane to the south pier head, where it was required for setting the second caisson; and this was done in four days, after having raised and replaced in better positions 104 wave-breaker blocks along the north arm.

The rubble base around the caisson and along the pier was consolidated or paved with concrete for a length of 94 lineal feet.

The total length of the north pier, as now completed, is 3,816 feet 9 inches from the end of the cassion at the pier head to the first block set on shore in 1876.

South pier head.—Between June and October seven courses or 168 blocks were set by divers. The blocks were then left in position to compress the foundation of the caisson during the monsoon. In March 1895 six courses, or 243 blocks in all, were removed, and the caisson was set in position. The total length of pier built and removed in the official year was 127 feet 6 inches. On two occasions when the foundation was almost ready to receive the caisson, some of the old wall blocks slipped, falling upon the newly-prepared base. The removal of these blocks considerably delayed the work and necessitated the divers and all hands working day and night so as to complete the work before the May monsoon set in. The official year closed with the completion of the construction of both arms of the harbour and pier heads in accordance with the sanctioned design. The capping of concrete along both arms, a small portion of the rubble base protection, and the south pier head lighthouse comprise all that remains to complete the works. The total length of the south pier as completed is 3,931 feet $1\frac{1}{2}$ inches from the end of the caisson to the first block set on shore in 1877. During May and June 38 wave-breaker blocks were added to the south pier wave-breaker screen, extending it as far as possible until the caisson was placed in position.

Pallávaram quarries and concrete-making machinery.—The total outturn of concrete during the year was 6,312 cubic yards. 11,820 tons of chips were received from the quarries for concrete work and $881\frac{3}{4}$ tons of large rubble were received and deposited along the protective works to the north of the harbour.

Supply of Portland cement.—Thirteen thousand nine hundred and seventy-three casks containing 2,495 tons of Portland cement were received from England during the year, and an indent for a further supply of 2,500 tons was forwarded to the India Office. The balance of cement in store on the 31st March 1894 was 5,759 casks containing 1,028 tons, while the issues during the year ending 31st March 1895 were 10,427 casks containing 1,862 tons, leaving a balance on hand at the close of the official year of 9,304 casks or 1,661 tons.

Protective works north of the harbour.—In May 1894 the first line of revetment to the north of the harbour settled down considerably at the original gap known as "Masulah Boat bay," leaving the line of rails and sleepers suspended. Near "Carlton House" further settlement also took place. It was thus necessary to deposit $881\frac{3}{4}$ tons of large rubble boulders at the weakest points along the line of revetment. The bay at the extreme end of these protective works increased by 160 feet between March and December 1894, but at the close of the official year the high water line had advanced seawards again to the original position.

Foreshore south of the harbour.—There was an advance of foreshore seawards during the year of about 160 feet, but since December 1894 the high water mark returned shorewards by 60 feet.

Sea bottom within the harbour.—The depth of water inside the harbour remained the same, and, although the high water line varied its position according to the direction of wind and sea, there has been no permanent advance of foreshore during the year. The high water line along the southern half of the harbour has, however, shown a tendency to recede, while close to the southern arm the water line was 40 feet *inshore* of its position at the close of the previous official year.

Expenditure.—The total outlay on the works, including the expenditure on the protective works north of the harbour, was Rs. 2,74,280–11–8, made up as follows:—

	RS.	A.	P.
Outlay on works	2,76,122	9	5
Do. on establishment	44,843	2	10
Total ...	3,20,965	12	3
Outlay on tools and plant	— 1,148	14	0
Net debit to suspense heads ...	— 45,536	2	7
Net outlay in the year ...	2,74,280	11	8

The year closed with a cash balance of Rs. 68,616 and a balance of Rs. 80,180 in material, cement and stores, or a total unexpended balance upon the sanctioned estimate of Rs. 1,48,796. A revised estimate providing for a total expenditure of Rs. 1,27,52,508 has since been submitted for sanction. The following is a summary of progress:—

Number of items.	Particulars and quantity of works during official year 1894–95.	Sub-heads of work	North pier.				South pier.		Titan and railway lines laid and removed for work.	Total concrete made for work.	Pallávaram quarries outturn.	Protective works.	Total expenditure.
			Concrete capping.	Wave-breaker.	Base protection.	Pier head backing.	Pier head at 40 feet below sea level.	Wave-breaker.					
		Column.	A	B	C	D	E	F	G	H	I	J	K
1	Total quantity of rubble stone received on works.	..	..	..	..	..	..	..	..	..	881¾	881¾	..
2	Total quantity of blasted chips.	..	..	..	..	..	..	..	..	..	11,820	..	..
3	Concrete blocks set and removed by divers.	No.	..	..	..	24	28 Permanent. 352 Temporary. 380 Total blocks in works in addition to setting of south pier head caisson.	..	..	..	..	..	..
4	Concrete blocks raised and re-deposited in wave-breaker.	..	..	104	..	..	..	..	..	..	..	..	..
5	Concrete deposited in wave-breaker, additional.	..	..	..	..	..	..	38	..	..	..	..	..
6	Total outturn of concrete.	C. yds.	5,197½	..	674	790½	2,410¼	..	..	9,072	..	..	..
7	Advance or progress of completed superstructure.	Rg. ft.	..	..	..	..	52′ 3″ Permanent advance including caisson. 75′ 3″ Temporary advance and removal. 127′ 6″ Total length.	..	..	..	..	..	..
8	Advance or progress of capping superstructure.	„	830	..	..	..	..	..	..	..	..	..	..
9	Concrete blocks made *in situ*.	No.	33	..	..	..	..	..	..	..	..	..	..
10	Rubble base protected with concrete.	Rg. ft.	..	..	94	..	..	..	..	..	..	..	..
11	Titan and mixed gauge, railway lines, &c.	„	..	..	..	..	..	..	11,177	..	..	..	..
12	Expenditure under sub-heads of work approximately.	..	2,39,077								16,358	165	2,55,600

Miscellaneous.—The machinery, cranes, railway lines, &c., were kept in repair, and the usual haulage by the Harbour Works locomotives for the Traffic department was continued during the year.

7. *Mangalore harbour.*—The question of the best means of improving the harbour at Mangalore has engaged the attention of Government on several occasions, and it was recently decided to obtain the services of a specially qualified officer to survey the port and suggest the measures necessary for its improvement. Mr. G. T. Walch, late a Chief Engineer of the Public Works Department, was finally selected during the year to pursue the requisite investigations. The port consists of an open roadstead where large vessels anchor from one to two miles from the shore and a "backwater" forming an inner harbour used by the smaller sea-going craft. Access to the inner harbour is through the channel by which the waters of the two rivers—Nétrávati and Gurupur—find their way to the sea, the channel being kept open, even when the river-supply fails, by tidal scour. There is a sandy barrier between the backwater and the sea, but it is so narrow, low and unstable, that it is easily breached when the level of the backwater is raised by river floods. The consequence is that new openings to the sea are constantly formed, creating difficulties and uncertainty in the way of shipping, which constitute great drawbacks to trade. There does not appear to have been any deterioration in recent times of the open sea anchorage for large vessels, and any improvement of this anchorage could only be effected by an artificial harbour on the general lines of the one at Madras. The cost of such improvements would be prohibitory, and the investigation now in hand will therefore be confined to the means of making the best of the inner harbour and its entrance.

8. *Adirámpatnam harbour project.*—In connection with the contemplated extension of the Máyavaram-Muttupet Railway to Adirámpatnam in the Tanjore district, the Local Board desired that the question of improved facilities for the landing and shipping of goods at the port should be investigated. An officer of the Public Works Department was accordingly deputed to report on the subject. He described the so-called port as a shallow bay, situated about 30 miles west of Point Calimere and protected by two sandspits or shoals, the margin being slushy for some 2,000 feet seawards from the custom house. For the next 2,000 feet seawards the bed falls to 4·84 feet below mean low spring tide level. Of recent years the depth of water has diminished owing to natural causes, and vessels of every size are now obliged to anchor 8 or 10 miles out. Boats, however, approach the custom house through a channel excavated through the slush, the excavated spoil forming a bank on which loading and unloading is carried on. The channel carries only a few inches of water at low tide, and it is possible to deepen and widen this channel and form a better road with the spoil for a length of 2,000 feet from the custom house. Thence a pile pier would be required, but to reach even a depth of 5 feet at low tides a length of 2,000 feet of pier would have to be constructed. The work would be expensive, stone for the roadway not being available at a less distance than 25 miles; while the pier piles would have to be sunk 10 feet through slush and sand before even firm soil would be reached. These facts, coupled with the steadily deteriorating character of the bay, indicate pretty clearly that no improvement is possible within any practical limit of cost.

9. *Drainage of the swamps round Masulipatam.*—On the occasion of a late inspection of the town of Masulipatam, the Sanitary Commissioner brought to notice its insanitary condition owing to defective drainage. The town is situated on a flat alluvial plain formed by the river Kistna, which stretches at this point several miles out to sea, with so small a gradient that ships have to anchor off the port at a distance of nearly seven miles. These being the physical conditions of the site, it necessarily follows that difficulty must exist as to the surface and sub-soil drainage of the town. The fluctuation of the latter is from 3 feet to 6 feet in the best parts of the town and from 6 feet to the surface in less fortunate parts. A heavy, but not extraordinary, fall of rain, 8 to 9 inches in the 24 hours, is sufficient to transform the environs of the town, usually known as the "swamps," into seas of water. There exist six outlet channels for surface drainage to the sea, but these are evidently insufficient, and

inquiries are now being made as to whether it would be practicable and remunerative to reclaim these swamp lands by means of embankments and suitable drainage works on the methods successfully adopted in the fens of Lincolnshire and in Holland.

10. *Cooum improvement scheme.*—The insanitary condition of the river Cooum within the limits of the town of Madras has long engaged attention. In 1890, the Government appointed a committee to consider the general question of water-supply and drainage, and on receipt of its report decided to obtain the opinion of a sanitary expert from England. Mr. Edward Cousins, C.E., was accordingly sent out, and arriving at Madras towards the close of 1891, spent six months there in collecting information and studying local conditions. He found that, for a period of about nine months in every year, the Cooum near its mouth lies as a lagoon filled with an admixture of fresh and salt water in the centre of the town, that it is but seldom that any appreciable quantity of fresh water is received by the river during the long time it is cut off from the sea, but that a considerable addition is made to its contents and to the contents of the connected canals, by the discharge of large quantities of sewage which is poured into them daily from a great number of sewers. It is estimated that over one million gallons of sewage is thus poured every day into this stagnant brackish pool. The solid contents of the sewage settle to the bed of the river and form layer upon layer of deposit, emitting noxious exhalations which are apparent at a considerable distance. Thus the river in its present condition is a standing menace to the health of the inhabitants of Madras, and even when tidal it is a source of great danger, inasmuch as the decomposed deposits on the bed are disturbed by the action of the tidal water and throw off noxious gases. A great part of this sediment is doubtless removed when the river is in flood and flowing freely outwards to the sea, but this only occurs for two or three months of the year; for the remaining nine or ten months the mouth of the river is blocked by the bar, and the matters held in suspension are once more deposited. No scheme of drainage for the town of Madras could thus be in the remotest degree satisfactory which did not provide for the total elimination of all sewage matter from the river Cooum. Mr. Cousins' scheme provided accordingly for such elimination, as well as for special treatment of the river itself. He proposed the construction under the sand bar at the mouth of the river of a masonry culvert 520 feet in length terminating in six cylindrical steel pipes, each 3 feet in diameter, which are to be carried seawards an additional distance of 220 feet, so as to reach deep water. It was calculated that the discharge of water from the river and its replacement by sea-water occurring at each tide through the opening would, as long as the sewage which now falls into the Cooum is excluded from it, suffice to keep the river pure and clean. The total cost of the work was estimated at Rs. 3,07,876. The Chief Engineer and the Sanitary Engineer were of opinion that this scheme would scarcely secure such an efficient cleansing of the Cooum as is desirable, and His Excellency the Governor in Council agreed in this view. Owing, moreover, to the abandonment of the proposed drainage scheme, which was decided after careful consideration, it will be impossible to calculate upon the total elimination of sewage from the Cooum, and it is on this account the more necessary that any scheme for the purification of the river that may be adopted shall ensure the replacement by sea-water at regular intervals of a very considerable proportion of its contents. On these grounds the Government came to the conclusion that the proposals formerly put forward by the Chief Engineer in modification of those made by Mr. Jones would provide for a degree of circulation in the river which would meet the necessities of the case. These proposals included as the principal feature of the arrangements the construction of a canal from the north side of the harbour to the boat basin in the Buckingham canal which is connected with the river. This would permit of the entry twice in the 24 hours of a large body of water at one point of the connected waters of the Buckingham canal and the Cooum, and for its discharge at another and a distant point, and would thus effect a continual replacement of a considerable portion of the contents of the canal and river. Such a canal would, moreover, be of great value to the harbour and the commerce of the city. It is roughly estimated that the cost of this proposal would be some eight lakhs of rupees, involving an annual charge for interest and sinking fund of Rs. 40,000. The Chief Engineer was requested to make arrangements for drawing up detailed estimates of the outlay that the execution of this project would involve, and an officer is now specially engaged on the work.

11. *Visit of the Chief Engineer to Mysore.*—The Mysore Government has had under consideration for some time the question of utilizing the water-power available at the Cauvery falls at Sivasamudra for the production of mechanical energy, and understanding that Colonel Pennycuick, R.E., Chief Engineer and Secretary to the Madras Government, had devoted much attention to the question in connection with the Periyár project, the Durbar requested His Excellency the Governor in Council to permit that officer to pay a visit to the falls and report on the feasibility or otherwise of the scheme, all expenses incurred being paid by the Mysore State. In pursuance of this request, Colonel Pennycuick visited the locality in September 1894 and drew up a report which was transmitted to the Mysore Government. The conclusion arrived at was that the physical conditions of the ground are as favourable as can be desired for the generation of power, but, that it was impossible without further investigation, the nature of which was indicated, to estimate with any accuracy the power which could be developed or the cost of the necessary works, the amount of water available not being at present known.

12. *Road from the Palnis.*—The subject of opening up communication between the Upper and Lower Palnis and the plains has recently engaged attention. It is considered of great importance that the plateau of the Lower Palnis should be developed. The country is said to be extremely rich and well adapted for the growth of coffee and cardamoms, of which several plantations already exist, while the natural forests are most valuable; the population also shows a tendency to rapid increase. Several officers have been engaged on the requisite investigations. The work was finally entrusted to Lieutenant Close, R.E., who towards the close of the year submitted a project for a road from Kodaikánal to Atur, a distance of 45 miles, at an estimated cost of Rs. 4,04,536; but it will be necessary to add 4 miles to the distance and Rs. 10,000 to the cost for a direct road from Atur to Ambattarai, which is the nearest railway station. The question of whether the road should be constructed is purely a financial one, depending on what contribution the Government is prepared to make towards the cost, and whether the District Board will contribute the balance. So far as the development of the Lower Palnis is concerned, it will be sufficient to construct the road as far as its junction with Law's Ghât, leaving the improvement of the latter, which completes the communication with Kodaikánal, for execution at a future date; but this could only save something less than one-fourth of the total cost. It was pointed out that the construction of a bridle-path would probably cost Rs. 85,000, and that this, as regards Kodaikánal, would be of no use, as it would not compete with the existing road by Periyakulam, which is only 43 miles in length, of which 31 are on a good cart-road. How far it would be of value for the Lower Palnis is a question which has been remitted to the District Board which has the whole matter now under consideration.

13. *Water-power in connection with the Periyár.*—The fact that an enormous water-power would be available at Kuruvanuth on the completion of the works for the diversion of the Periyár has long been known to all those who are interested in the subject. The question as to the best means of utilizing this power came under the consideration of Government in 1892. The works are designed and intended primarily for purposes of irrigation. The amount of water-power available depends, therefore, mainly on the amount of water which has to be drawn from the lake for use in the Vigai valley, but arrangements have been made so that, if necessary, a minimum of 500 cubic feet per second can be drawn off without intermission or interruption from year's end to year's end, and this minimum will be available for the development of power. The actual fall is about 1,200 feet, and the power which could be obtained from 500 cubic feet a second with this fall would be about 50,000 horse-power. This power would be available day and night, and if it were proposed, as for most manufacturing purposes would probably be the case, to work for only 10 hours out of the 24, it would be practicable, without detriment to irrigation, to send down a rather larger proportion of the daily supply during these hours. It may therefore be assumed, without risk of error, that for practical work 60,000 horse-power would be available throughout the year. The best method of obtaining this power from the water, irrespective of the question of its utilization when obtained, is one of great interest both from a mechanical and a

financial point of view, as there is no place in the world where so large a body of water is obtainable under complete control with so great a working head. These facts were, in the opinion of Government, so important as to justify a reference to the best engineering specialists at home. The papers on the subject, including surveys of the ground, were accordingly forwarded to the Secretary of State for India in view to some practicable scheme being elaborated. Lord Kimberley appointed a committee in London, composed of the following gentlemen, to consider the question:—

Colonel J. Pennycuick, R.E., *Chairman.*
Professor W. C. Unwin, F.R.S.
" G. Forbes, F.R.S.
" W. C. Roberts-Austen, C.B., F.R.S.

It was clear to the committee that on the completion of the Periyár project there would be a large amount of power available for industrial purposes, and that the development and utilization of this power would be of the greatest importance to the Government of India from an administrative as well as from a financial point of view. The subject was considered under two main branches, firstly, the development of the power at the site of the works by suitable hydraulic apparatus; and, secondly, its utilization on the spot or transmission to distant places at which it may be more effectively utilized. No recommendation was made as to whether the apparatus necessary for bringing this power into use should be constructed by the Government of Madras, or whether the right to the use of the water would be leased to one or more contractors, leaving the latter to make their own arrangements for its utilization. The committee, however, suggested that early steps should be taken for giving the utmost possible publicity to the fact that this power will shortly become available, with a view to the submission of practical proposals for its development, there being a great probability of new industries being attracted to the district by the mere existence of a source of power which appeared to the committee to be one of the cheapest in the world. The reports on the subject were accordingly published in the *Fort St. George Gazette* and communicated to Engineering newspapers and institutions, the Colonial office, and the Agents-General for the Colonies.

14. *Coast lights and lighthouses.*—The question of the improvement of the coast lights of this Presidency has occupied the attention of Government for some years past. It was finally decided during the year that Mr. Ashpitel, Assistant to the Chief Engineer for Irrigation and Under Secretary, Irrigation Branch, who had given special attention to the study of lights and lighthouses in Europe, should be deputed with the Presidency Port Officer to inspect all the lights along the coast, go thoroughly into and report on the question of the suitability or otherwise of the position of each light, of the structure from which it is displayed, and also of the light itself for the purpose for which it is required. His inquiries were further to extend to the adequacy and competence or otherwise of the establishments maintained for each light, the consumption of oil and other stores, and the accommodation for the staff attached to the several lights.

The following lighthouses were also inspected by officers of the department during the year:—

Hare Island, Tuticorin.	Cochin.	Mangalore.
Seven Pagodas.	Calicut.	Negapatam.
Pulicat.	Cannanore.	Madras.
Armeghon.	Tellicherry.	

15. *Works in Wards' estates.*—The works in the following estates were in charge of the Public Works Department during the year:—

Ganjám Division.	*Gódávari Western Division.*
(1) Aska.	(4) Lakkavaram.
(2) Bodagoda.	(5) Tangellamúdi.
(3) Dhárákóta.	

The statement below exhibits the outlay as compared with the grant for works:—

Estates.	Buildings.				Communications.			
	Original works.		Repairs.		Original works.		Repairs.	
	Revised grant.	Outlay.	Revised grant.	Outlay.	Revised grant.	Outlay.	Revised grant.	Outlay.
Ganjám Division.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Aska	5,000	4,999	..	..	..	..	..	..
Dhárákóta	..	..	500	499	..	..	70	70
Bodagoda	..	..	500	500	..	..	130	129
Pedda Kimedi estate	..	..	1,050	924	..	..	..	..
Total ..	5,000	4,999	2,050	1,923	..	..	200	199
Gódávari Western Division.								
Tangellamúdi	..	..	..	..	..	..	..	..
Lakkavaram	..	..	..	..	..	..	..	..
Total ..	..	..	..	..	..	..	..	..

N.B.—The figures do not include establishment charges.

Aska estate.—The expenditure of Rs. 4,999 under "Buildings—Original works" was incurred on the following works:—

	Rs.
(1) Constructing malukdar's quarters at Aska	4,644
(2) Demolishing Aska malukdar's quarters	355

The former work was making good progress.

Dhárákóta estate.—The expenditure of Rs. 499 under "Buildings—Repairs" was on three buildings in Dhárákóta palace. Two of these were completed and the other was still in progress. The outlay of Rs. 70 under "Communications—Repairs" was on the maintenance of Dhárákóta-Mundamari road, which was completed during the year.

Bodagoda estate.—The expenditure of Rs. 500 under "Buildings—Repairs" was on three works, two of which were completed and one was still in progress. The outlay of Rs. 129 under "Communications—Repairs" was on repairing the road from the palace to the police station.

Pedda Kimedi estate.—A sum of Rs. 924 was spent against an allotment of Rs. 1,050 in repairing the houses occupied by the Gayatri Pattamahadevi and late Raja's sister. The short outlay was due to the very unsatisfactory work done by contractors which necessitated other arrangements being made at the close of the year for carrying on the works.

Lakkavaram and Tangellamúdi estates.—No work under "Buildings" or "Communications" was executed in these estates during the year.

16. *Public Works Stores.*—The opening balance of the year was Rs. 2,13,650–1–8. The receipts during the year were—

	Rs.	A.	P.
From London	29,419	1	6
" Public Works divisions	7	14	6
" Public Works Workshops	928	13	8
" Local purchases	28	14	10
Total ...	30,384	12	6

The issues were—

	Rs.	A.	P.
To Public Works Department	9,978	1	10
" Public Works Workshops	17,997	14	9
" State Railways	259	9	0
" Articles valuing Rs. 10 and below transferred to other divisions and departments	33	1	6
" Other departments	42	8	10
" Private sales	48	9	11
Total ...	28,359	13	10

leaving a closing balance of Rs. 2,15,675-0-4, which, although less than the reserve limit of Rs. 2,25,000 sanctioned in G.O., No. 3268 W., dated 19th December 1894, yet includes the value of a large quantity of surplus and obsolete stores, a list of which was prepared and submitted for the orders of Government.

Surplus stores to the value of Rs. 476-6-6 were sold during the year.

Special stores to the value of Rs. 68,691-10-1 were obtained from England on account of other divisions and departments and despatched to their destinations.

Instruments, tools and machinery were issued numerically to Public Works Provincial service, but at a valuation to irrigation works and other departments to the extent of Rs. 9,626-15-0.

Thirty-nine consignments were received from England, and there were 35 shipments to other Public Works divisions as against 41 and 39 in the previous year.

17. *Public Works Workshops.*—A report on the financial results of the working of the Public Works Workshops is submitted to the Government annually by the Examiner of Public Works Accounts.

The value of work executed in the shops during the year was Rs. 91,628-0-3 against Rs. 1,09,612-3-10 in the previous year, showing a decrease of Rupees 17,984-3-7.

The following statement shows the work done as compared with that of previous year :—

—	1893-94.	1894-95.	Difference. More.	Difference. Less.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Work done for Public Works Department, including Military Works and State Railways	80,385 2 10	67,543 4 3	..	12,841 14 7
Other Government departments	27,007 0 0	22,658 15 0	..	4,348 1 0
Private parties	2,220 1 0	1,425 13 0	..	794 4 0

The value of machinery and plant at the beginning of the year was Rs. 96,721-1-2. After deducting the usual 4 per cent. for depreciation, amounting to Rs. 3,868-13-6, and adding receipts amounting to Rs. 3,233-14-4, the balance at the close of the year amounted to Rs. 96,086-2-0. The expenditure on tools and plant and machinery was Rs. 3,651-15-10 and that on new plant was Rs. 3,233-14-4, while the balance of materials on hand at the end of the year was Rs. 7,289-11-5 against the sanctioned reserve limit of Rs. 25,000.

18. *Bezwada Workshops.*—The outturn of these shops during the year amounted to Rs. 1,53,952 against Rs. 1,85,807 of the previous year. The stock of sawn wood comprising the balance at debit of the "Sawpit account" was taken by Lieutenant Lord, Assistant Engineer, in October 1894, with the result that there was a loss of Rs. 3,506 on the book value. Proposals were submitted for the adjustment of this loss against the profit accruing on the re-valuation of articles in the divisional stores on the basis of local rates. The total receipts at one per cent. on the transactions of the year on account of general charges amounted to Rs. 871, while the charges debited to this head were Rs. 889, resulting in a small loss of Rs. 18 against a profit of Rs. 693 in the previous year.

19. *Dowlaishweram Workshops.*—The following is a statement of the work done in the shops, excluding the centages during the year under review as compared with the previous year :—

—	1894-95.	1893-94.	More than 1893-94.	Less than 1893-94.
	Rs.	Rs.	Rs.	
1. Work done for the Public Works Department excluding centage	61,313	52,020	9,293	..
2. Work done for other departments excluding centage.	2,961	1,568	1,393	..
3. Work done for private parties excluding centage ..	2,045	1,550	495	..
Total ..	66,319	55,138	11,181	..

The value of work was thus Rs. 11,181 more than in the previous year. The increase appears under all three heads shown above, but is principally due to greater progress made in the sanctioned works of the Gódávari Eastern division. The cost of general charges (establishment, repairs to buildings, purchase of new tools and repairs of tools, &c.) amounted to Rs. 8,222 against the centages of Rs. 10,236 actually obtained, resulting in a profit of Rs. 2,014.

20. *Government brick and tile manufactory.*—About 3,253,250 bricks, 153,050 flooring tiles and 103,130 Mangalore pattern roofing tiles, and a large quantity of terracotta were manufactured and supplied to Government works; 440,418 bricks and 79,870 tiles were sold to contractors and others at an advanced rate of 24½ per cent.

The tramway and the steam machinery plant are all at work and are found to be very useful. The pugging of the clay for bricks is a great improvement on the former plan of hand and bullock labour.

The Government lime-kilns were removed from the basin to the site of the Government brickfields. New kilns were constructed and lime is now being manufactured.

21. *Roads.*—The following statement shows the length of road communication maintained by public authorities in Madras during the year 1894-95 :—

Name of division.	Name of district.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by local authorities.	Length of unmetalled roads maintained by local authorities.	Total of metalled roads.	Total of unmetalled roads.
Ganjám and Rushikulya ..	Ganjám ..	16·50	..	732	22	748·50	22·
Vizagapatam ..	Vizagapatam ..	..	..	347	546	347·	546·
Gódávari (Eastern and Western).	Gódávari ..	5·00	..	758	137	763·	137·
Kistna (Northern, Eastern and Western)	Kistna ..	0·62	33·75	563	220	563·62	253·75
Nellore	Nellore ..	0·40	..	988	101	988·40	101·
Bellary	Anantapur ..	..	..	250	461	250·	461·
	Bellary ..	..	..	130	777	130·	777·
Cuddapah	Cuddapah ..	..	..	326	795	326·	795·
Kurnool	Kurnool ..	..	..	507	181	507·	181·
Coimbatore	Nilgiris ..	53·45	7·41	64	486	117·45	493·41
	Coimbatore ..	..	..	935	639	935·	639·
Salem	Salem ..	..	..	554	1,405	554·	1,405·
West Coast	Malabar ..	73·00	..	474	889	547·	889·
	South Canara ..	..	..	148	917	148·	917·
North Arcot	North Arcot ..	..	..	1,476	..	1,476·	..
Chingleput	Chingleput ..	..	..	607	77	607·	77·
South Arcot	South Arcot ..	..	60·00	895	234	895·	294·
Tanjore and Negapatam ..	Tanjore ..	..	147·50	148	1,342	148·	1,489·50
Trichinopoly	Trichinopoly ..	20·87	..	533	132	553·87	132·
Madura	Madura ..	..	..	572	706	572·	706·
Tinnevelly	Tinnevelly ..	..	..	818	124	818·	124·
Consulting Architect ..	Presidency ..	4·30	..	..	..	4·30	..
	Total ..	174·14	248·66	11,825	10,191	11,999·14	10,439·66

NOTE.—This statement does not include roads and streets within municipal limits.

22. *Destruction of useless records.*—The accumulation of records year by year has caused considerable pressure on the limited space available in public offices, but except in certain special cases no systematic arrangements were in operation for eliminating surplus or useless papers. Proposals were accordingly invited by Government for dealing with the matter. The records of the Examiner's office had previously been dealt with on well-considered proposals brought forward by the present Examiner. The records of the Public Works Secretariat are now undergoing review in accordance with suggestions made by the Secretary which embrace the following measures :—

Copies of Papers.

To destroy.

(1) All spare copies of Proceedings of the Government of India and the Local Government in other departments *in excess of three.*

Note.—There will then remain the originals in all cases and spare copies up to the limit of three.

(2) All spare copies in excess of five of Proceedings of Government in the Public Works Department when over ten years old.
(3) All spare copies of Gazettes after binding one complete set for future reference.
(4) All loose sheets containing notes of the circulation and registry of papers *after one year*.

Note.—Bound volume of registers should be preserved.

(5) All spare copies of Standing Orders to Codes on which action has been taken.

Before destroying spare copies of Proceedings of other departments, their numbers and dates are communicated to those departments in order that they may have an opportunity of taking over any papers which may be of use to them.

Original Documents.

To destroy.

(1) All periodical returns that have been printed after one year.
(2) All periodical returns that have not been printed after one year.
(3) All statements other than periodical returns that have been printed after one year.
(4) Reports regarding change of appointment after one year.

Note.—A separate record of this information is kept in registers.

(5) Applications for leave after one year.

Note.—This information is also separately recorded.

(6) Budget estimates of other Governments after five years.
(7) Administration reports of other Governments after five years.
(8) Budget estimates of Municipal and District Boards after one year.
(9) Annual reports of Municipal and District Boards after one year.
(10) Lists of surplus stores after one year.
(11) Unanswered reference lists after one year.
(12) Indian daily weather reports after one year.
(13) Madras daily weather reports after one year.

It is possible that during the progress of the work other items will suggest themselves and in this case further orders of Government will be taken.

The books in the library were also carefully examined and a number of publications found to be either obsolete or surplus were sold after it had been ascertained that they were not wanted by other offices.

A limit was also prescribed beyond which certain periodical publications were not to be retained.

The result of these measures will set free a large amount of space for the records of future years.

23. *Drawing branch of the Chief Engineer's office.*—Under the provisions of orders of Government issued in 1889, a small drawing office, formed from the staff of the old Lithographic Press, was retained as part of the office of the Chief Engineer, Public Works Department, the duties of the draughtsmen being to prepare, on behalf of all departments of Government, enlargements of drawings for lithography by the Revenue Survey office. In course of time most of these enlargements were undertaken by the Revenue Survey office itself, and the work in the drawing office of the Chief Engineer was correspondingly diminished. It was thus found practicable to reduce the staff from four draughtsmen on Rs. 320 to one on Rs. 30, the one draughtsman retained being brought on the general establishment of the Chief Engineer's office and employed exclusively on work of the Public Works Department.

24. *Service books.*—The orders with respect to the due and correct maintenance of service books are reported to have received careful attention at the hands of officers of the Public Works Department, except in one instance in the Gódávari Western division and in a few cases in the Vizagapatam division. Early completion of these books was promised.

25. *Inventory of valuable stock.*—The returns of stock were correctly maintained and rendered to the Examiner by all officers of the Public Works Department.

26. *Expenditure on real work.*—In 1894 the Chief Engineer drew the attention of officers of the department to the necessity for preventing lavish expenditure on materials brought by contractors for works to be constructed by themselves, and called for information calculated to show the proportion between expenditure of such materials and real work. The information for the year 1894–95 has now been received and tabulated, the results being given below:—

Statement showing the percentage of expenditure on real work during 1894–95.

Division.	Total expenditure under all heads during 1894–95.	Expenditue on real work.	Expenditure on materials.	Percentage of column 3 on column 2.
1	2	3	4	5
	Rs.	Rs.	Rs.	
Rushikulya	2,57,565	2,57,565	..	100·0
Kistna Eastern	2,80,588	2,80,588	..	100·0
Buckingham Canal	2,12,944	2,12,944	..	100·0
Chingleput	1,98,073	1,98,073	..	100·0
Tanjore	1,93,893	1,93,893	..	100·0
Tinnevelly	2,34,429	2,34,429	..	100·0
Trichinopoly	1,38,982	1,38,322	660	99 5
Negapatam	1,62,246	1,60,679	1,567	99·0
Gódávari Eastern	1,78,524	1,76,716	1,808	98·9
Nellore	2,07,985	2,05,241	2,744	98·6
South Arcot	2,29,678	2,25,736	3,952	98·2
Vizagapatam	66,539	65,195	1,344	97·9
Gódávari Western	2,45,120	2,39,823	5,297	97·8
North Arcot	2,34,801	2,28,470	6,331	97·3
Madura	3,12,235	3,03,515	8,720	97·2
Kurnool	1,45,475	1,40,607	4,866	96·6
Salem	1,17,029	1,12,658	4,371	96·2
West Coast	2,06,622	1,96,997	9,625	95·3
Kistna Western	3,20,269	3,02,280	17,989	94·3
Consulting Architect	5,52,950	5,20,494	32,456	94·1
Coimbatore	2,26,239	2 12,491	13,748	93·9
Ganjám	79,619	73,871	5,748	92·7
Kistna Northern	2,36,600	2,12,529	24,071	89·8
No. I Periyár	6,36,243	5,69,737	66,506	* 89·5
Cuddapah	1,18,386	1,00,616	17,770	84·9
Bellary	1,49,175	1,24,638	24,537	83·5

* Note.—In this division one set of piece-workers supplies materials and another set uses them. The case of a contractor being paid for his materials to the detriment of his construction work never occurs.

The object in view in publishing these results is to prevent a lavish, not judicious, expenditure on materials, particularly towards the close of the year when money is sometimes thus spent to avoid its lapse. If it is necessary to lay in a stock of materials at this period so as to start a work rapidly at the begininng of the next official year, it would, as was explained to officers of the department, be better to defer payment to contractors till the ensuing year's allotment became available. The bulk of the expenditure would then be on real work.

II.—PROGRESS OF WORKS.

I.—IMPERIAL—MILITARY WORKS.

27. **Ganjam.**—The only work on which outlay was incurred during the year was constructing a well for the use of the public in lieu of the one reserved for the exclusive use of the regiment at Berhampur. Estimate Rs. 1,530 — Rs. 486 were spent during the year against the grant of Rs. 480. The total outlay up to the end of the year was Rs. 1,510 against the estimate of Rs. 1,530. The work was almost completed.

28 The expenditure on repairs was Rs. 1,015 against an allotment of Rs. 1,000 incurred for repairing the Military buildings at Berhampur and for paying the house-rent and compensation for quarters for medical and military subordinates.

29. **Vizagapatam.**—A sum of Rs. 1,585 against an allotment of Rs. 1,520 was spent on the following minor original works which were all completed during the year:—

(1) Quarters for two hospital assistants at Vizianagram, estimate Rs. 890.
(2) Huts for two hospital sweepers at Vizianagram, estimate Rs. 170.
(3) Huts for four hospital bearers at Vizianagram, estimate Rs. 290.
(4) Sinking a well near Regimental hospital at Vizianagram, estimate Rs. 600.

The excess was trifling.

30. The expenditure on repairs was Rs. 2,623 against an allotment of Rs. 2,650 for repairing the buildings in the cantonment of Vizianagram and also for paying municipal assessment on military buildings at Vizianagram and house-rent and compensation for quarters for medical and military subordinates.

31. **Godavari (Eastern).**—The expenditure on repairs was Rs. 584 against an allotment of Rs. 628 on account of compensation for quarters to sergeant-instructors, East Coast Rifle Volunteers at Rajahmundry and Cocanada, which amounted to Rs. 480, and for the following works:—

(1) Cutting a doorway in block No. 4 of East Coast Rifle Volunteer Armoury, outlay Rs. 5.
(2) Temporary verandahs to Military Pension office at Rajahmundry (old district jail), outlay Rs. 55.
(3) Watching military buildings at Samalkot, Rs. 44.

32. **West Coast.**—The following works were completed and made over for occupation:—

(1) Substituting asphalte floor in place of wooden floor of central block, West Hill, Calicut; estimate Rs. 2,830, outlay Rs. 2,469.
(2) Quarters for 11 men of the Army Hospital Native Corps, Cannanore; estimate Rs. 2,980, outlay Rs. 2,832.

33. The following minor works were carried out:—

(1) Lightning conductors to the military buildings at West Hill, Calicut, were put up, and Rs. 551 were spent bringing the total expenditure to the end of the year to Rs. 981.
(2) The Officer's Mess house at Malapuram was also provided with a lightning conductor at a cost of Rs. 44.
(3) A sum of Rs. 150 was spent in erecting a latrine for the guard-room at West Hill, Calicut.
(4) The roof of the armoury of Volunteer Rifles, Tellicherry, was renewed at a cost of Rs. 354.
(5) The detail hospital cook-room at Cannanore was converted into a mortuary for Native Infantry, expenditure Rs. 186.

34. The expenditure on repairs was Rs. 23,926 against a grant of Rs. 26,000. The military buildings and cantonment roads at the several military stations in the division were repaired and maintained in good order.

35. **Coimbatore.**—The only work completed under the head of minor works was putting up bamboo-fencing and constructing two cess-pools in the rest-house compound at Méttupálaiyam; estimate Rs. 100, expenditure Rs. 93.

36. The total outlay under Military Repairs was Rs. 10,704 against an allotment of Rs. 9,000. Of this Rs. 795 were paid for rents of hired buildings for military subordinates. The following are the principal works carried out during the year:—

(1) Repairs to sergeants' quarters, Lawrence Asylum, Ootacamund; estimate Rs. 2,600, expenditure Rs. 2,668.
(2) Repairs to Lawrence Asylum buildings, Lovedale; estimate Rs. 7,820, expenditure Rs 8,338.
(3) Repairs to rest-house at Méttupálaiyam; estimate Rs. 200, expenditure Rs. 205.
(4) Repairs to rest-house at Pódanúr; estimate Rs. 200, expenditure Rs. 181.

There were besides seven petty works costing under Rs. 200.

37. **Salem.**—Out of a grant of Rs. 160, Rs. 153 were spent on repairing the sergeant-instructor's quarters at Yercaud and Jalarpet. House rent amounting to Rs. 12 was paid for a building hired for sergeant-instructor at Jalarpet up to 10th March 1894, on which date Mrs. Liptrot's house was purchased and handed over to the Public Works Department by the Revenue Department.

38. **North Arcot.**—No works were carried out under this head except the payment of compensation for quarters hired during the year for the sergeant-instructor at Rénigunta.

39. **South Arcot.**—The work of constructing an armoury with magazine and store-room and quarters for the sergeant-instructor attached to the South Indian Railway Volunteer Corps at Cuddalore was resumed and work to the value of Rs. 4,488 was carried out during the year. The lower story forming the magazine and armoury with store-room was completed; doors fitted; materaials for concrete for steps, latrine and cook-room under collection. Of the total outlay during the year, Rs. 2,040 and Rs. 1,311 were debited to deposit contributions and miscellaneous advances, respectively, leaving a balance of Rs. 1,137 to be debited to Imperial Military against the grant of Rs. 1,013. Besides the above work, Rs. 180 were spent in hiring quarters for the sergeant-instructor attached to the same corps.

40. **Negapatam.**—The work of repairing the buildings occupied by the sergeant-instructor of the South Indian Railway Volunteer Rifle Corps at Negapatam commenced in the previous year, was resumed and completed at an outlay of Rs 612, the total outlay being Rs. 994. A sum of Rs. 55 was also paid as Municipal tax on the building.

41. **Trichinopoly.**—The following minor works were completed:—

(1) Building a compound wall around the grand magazine at Trichinopoly; estimate Rs. 785, outlay Rs. 793.
(2) Putting up two windows to the old magazine attached to the Commissariat buildings at Trichinopoly to convert it into a guard-room for the Pension Pay office, outlay Rs. 40.
(3) Extending the drain from the masonry cistern in rear of warrant officers' quarters at Trichinopoly to carry water from bath room outside the compound, outlay Rs. 28.

42. A sum of Rs. 8,806 was spent in repairing several buildings and maintaining the cantonment roads, the latter by the Municipality from the contribution of Rs. 1,188 received from the Public Works Department.

43. **Madura.**—A sum of Rs. 225 was paid for rent for quarters occupied by the sergeant-instructor, South Indian Railway Volunteer Corps.

44. **Tinnevelly.**—A sum of Rs. 165 was paid for rent of quarters hired for the sergeant-instructor of the same corps.

II.—IMPERIAL—CIVIL BUILDINGS.

45. **Ganjam.**—Post office at Kassibugga; estimate, Rs. 1,720, outlay Rs. 357 during the year. The total outlay up to end of the year was Rs. 1,792 against an estimate of Rs. 1,720. Work completed and handed over to Postal Department.

46. Improvements to Post office at Chatrapur; estimate Rs. 610, outlay Rs. 40 during the year. The total outlay up to end of the year was Rs. 648. The work was completed in March 1894, but final payment made in 1894–95.

47. The expenditure under repairs was Rs. 614 against an allotment of Rs. 370. The following works were executed:—

(1) Repairing Post office at Parlákimedi, estimate Rs. 270.
(2) ,, ,, at Chatrapur, estimate Rs. 200.
(3) ,, ,, at Aska, estimate Rs. 270.

The first work was an incomplete one of the previous year; a sum of Rs. 246 was spent on it during the year without special allotment. Hence the excess over grant under this head.

48. **Vizagapatam.**—A sum of Rs. 1,023 was spent against an allotment of Rs. 1,240 in repairing the Post offices at Párvatípuram and Vizagapatam, and Telegraph office at Vizagapatam. The lapse of grant was chiefly due to savings on estimates.

49. **Godavari (Eastern).**—The only work in progress was providing Horbury's patent latrine for Telegraph office at Cocanada at a cost of Rs. 277 against an allotment of Rs. 290.

50. A sum of Rs. 1,333 was spent against an allotment of Rs. 1,330 in repairing Telegraph offices at Cocanada and Rajahmundry, and Post offices at Peddápuram and Tuni.

51. **Kistna (Western).**—Putting in a pipe from the good-water channel to supply water to the salt factory at Nizampatam was completed at a cost of Rs. 27.

52. **Kistna (Northern).**—Repairs to Telegraph offices at Bezwada and Guntúr were completed at a cost of Rs. 436.

53. Repairs to the Post office at Bezwada at a cost of Rs. 99 were carried out on the annual maintenance estimate. The building being in an unsafe condition, the Post office was removed to a rented building towards the latter part of the official year.

54. **Kistna (Eastern).**—Bungalow on Orr's Hill. The *minus* outlay of Rs. 236 represents the sale-proceeds of certain old materials obtained by demolishing some portion of the bungalow.

55. The Telegraph office at Masulipatam was repaired at a cost of Rs. 282.

56. **Nellore.**—Repairs to the incomplete works of the previous year, such as Post offices at Ramayapatam, Kávali and Gudur, were carried out, the outlay being Rs. 205.

57. **Bellary.**—Four works under this head were commenced, viz., repairs to the Post offices at Anantapur, Gooty and Adóni and to the Telegraph office at Guntakal. All were completed, except the Post office at Gooty which was in progress.

58. **Cuddapah.**—Repairs to the Post offices at Cuddapah and Madanapalle were completed at a total cost of Rs. 271.

59. **Kurnool.**—The Post offices at Pyápali and Nandyal were repaired.

60. **Salem.**—Combined Post and Telegraph office at Vániyambádi was completed and handed over to the Postal Department in August 1894.

61. Improvements to the postmaster's quarters at Jalarpet were completed, and the building handed over in July 1894.

62. A compound wall in the front of the Post office at Suramangalam was also completed.

63. Annual repairs to the Post office building at Salem were completed.

64. **North Arcot.**—Repairs to the Post office at Vellore—an incomplete work of the previous year—was completed at a cost of Rs. 3,148 against the revised estimate of Rs. 3,070.

65. **Coimbatore.**—Expenditure under repairs, postal, was Rs. 738 against a grant of Rs. 650. The principal works carried out during the year were—

(1) Repairs to Post office at Wellington; estimate Rs. 220, expenditure Rs. 237.

(2) Repairs to Post office at Kotagiri; estimate Rs. 200, expenditure Rs. 210.

66. Expenditure under telegraph was Rs. 676 against an allotment of Rs. 710. The only work carried out was repairs to the Telegraph office at Ootacamund, which was completed.

67. **West Coast.**—No new works were undertaken under this head during the year. The Postal buildings at the undermentioned stations were repaired at the cost set against each:—

	Rs.
(1) Malapuram	262
(2) Puthur	15
(3) Vayitri	29
(4) Mattamcherry	25
(5) Cannanore	198
(6) Beypore	50
(7) Palghat	51
(8) Pandalur	74
(9) Tellicherry	186
(10) Devala	93
(11) Manantoddy	45
(12) Mangalore	42

68. **South Arcot.**—A sum of Rs. 62 was spent on adding a telegraph room to the combined Post and Telegraph office at Cuddalore—an incomplete work of the previous year; total outlay on the work Rs. 367.

69. The office of the Superintendent of Post offices, Cuddalore division, at Manja Kuppam was repaired at an outlay of Rs. 284.

70. **Tanjore.**—The Post offices at Tanjore and Kumbakónam were repaired at a cost of Rs. 180.

71. **Negapatam.**—The work of constructing, in the interests of the Salt Revenue Department, a dam across the Valavanar, commenced in the previous year on a sanctioned estimate of Rs. 8,900, was abandoned after a net outlay of Rs. 132 had been incurred.

72. The Post office at Mimbisal and the Government Telegraph office at Negapatam were repaired at a cost of Rs. 147 and Rs. 80, respectively.

73. **Trichinopoly.**—Alterations to the left wing of the European infantry bomb-proof barracks for the office of the Deputy Commissioner of Salt and Abkári Revenue at Trichinopoly were carried out at an outlay of Rs. 898.

74. Teppakulam Post office and the General Post and Telegraph office at Trichinopoly including the room occupied by the Superintendent of Post offices, were repaired at an outlay of Rs. 279 Repairs to the quarters occupied by the Superintendent of Post offices and the testing of lightning conductors attached to the General Post and Telegraph office were in progress. Repairs to the Government Telegraph office at Trichinopoly were also in progress.

75. **Madura.**—Repairs to the British Post office at Peermede and Ammayanáyakkanúr and removing and refixing a zinc tube, &c., in the wall of the Post office at Ramnad were completed, the outlay on all being Rs. 104.

76. **Tinnevelly.**—Repairs to the Post offices at Palamcottah, Tenkási, Srívaikuntam and Vásudévanallúr were carried out by this department, and those at Nagercoil and Kóttayam were executed by the Travancore Government, the outlay on all being Rs. 734. The Telegraph office at Tuticorin was also repaired at an outlay of Rs. 200.

77. **Presidency.**—Rupees 869 were expended on several minor works in the Post and Telegraph offices, Madras.

III.—PROVINCIAL—CIVIL BUILDINGS.

78. **Ganjam.**—The following works were in progress or completed :—

(1) Combined office for the Stationery and Town Sub-Magistrates at Berhampur ; estimate Rs. 14,400, outlay Rs. 7,976 against a grant of Rs 8,120. Main building completed, latrine work approaching completion. The lapse was due to non-receipt of a bill for payment for the value of wire-netting supplied.

(2) Improvements to the District Jail at Berhampur ; estimate Rs. 7,930, outlay Rs. 6,963 against a grant of Rs. 6,935. Work completed, except the drain in the female ward. Excess over grant was trifling.

(3) Sub-Registrar's office at Purushottapur ; estimate Rs. 2,060, outlay during the year Rs. 138. Work completed.

(4) Improvements to the Protestant cemetery at Berhampore ; estimate Rs. 700, outlay during the year Rs. 15. Work completed.

(5) Compound wall around the Public Works Department bungalow at Ichchhápuram ; estimate Rs. 270, outlay during the year Rs. 237. Work completed.

(6) Demolishing the church at Chicacole ; estimate Rs. 310, outlay during the year Rs. 296. Work completed.

(7) Old Range office building at Russellkonda ; estimate Rs. 500, outlay during the year Rs. 473. Work in progress.

(8) Sub-Registrar's office at Suradá ; estimate Rs. 2,400, outlay during the year Rs. 1,425. Work in progress.

(9) Sub-Registrar's office at Ichchhápuram ; estimate Rs. 2,400, outlay during the year Rs. 474. Work in progress.

79. There was an excess expenditure of Rs. 559 over the grant under minor original works, due to the adjustment of wood work supplied from Government Workshop, Dowlaishweram, for Suradá Sub-Registrar's office.

80. The number of works under repairs during the year was 11, and 9 of these were completed. The outlay under this head was Rs. 1,463 against an allotment of Rs. 1,470.

81. **Vizagapatam.**—The following works were completed or in progress during the year :—

(1) Additions and alterations to the Hill Jail at Párvatípuram ; estimate Rs. 13,300, outlay during the year Rs. 2,967 against a grant of Rs. 2,885. Blocks Nos. 1 to 4 were completed and made over to the Superintendent.

(2) Hospital and compound wall in the Hill Jail, Párvatípuram ; estimate Rs. 8,856, outlay during the year Rs. 2,148 against a grant of Rs. 2,000. Concrete foundations were laid and doors and windows and wood work for the roof were made up. The original position of the hospital was in the north-east corner of the compound, but as it was found, after excavating the foundations, that the soil consisted of made earth and that the site had been used for depositing night-soil, another position at the south-east corner of the Jail compound was chosen ; the new site is a good one, as the soil here is hard gravel at a slightly higher level.

(3) Dismantling and reconstructing Superintendent's office and store-rooms, Lunatic Asylum, Waltair ; estimate Rs. 3,880, outlay Rs. 516 against a grant of Rs. 516. The work was completed and made over to the Superintendent, Lunatic Asylum.

(4) Repairing the Government Normal School at Vizagapatam ; estimate Rs. 2,960, outlay during the year Rs. 116. The work was completed and made over to the Educational Department.

82. A sum of Rs. 1,394 was spent during the year under minor original works against a grant of Rs. 1,400.

83. The expenditure on repairs to public buildings was Rs. 2,986 against a grant of Rs. 3,080. All the sanctioned works under this head were completed, excepting repairs to Police lines, Párvatípuram, which will be completed during the early part of 1895–96.

84. **Godavari (Eastern).**—The following works were completed or in progress during the year :—

(1) District Munsif's court house at Rajahmundry ; estimate Rs. 12,700, outlay during the year Rs. 1,540 against a grant of Rs. 1,500. The work was practically completed during 1893–94 and formally taken over by the Judicial Department on the 7th July 1894.

(2) Combined office for the Deputy Thasildar and Town Sub-Magistrate at Cocanada ; estimate Rs. 16,860, outlay during the year Rs. 10,393 against a grant of Rs. 10,000. The centre and outer walls were raised to the required height and most of the roofing materials, &c., were supplied. The excess was trifling and was due to the adjustment of stock articles issued to work.

(3) Kitchen with circular cooking range in the Central Jail at Rajahmundry ; estimate Rs. 3,270, outlay during the year Rs. 1,423 against a grant of Rs. 1,402. The building was handed over to the Jail Department on 23rd April 1895.

(4) Civil debtors' ward in the Central Jail, Rajahmundry ; estimate Rs. 2,830, outlay during the year Rs. 2,847 against a grant of Rs. 2,830. The work was completed and handed over to the Jail Department on 23rd April 1895.

(5) Improvements to the Sea Customs godowns at Cocanada ; outlay during the year Rs. 3,522 against a grant of Rs. 3,550. Work in progress.

(6) Sub-Registrar's office at Biccavole ; estimate Rs. 2,600, outlay during the year Rs 1,518 against a grant of Rs. 1,750. The work is approaching completion and will shortly be made available for the Sub-Registrar. The grant could not be fully worked out as anticipated, as the work had to be stopped for a time owing to certain disputes regarding the ownership of the materials supplied by the contractor.

85. A sum of Rs. 6,786 was spent during the year against a grant of Rs. 7,302 under minor original works. The lapse of grant was due to stoppage of further payments on police station house at Pithápuram owing to bad work done on the same and to non-receipt of the materials in time for wire-fencing round the compound wall of Rajahmundry taluk cutcherry. The principal works carried out during the year are detailed below :—

		Outlay. Rs.
(1)	Compensation for land and building occupied by the Police station-house at Rajahmundry	2,250
(2)	Improvements to Bhadráchalam taluk cutcherry	711
(3)	Extensions, &c., to out-houses of Bhadráchalam dispensary ...	1,159
(4)	Police station house at Pithápuram	1,015
(5)	Second class Police station house at Tuni	1,010
(6)	Trial borings at Kóta	16
(7)	Rain-gauge pillars at Rámachandrapuram and Almur	5
(8)	Do. at Coringa	18
(9)	Do. at Prattipadu	2
(10)	Do. at Pithápuram	2
(11)	Do. at Central Jail, Rajahmundry	24
(12)	Bathing-cistern in the close prison ward, Central Jail, Rajahmundry	22
(13)	Solitary cells for females in the Central Jail, Rajahmundry ...	328
(14)	Four stalls and two tiffin-rooms for Superintending Engineer's office	113
(15)	Water-supply pipes for the close prison, Central Jail, Rajahmundry	7
(16)	Record-racks for the District Munsif's court-house at Rajahmundry	104
	Total ...	6,786

86. The outlay on repairs was Rs. 6,636 against a grant of Rs. 6,300, and the following are some of the principal works carried out :—

	Outlay.
	Rs.
(1) Repairs to Central Jail buildings at Rajahmundry	1,634
(2) Improvements to the compound wall of Old District Jail at Rajahmundry	528
(3) Repairing the palisading in the head-works sub-division ...	276
(4) Repairing Deputy Superintendent's quarters at Workshop compound	177
(5) Repairs to head-works Sub-division officer's quarters	369
(6) Repairing Superintendent's quarters and out-houses, Central Jail, Rajahmundry	1,938
(7) Repairs to taluk cutcherry at Peddápuram	248
(8) Repairs to Collector's cutcherry building at Cocanada	293

87. **Godavari (Western).**—The following works were completed or in progress :—

(1) District Munsif's court-house at Tanuku; estimate Rs. 18,410, outlay during the year Rs. 2,325 against a grant of Rs. 2,571. Work completed; short outlay was trifling.

(2) First-class taluk cutcherry at Ellore; estimate Rs. 36,980, outlay Rupees 10,213 against a grant of Rs. 10,000. Work nearly completed; excess over grant was trifling.

(3) First-class taluk office at Kovur; estimate Rs. 35,270, outlay during the year Rs. 7,091 against a grant Rs. 6,500; work in progress. The excess over grant was due to the debit of Rs. 1,067 by Gódávari Eastern division on account of wood work, for which no funds were provided in 1894–95.

(4) Sub-Registrar's office at Attili; estimate Rs. 3,810, outlay Rs. 1,998 against a grant Rs. 2,000; work in progress.

(5) Sub-Registrar's office at Mummidwaram; estimate Rs. 3,900, outlay Rs. 2,115 against a grant Rs. 2,000; work in progress.

(6) Hospital building at Polavaram; estimate Rs. 2,650, outlay Rs. 226 against a grant Rs. 100. Excess over grant was trifling.

88. A sum of Rs. 323 was spent during the year under minor original works against a grant of Rs. 400. Five works were put in hand during the year, of which three were completed.

89. The number of repair works in progress or completed during the year was 12 at a cost of Rs. 1,203 against a grant of Rs. 900—short outlay trifling.

90. **Kistna (Northern).**—Head Assistant Collector's residence at Bezwada; estimate Rs. 10,600, total outlay to date Rs. 10,833, outlay during the year Rs. 615. The building was completed in the previous year except wire-fencing and sinking a well, which were finished during the year under review. There was still a drain to be dug at a cost of Rs. 225, for which land had been applied for.

91. Head Assistant Collector's office, Bezwada; estimate Rs. 20,700, outlay Rs. 20,923, outlay during the year Rs. 654. The building was occupied by the office in the previous year. Only wire-fencing and a latrine were carried out during the year.

92. Taluk cutcherry at Gurazala; estimate Rs. 40,700, total outlay Rs. 38,999, outlay during the year Rs. 13,492. The building was approaching completion towards close of the year. A well remained to be sunk.

93. Taluk cutcherry at Narasaraopet; estimate Rs. 36,620, total outlay Rs. 30,923, outlay during the year Rs. 14,355. Roofing and flooring were in progress at end of March 1895. A well was being sunk.

94. District Munsif's Court, Narasaraopet; estimate Rs. 17,300, total outlay Rs. 15,181, outlay during the year Rs. 5,369. The building was completed and handed over to the District Munsif in March 1895.

95. Deputy Collector's office, Narasaraopet; estimate Rs. 19,130, total outlay Rs. 18,062, outlay during the year Rs. 7,850. The building was almost completed at the end of March 1895.

96. Sub-Registrar's office at Sattenapalle; estimate Rs. 4,530, total outlay Rupees 4,018, outlay during the year Rs. 1,237. The building was completed except flooring with asphalte and painting.

97. Taluk cutcherry at Guntúr; estimate Rs. 43,500, outlay during the year Rs. 2,010. Collection of materials started and land acquired.

98. Quarters and out-houses for Executive Engineer, Kistna Northern division, Bezwada; estimate Rs. 10,235, outlay during the year Rs. 3,622. Materials were collected and wood work was prepared in workshops.

99. Purchase of Club building for use of Kistna Northern Division office. The purchase was effected in March 1895 and improvements were put in hand; estimate Rs. 3,130, outlay during the year Rs. 2,884, including purchase value.

100. Two rain-gauge pillars were constructed at Bezwada and Tiruvur, and a latrine built in the compound of Superintending Engineer's office, Buckinghampett, Bezwada.

101. **Kistna (Eastern).**—Taluk cutcherry, Nandigáma; estimate Rs. 31,400, outlay up to date Rs. 31,122, outlay during the year Rs. 6,116. The work was completed and handed over to the Revenue Department.

102. Taluk cutcherry, Gannavaram; estimate Rs 31,675, total outlay Rs. 25,217, total during the year Rs. 21,750. Walls were raised to the required heights, door frames were fitted up and roofing work in progress.

103. Record-room in the compound of Collector's office at Masulipatam; estimate Rs. 14,234, total outlay Rs. 15,147, outlay during the year Rs. 3,699. In consequence of the insufficient strength of the iron joists of the roof and first floor, the concrete roof and floor were removed, the number of joists in the first floor doubled, and plank flooring substituted and an ordinary terrace roof put up. The above alterations were nearly completed.

104. Taluk office at Masulipatam; estimate Rs. 36,400, total outlay Rs. 36,826, outlay during the year Rs. 1,454. Main building was handed over for occupation by the Tahsildar. All the out-houses were completed and only the road remained to be completed.

105. Improving District Munsif's court at Masulipatam; estimate Rs. 3,900, total outlay Rs. 4,465, outlay during the year Rs. 4,465. The work was commenced in June and completed as per estimate in December 1894, but the number of new rafters required for the verandahs was under-estimated owing to the difficulty in ascertaining their condition before demolishing the roof. A revised estimate was being prepared.

106. Deputy Tahsildar's office at Avanigadda; estimate Rs. 19,200, total outlay Rs. 984, outlay during the year Rs. 771. Part of the concrete was laid in April and work stopped for want of allotment in the final issue of the budget for 1894–95. A watcher was employed to look after the lime. The lime has since been sold and the sale-proceeds will be credited to the work in 1895–96.

107. **Kistna (Western).**—Taluk office at Tanali; estimate Rs. 38,320, outlay during the year Rs. 10,299. Superstructure completed; wood work nearly completed; pine ceilings in progress.

108. A sum of Rs. 195 was spent on minor original works on the following works :—

(1) Rain-guage pillars and fence at Nizampatam salt factory, outlay Rs. 21.
(2) Treasury-room in the central court-yard of Bápatla taluk office, outlay Rs. 174.

109. **Nellore.**—Deputy Collector's cutcherry at Atmakúru; estimate Rs. 20,780, total outlay Rs. 18,784. Main building was completed and handed over to the Revenue Department in October 1894. The wire-fencing was in progress.

110. Head Assistant Collector's cutcherry at Gudur; estimate Rs. 21,080, total outlay Rs. 21,400. Work completed and handed over to the Revenue Department in November 1894.

111. Police huts at Moolapett; estimate Rs. 2,550, total outlay Rs. 2,367. Work completed.

112. Sub-Registrar's office at Allúr; estimate Rs. 3,105, total outlay Rs. 1,212. Concrete foundations laid.

113. Residence for the Head Assistant Collector at Gudur; estimate Rs. 9,190, total outlay Rs. 2,571. Wood work prepared and foundations laid.

114. The following minor works were in progress:—

(1) Latrine for Government Training School, Ongole; estimate Rs. 570, total outlay Rs. 481.

(2) Wire fencing Government Training School, Ongole; estimate Rs. 150, total outlay Rs. 70.

(3) Police station at Allúr; estimate Rs. 2,120, total outlay Rs. 580. Materials collected.

(4) Clearing site, Head Assistant Collector's cutcherry, Gudur; estimate Rs. 200, total outlay Rs. 194. Completed.

(5) Rest-house at Kávali; estimate Rs. 1,650, total outlay Rs. 278. Materials collected.

(6) Clearing site of Deputy Collector's cutcherry at Atmakúru; estimate Rs. 70, total outlay Rs. 67. Completed.

(7) Examining civil buildings in Kandukúr sub-division; estimate Rs. 50, outlay Rs. 4. Completed.

115. **Buckingham Canal.**—The expenditure was incurred in maintaining a watcher and paying additional remuneration to the lighthouse superintendent at Seven Pagodas. A sum of Rs. 2,358 was paid as compensation for the lands belonging to the Seven Pagodas.

116. **Bellary.**—Four additional blocks of cells for the District Jail, Bellary; estimate Rs. 31,173, outlay Rs. 31,149. The work was completed and handed over to the Jail authorities.

117. Additions and improvements to the Collector's office at Bellary; estimate Rs. 7,200, outlay Rs. 3,505. The work was started in January 1895. The additions and improvements consist of the construction of a store-room, a tiffin-room, ryots' shed, latrine, coach-house and urinal, and were in progress.

118. Sub-Registrar's office, Siruguppa; estimate Rs. 2,780, outlay Rs. 1,280. The front wall was built to a height of 8 feet and the outer walls to 6 feet.

119. Sub-Registrar's office, Harpanahalli; estimate, Rs. 2,810, outlay Rs. 2,298. The work was almost completed, that remaining to be done was flooring to main building, cement-plastering, pointing and painting.

120. Sub-Registrar's office, Alúr; estimate Rs. 2,620, outlay Rs. 620. The progress on the work was slow. Foundations were completed and the basement was in progress. The original contract was cancelled and no further delay was anticipated.

121. Taluk cutcherry at Hindupur; estimate Rs. 34,600, outlay Rs. 8,035. The progress on this work was not good up to August, due to the absence of the contractor in Bellary, where he had other works in hand. When the walls were about one foot above ground level, it was found necessary to demolish two courses over the whole building owing to inferior mortar and bad workmanship. The walls were then built up afresh and were again ordered to be demolished to top of concrete. The contractor then came to live at Hindupúr and has since made good progress.

122. Taluk cutcherry, Gooty; estimate Rs. 35,204, outlay Rs. 14,599. The walls were raised to an average height of 10½ feet above plinth.

123. Taluk cutcherry, Tadpatri; estimate Rs. 36,270, outlay Rs. 9,716. The foundation is of trap stone and the superstructure of Cuddapah limestone in 9″ courses. All arches have been dispensed with owing to the foundation being on black cotton.

124. Taluk cutcherry, Dharmavaram; estimate Rs. 35,682, outlay Rs. 5,970. The work was started in February 1895. Good stones were brought to site from a distance of 4 miles, where a good quarry of grey granite was found. The wood and iron work was ordered from Madras.

125. Taluk cutcherry, Madakasíra; estimate Rs. 33,793, outlay Rs. 5,670. Work commenced in February 1895, foundation trenches were excavated and a fair quantity of materials collected. Some difficulty was experienced in procuring cooly labour in in this taluk, as the coolies prefer working in gardens.

126. Police office, Aanantapur; estimate Rs. 27,800, outlay Rs. 5,021. Concrete was laid in the building for foundation. Excellent progress made though the work was marked out at end of February 1895.

127. Additions and improvements to the combined Superintending and Executive Engineer offices, Bellary; estimate Rs. 6,550, outlay Rs. 7,316. The work was completed in the previous year. The *minus* outlay during the year represents the value of materials adjusted.

128. Sub-Registrar's office, Rayadrug; estimate Rs. 2,750, outlay Rs. 2,750. Work completed.

129. Eighteen minor original works were put in hand during the year, of which five remained to be completed. The outlay was Rs. 6,526 against an allotment of Rs. 6,740.

130. Fifty-one repair works were in hand, of which 42 were completed; the outlay amounted to Rs. 10,115 against a grant of Rs. 10,804.

131. **Cuddapah.**—Sub-Magistrate's office, Píléru; estimate Rs. 10,851, outlay Rs. 10,905. Work completed.

132. Sub-Registrar's office, Kadiri; estimate Rs. 2,775, outlay Rs. 2,765. Work completed.

133. Taluk cutcherry, Ráyachóti; estimate Rs. 35,120, outlay Rs. 12,347. Foundations and basements were completed, and walls raised to 8½ feet, and that of jail wards to 7 feet. The walls of the public latrine were raised 3½ feet; 375 cubic feet of teak scantlings were stored at site of work.

134. Taluk cutcherry, Proddatur; estimate Rs. 30,090, outlay Rs. 5,080. Foundations were dug and wood work, such as doors and windows, were carried to site.

135. The following minor works were completed:—

(1) Constructing Sub-Registrar's office at Píléru; estimate Rs. 2,462, outlay Rs. 2,569.

(2) Improving and repairing the Mahal at Gurhamkonda—two estimates Rs. 3,420, outlay Rs. 3,085.

(3) Teakwood racks for Sub-Magistrate's cutcherry at Píléru; estimate Rs. 195, outlay Rs. 179.

136. The total outlay on these and other petty works was Rs. 1,094 against a grant of Rs. 1,200.

137. The expenditure on repairs was Rs. 5,497 distributed over 35 buildings.

138. **Kurnool.**—Taluk cutcherry, Allagadda; estimate Rs. 36,523, outlay Rupees 33,614. Work completed; a portion of road way near the trunk road had to be completed.

139. Taluk cutcherry, Pattikonda; estimate Rs. 36,610, outlay Rs. 4,411. Work not commenced, as the site of the building was not settled. Materials under collection.

140. District Munsif's court-house at Nandyal; estimate Rs. 17,355, outlay Rs. 16,101. Work completed.

141. Head Assistant Collector's residence, Nandyal; estimate Rs. 12,481, outlay Rs. 7,827. Masonry work nearly finished. Doors, &c., completed, wood work of roof erected; out-houses—masonry finished; well, &c., in progress.

142. Forest bungalow at Nandyal; estimate Rs. 2,700, outlay Rs. 2,862. Work completed Cracked walls had to be puiled down necessitating the removal and replacement of the roof twice over. Extra work was also done to the roof of the kitchen and to the stables in raising their floor level.

143. A sum of Rs. 1,944 was spent during the year under minor original works against a grant of Rs. 1,475.

144. Under repairs Rs. 2,992 were expended against the year's grant of Rs. 3,000.

145. **West Coast.**—An expenditure of Rs. 4,263 was incurred on the Collector's office, Calicut. Moochies' room was completed and handed over for occupation during the year and the lightning conductor was being fixed. The outlay on the work up to the end of the year amounted to Rs. 2,05,503 against an estimate of Rs. 1,94,615.

146. The following works were in progress:—

(1) Court-house for the District Munsif at Karkal; Rs. 7,807 were spent against the grant of Rs. 8,470; total outlay to end of the year Rs. 13,021. Superstructure, central compartment built 10½ feet high, that of wings to full height of 13½ feet; wire-fence ready, as also cut stone. Foundation and basement to ryots' sheds, stables, and latrine built up.

(2) Sub-Registrar's office, Hosdrug; estimate Rs. 3,650, outlay Rs. 2,548, grant Rs. 2,550. Superstructure completed and almost all wood work of roof put up. Cut-stone steps built, ceiling planks, &c., ready.

(3) Sub-Registrar's office, Mudbidri; Rs. 2,252 were spent against a grant of Rs. 3,065 Superstructure completed; roofing almost completed.

(4) Improvements to special Assistant Collector's office at Malapuram; estimate Rs. 7,580, expenditure Rs. 5,721. Additions to the office completed except painting which was in progress; roofing of old building in steady progress. Compound wall completed.

(5) Providing iron gratings and railings to wells in the Lunatic Asylum, Calicut; estimate Rs. 2,080, expenditure Rs. 1,858. Work completed, except putting up the pully expected from Bombay.

(6) Deputy Tahsildars' offices at Anjengo and Tangasséri were in progress by the agency of the Travancore Government Public Works Department; but the accounts not having been received up to date, the outlay incurred cannot be given.

147. The following works were completed and made over to the departments concerned:—

(1) Combined office for the Tahsildar and Deputy Tahsildar at Mangalore; the total outly to end of the year was Rs. 39,999 against an estimate of Rs. 46,000. A considerable saving of about Rs. 5,900 will be effected. The year's grant of Rs. 14,036 was fully utilized.

(2) Sub-Registrar's office at Baindur; estimate Rs. 4,270, expenditure Rs 4,476.

(3) Sea Custom house, Barkur; estimate Rs. 6,600, expenditure Rs. 6,478.

(4) Sub-Registrar's office at Tanur; estimate Rs. 3,500, outlay Rs. 3,413.

(5) Sub-Registrar's office at Andathode; estimate Rs. 3,930, outlay Rs. 3,793.

(6) Sub-Registrar's office, Vayittiri; estimate Rs. 6,360, outlay Rs. 6,361.

(7) Police huts at Sultan's battery; estimate Rs. 3,230, outlay Rs. 3,295.

(8) Improvements to the District Judge's court at Mangalore; estimate Rs. 810, outlay Rs. 738.

(9) Converting three blocks of unmarried men's barracks of the late regiment at Mangalore into nine quarters for 42 Police constables; estimate Rs. 1,000, outlay Rs. 840.

(10) Additions and alterations to the Taluk cutcherry, Perinthalamana; estimate Rs. 1,040, outlay Rs. 1,061.

(11) Improvements to the northern verandah of the public offices at Ponnáni; estimate Rs. 1,650, outlay Rs. 1,650.

(12) Renewing floors of old wards of sub-jail, Chowghat; estimate Rs. 490, outlay Rs. 454.

(13) Improvements to the Deputy Tahsildar's cutcherry at Vayittiri; estimate Rs. 2,300, outlay Rs. 1,955.

(14) Constructing a latrine to Sub-Registrar's quarters at Vayittiri; estimate Rs. 220, expenditure Rs. 196.

(15) Additions and alterations to the Police Inspector's quarters at Vayittiri; estimate Rs. 1,170, outlay Rs. 913.

148. Under repairs Rs. 11,512 were expended against the year's grant of Rs. 10,000, and several buildings were repaired and kept in good order.

149. Special repairs to the District Munsifs' courts at Coondapoor and Puttur were undertaken during the year, and Rs. 1,820 and Rs. 1,401 were expended against estimates of Rs. 2,560 and Rs. 2,720, respectively.

150. **Coimbatore.**—The following major works were in progress during the year:—

(1) Additions and improvements to Government House, Ootacamund; estimate Rs. 7,79,150, expenditure to end of 1893–94 Rs. 7,61,339, grant for the year Rs. 16,200, and outlay Rs. 13,411. The items of the above work on which expenditure was incurred are detailed below:—

	Expenditure during the year.
	Rs.
Providing furniture	3,687
Constructing four cisterns, two dams, and six sheds for washermen (completed)	609
Providing partition in bed-room (completed)	88
Converting tent godowns into four servants' godowns	196
Providing store-room for cook and coachmen's quarters	150
Constructing a shed for calves	9
Certain original works to cook-room, coachmen's quarters and servants' godowns of Lower Norwood	705
Providing store-room for dispensary	90
Constructing stables for eight horses	13
New piping with hydrants and hand fire-engines	1,259
Constructing quarters with out-houses for the Head Bandsman ...	5,095
Constructing tent store and tent lascar's godowns	1,186
Value of broken bricks written off the stock return by debit to work ...	324

The grant was not fully spent owing to the additional allotment of Rs. 3,000 for stables having been given late in the year.

(2) Sixty warders' huts in the Central Jail at Coimbatore; estimate Rs. 14,040, previous expenditure Rs. 6,278, grant for the year Rs. 6,040, expenditure during the year Rs. 5,200. A further adjustment of Rs. 484 will be made in the supplemental accounts on account of supplies made by the Jail Department. The work was completed and the balance is the saving on estimate.

(3) First-class taluk cutcherry at Bhaváni; estimate Rs. 29,250, previous year's expenditure Rs. 8,916, grant for the year Rs. 17,250, expenditure during the year Rs. 17,442. The building was nearly completed, roof work being in progress.

(4) First-class taluk cutcherry at Kollegal; estimate Rs. 34,040, expenditure during the year Rs. 8,682 against a grant of Rs. 8,000. Brickwork to basement nearly completed. Wood work ready at Erode. Brick-making and collection of materials in progress.

(5) Taluk cutcherry at Gopichettipálaiyam; estimate Rs. 29,550, grant for the year Rs. 8,500, outlay Rs. 9,638. Work up 3 feet above basement. Excess over grant due to the excellent progress made in the last two months of the year.

(6) Head Assistant Collector's office at Polláchi; estimate Rs. 14,650, grant for the year Rs. 10,950, outlay Rs. 6,459. Short expenditure due to dilatoriness on the part of the contractor.

(7) Deepening the main gate well in the Central Jail, Coimbatore; estimate Rs. 5,650, previous expenditure Rs. 1,062, grant for the year Rs. 3,088, expenditure Rs. 1,104. Work in abeyance for want of a pumping machine, which was despatched from Bombay in April.

(8) Sub-Registrar's office at Erode; estimate Rs. 3,360, expenditure in previous year Rs. 1,411, grant for the year Rs. 1,530, outlay Rs. 1,673. Work completed.

(9) Sub-Registrar's office at Dhárápuram; estimate Rs. 3,250, expenditure to end of 1893–94 Rs. 1,722, grant for the year Rs. 1,468, outlay Rs. 1,468. Work completed.

(10) Sub-Registrar's office at Polláchi; estimate Rs. 3,300, previous expenditure Rs. 1,214, grant for the year Rs. 2,086, expenditure Rs. 1,980. Work completed, except a portion of asphalte flooring. As per agreement the work ought to have been completed by the 15th February 1894, but it was delayed owing to the dilatoriness of the contractor.

(11) Sub-Registrar's office at Udamalpet; estimate Rs. 3,250, previous expenditure Rs. 139, grant for the year Rs. 3,112, outlay Rs. 3,030. Work completed, and final payment made in April 1895.

(12) Out-houses and compound wall to the Deputy Tahsildar's cutcherry at Aravakurchi; estimate Rs. 3,400, previous expenditure Rs. 1,000, grant for the year Rs. 2,400, outlay Rs. 2,244. Work completed.

(13) Converting the Sapper Hospital on Stonehouse Hill, Ootacamund, into quarters for native bachelor clerks; estimate Rs. 2,700, expenditure Rs. 2,413. Work completed.

151. A sum of Rs. 13,648 was spent on minor works against a grant of Rs. 13,028. The principal works costing more than Rs. 500 each were the following :—

(1) Extending the main gate way and providing new gates at the Central Jail, Coimbatore; estimate Rs. 1,540, expenditure during the year Rs. 436, outlay to date Rs. 1,590.

(2) Constructing pillars with iron railings and gate way between No. 1 block and stores in the Central Jail, Coimbatore; estimate Rs. 1,310, outlay Rs. 1,407.

(3) Extending and improving the strong-room of the Treasury at Coimbatore; estimate Rs. 520, outlay Rs. 498.

(4) Out-houses and certain improvements to the District Court at Karúr; estimate Rs. 1,860, outlay Rs. 1,851.

(5) Providing record and stationery room for the Private Secretary's office, Government House; estimate Rs. 1440, outlay Rs. 1,342.

(6) Two latrines for the police lines at Wellington; estimate Rs. 590, outlay Rs. 434.

(7) Extending coach-house and providing room for the horse-keeper on Stonehouse Hill; estimate Rs. 650, outlay Rs. 521.

(8) Converting lumber-room into record-room in the Collector's office at Ootacamund; estimate Rs. 1,360, expenditure Rs. 1,218.

(9) Stables and coach-house on Stone-house Hill, Ootacamund; estimate Rs. 2,050, outlay Rs. 1,818.

(10) Improving the floor of Sappers lines near Kelso road, Ootacamund; estimate Rs. 1,550, outlay Rs. 1,557.

(11) Improvements to police station-house at Masinagudi; estimate Rs. 1,000, outlay Rs. 977.

152. Besides the above, 24 works were in progress during the year, of which 17 were completed.

153. A sum of Rs. 25,092 was spent on repairs against a grant of Rs. 24,737, and the principal works carried out were the following costing over Rs. 500 each :—

(1) Renewing shutters of doors and windows in the Central Jail at Coimbatore; estimate Rs. 2,330, outlay Rs. 1,718. Completed.

(2) Repairing the Government School for Mistresses at Coimbatore; estimate Rs. 520, outlay Rs. 555. Completed.

(3) Repairing the taluk cutcherry at Karúr; estimate Rs. 1,130, outlay Rs. 1,133. Completed.

(4) Repairing roof of Government Secretariat offices on Stonehouse Hill, Ootacamund; estimate Rs. 1,000, outlay Rs. 883.

(5) Annual repairs to Government House, Ootacamund; estimate Rs. 2,990, outlay during the year Rs. 119, total outlay Rs. 3,156.

(6) Annual repairs to Government House, Ootacamund; estimate Rs. 6,860, outlay Rs. 5,749.

(7) Repairs to Deputy Tahsildar's cutcherry at Gúdalúr; estimate Rs. 725, outlay Rs. 680.

(8) Annual repairs to old warders' quarters on Jail Hill, Ootacamund; estimate Rs. 800, outlay Rs. 800.

(9) Gravelling roads and compound of St. Thomas' Church at Ootacamund; estimate Rs. 560, outlay Rs. 537.

(10) Repairs to Deputy Tahsildar's cutcherry at Coonoor; estimate Rs. 600, outlay Rs. 380.

(11) Painting and wood-oiling and other petty repairs to Taluk cutcherry at Erode; estimate Rs. 600, outlay Rs. 586.

(12) Annual repairs to Government Secretariat offices and peons' lines on Stonehouse Hill; estimate Rs. 1,350, outlay Rs. 1,316.

(13) Repairing Police Inspector's quarters and lines at Gúdalúr; estimate Rs. 790, outlay Rs. 330.

154. Besides the above, 105 works were in progress, 58 of which were completed.

155. **Salem.**—The following works were completed :—

(1) Twenty-three police huts at Tiruppattúr; estimate Rs. 6,500, outlay Rs. 5,959.

(2) Thirty police huts at Vániyambádi; estimate Rs. 8,030, outlay Rs. 8,192.

(3) Third-class police station at Yercaud; estimate Rs. 1,930, outlay, Rs. 1,640.

(4) Railings, gates, &c., to excise yard round the central tower in the Central Jail, Salem; estimate Rs. 1,900, outlay Rs. 1,692.

(5) Five police huts at Yercaud; estimate Rs. 2,540, outlay Rs. 2,285.

(6) Improvements to the Sub-Magistrate's cutcherry at Razipur; estimate Rs. 1,650, outlay Rs. 1,576.

(7) Store-room in the Central Jail, Salem; estimate Rs. 2,240, outlay Rs. 2,382.

(8) Improvements to the Central Jail at Salem; estimate Rs. 3080, outlay Rs. 2,069.

(9) Additional class-room in the Government Girls' School at Krishnagiri; estimate Rs. 630, outlay Rs. 643.

(10) Improvements to clerks' quarters at Yercaud; estimate Rs. 4,200, outlay Rs. 4,285.

(11) Drains to clerks' quarters at Yercaud; estimate Rs. 48, outlay Rs. 33.

156. The following major works were in progress :—

(1) Fifty close prison cells in the Central Jail, Salem; estimate Rs. 21,300, grant Rs. 2,520, expenditure during the year Rs. 2,590, outlay to date Rs. 19,874.

(2) Taluk office at Tiruppattúr; estimate Rs. 36,600, grant Rs. 5,500, outlay during the year Rs. 5,320, expenditure to date Rs. 29,213.

(3) Taluk office at Tiruchengódu; estimate Rs. 33,660, grant Rs. 15,541, outlay during the year Rs. 15,557, expenditure to date Rs. 35,104. The estimate is under revision.

(4) Civil debtors' ward in the Central Jail at Salem; estimate Rs. 6,710, grant Rs. 2,784, outlay during the year Rs. 2,725, expenditure to date Rs. 6,321.

(5) Head Assistant Collector's cutcherry at Tiruppattúr; estimate Rs. 16,900, grant Rs. 10,000, outlay during the year Rs. 10,005, expenditure to date Rs. 10,005.

(6) District Munsif's court at Salem; estimate Rs. 14,750, grant Rs. 13,750, outlay during the year Rs. 13,756, expenditure to date Rs. 13,756.

(7) Improvements to the Collector's office at Salem; estimate Rs. 9,620, grant Rs. 2,500, expenditure during the year and to date Rs. 2,523.

(8) Sub-Registrar's office at Paramathy; estimate Rs. 3,150, grant Rs. 1,800, expenditure during the year and to date Rs. 1,800.

(9) Improvements to Deputy Tahsildar's office at Yercaud; estimate Rs. 4,080, grant Rs. 1,036, expenditure Rs. 1,048.

157. Rupees 6,040 were spent on minor works against a grant of Rs. 6,000, and a sum of Rs. 1,630 was spent on repairs against an allotment of Rs. 1,750.

158. **North Arcot.**—The following major works were completed :—

(1) Sub-Registrar's office at Tiruvelliyur; estimate Rs. 3,750, expenditure Rs. 3,972.

(2) Ten police huts at Puttur; estimate Rs. 3,430, expenditure Rs. 3,023.

(3) Additions to the quarantine ward to the Central Jail at Vellore; estimate Rs. 5,300, outlay Rs. 5,342.

(4) Sub-Registrar's office at Punganúr; estimate Rs. 3,170, expenditure Rs. 3,571.

(5) Boundary wall round the cemetery at Pákala; estimate Rs. 2,512, expenditure Rs. 1,766.

(6) Seven police huts at Rénigunta; estimate Rs. 2,650, expenditure Rs. 2,613.

(7) Converting old barracks at Arni into police huts; estimate Rs. 5,120, expenditure Rs. 4,585.

159. The undermentioned incomplete works were in progress :—

(1) Taluk cutcherry at Chendragiri ; estimate Rs. 34,920. The progress on this work was not so satisfactory as could be expected owing to the interference of the late contractors, whose contract was cancelled on account of slow progress, the difficulty of procuring labour and to the consequent importation of labour from different parts of the country.

(2) Taluk cutcherry at Wandiwash ; estimate Rs. 34,850. The work was nearing completion.

(3) Police station at Tiruchánúr ; estimate Rs. 2,760. This work would have been completed, had it not been for the failure of the contractor who was involved in a civil suit.

(4) Deputy Tahsildar's office at Ambúr ; estimate Rs. 16,550. A portion of grant allotted for this work had to be surrendered owing to the site not having been made over to the department earlier.

(5) Circular kitchen with 12 cooking places at the Central Jail, Vellore ; estimate Rs. 4,000. This was a minor work of the previous year, but on the revision of the estimate, it was treated as a major work.

(6) Sub-Registrar's office at Sholinghur ; estimate Rs. 3,000. The grant allotted for the work had to be surrendered as the site was not handed over till the end of the official year.

160. Eighteen minor works were in progress, of which seven were completed. The aggregate outlay during the year was Rs. 1,409 against an allotment of Rs. 2,000.

161. Under repairs the outlay was Rs. 1,709 against an allotment of Rs. 2,500. Twenty works were in progress, of which six were completed.

162. **Chingleput**.—Five minor original works were under execution, of which one was completed. The year's outlay was Rs. 4,355 against a grant of Rs. 4,100.

163. There were in all 27 repair works under execution, 20 of which were completed ; the outlay was Rs. 4,241 against a grant of Rs. 3,900.

164. **South Arcot.**—The new Munsif's court-house at Tirukkóyilúr, estimate Rs. 15,050 ; the Sub-Registrar's office at Bhuvanagiri, estimate Rs. 2,980 ; and the Sub-Registrar's office at Mannárgudi, estimate Rs. 4,090, were completed at an outlay of Rs. 14,903, 2,893 and 4,161, respectively.

165. At the new Taluk office, Chidambaram, the wood work was completed, plastering completed except record-room and police guard-room ; cutstone work nearly completed. Ceiling completed, except for record and police guard rooms. The expenditure to end of the year was Rs. 30,688 against an estimate of Rs. 40,745. The outlay during the year was Rs. 9,512.

166. Sub-Registrars' offices at Gingee and Tiruvannámalai, and Stationary Sub-Magistrates' offices at Tirukkóyilúr, Tindivanam and Kallakurchi were commenced and work to the extent of Rs. 1,420, 1,875, 2,864, 4,971 and 3,450, respectively, was carried out during the year.

167. An outlay of Rs. 3,441 was incurred on eight minor original works against a grant of Rs. 3,840.

168. Rupees 5,737 were spent on repair works against a grant of Rs. 6,040.

169. **Tanjore.**—The principal major works under execution were :—

(1) Constructing police lines for Tanjore town, estimate Rs. 25,955 ; work in progress ; outlay Rs. 14,968 against a grant of Rs. 14,955.

(2) Police lines for Tanjore taluk, estimate Rs. 6,970 ; work almost completed ; grant and outlay Rs. 5,470, respectively.

(3) Police lines near Mahamaghakulam, estimate Rs. 23,400 ; work in progress ; outlay Rs. 10,310.

(4) Police lines near Pettah station, Kumbakónam, estimate Rs. 9,120 ; work almost completed ; outlay Rs. 8,957.

(5) Sub-Registrar's office at Pápanásam ; estimate Rs. 2,860, outlay Rs. 2,159.

(6) Sub-Registrar's office, Kumbakónam ; estimate Rs. 3,040, outlay Rupees 1,736. The last two works were almost completed.

170. A sum of Rs. 2,027 was spent during the year on minor original works against a grant of Rs. 2,000.

171. Twenty-one repair works were in progress on which the outlay was Rs. 2,575, the principal works being repairing Tanjore Palace window (almost completed) and repairing Sub-Court at Kumbakónam ; work almost completed.

172. **Negapatam.**—The construction of the District Munsif's court-house at Tirutturaippúndi was resumed and work to the extent of Rs. 9,500 was carried out during the year. Total outlay on the work Rs. 12,000 against an estimate of Rs. 15,310.

173. The Sub-Registrars' offices at Adichapuram and Nagore—incomplete works of previous year—were completed with an outlay of Rs. 2,021 and 1,588, respectively.

174. On the Sub-Registrar's office at Arantángi ; estimate Rs. 3,330, the expenditure was Rs. 2,630 against a grant of Rs. 2,630. The work was nearly completed.

175. Ten minor original works were in progress, of which four were completed. Expenditure Rs. 799 against a grant of Rs. 800.

176. Seventeen repair works were in progress, of which five were completed. The year's expenditure was Rs. 2,468 against a grant of Rs. 2,500.

177. **Public Works Stores and Workshops.**—Against the final grant under Provincial Civil Buildings of Rs. 60 for minor original works and Rs. 763 for repairs for the Public Works Stores division, the outlay was Rs. 49 and 763, respectively. In the Public Works Workshops division Rs. 1,450 were spent under Provincial Civil Buildings, Repairs, the grant being Rs. 1,500.

178. **Trichinopoly.**—The following works were completed or were in progress during the year :—

(1) Adding verandahs to the close prison blocks of the Trichinopoly Central Jail ; estimate Rs. 4,750. Work completed at an outlay of Rs. 4,737.

(2) First-class Taluk cutcherry at Musiri ; estimate Rs. 34,405, outlay Rupees 32,985, of which Rs. 3,981 were spent during the year. The work was completed, but accounts were not closed, as the contractor refused to receive payment. The matter was under inquiry.

(3) First-class Taluk cutcherry at Jayankondasólapuram ; estimate Rs. 38,510. In progress. Of the total outlay of Rs 30,984, Rs. 12,000 were spent during the year.

179. Nine minor works were completed and four were in progress, the outlay on all these being Rs. 1,915.

180. A sum of Rs. 2,908 was spent on repairs to several buildings.

181. **Madura.**—The following works were completed during the year :—

(1) Office for the Executive Engineer, Madura Division ; estimate Rs. 15,400, outlay Rs. 15,772, of which Rs. 6,790 were spent during the year.

(2) Government Girls' School at Madura ; estimate Rs. 7,200, outlay Rs. 7,204.

(3) Office for the Assistant Inspector of Schools at Madura ; estimate Rs. 3,150, outlay Rs. 2,921.

(4) Nine head and 48 constables' huts at Madura ; estimate Rs. 19,400, outlay Rs. 19,442, of which Rs. 13,442 were spent during the year.

(5) Sub-Registrar's office at Védasandúr ; estimate Rs. 2,840, outlay Rs. 2,808, of which Rs. 268 were spent during the year.

182. The following works were in progress :—

(1) New vernacular record-room for the Collector's office in Tirumal Naik's palace and acquiring and enclosing lands round the palace ; estimate Rs. 60,700, outlay Rs. 1,615. Iron barred windows were being made.

(2) Office for the Head Assistant Collector at Ramnad ; estimate Rs. 17,700, outlay Rs. 5,398, of which Rs. 2,300 were spent during the year. Excavation for the foundation was made and concrete laid in.

(3) Residence for the Head Assistant Collector at Ramnad ; estimate Rs. 11,105, outlay Rs. 2,000. Materials were collected. Nine minor works were completed and four were in progress, the outlay on all these being Rs. 3,449.

183. Repairs to the Public Works Department bungalow and Sub-Collector's bungalow at Dindigul, Sub-Court at Madura, Sub-Registrar's office at Tiruvadanai, clearance of vegetation from the fort at Dindigul, providing iron doors to Civil wards in the District Jail at Madura and re-roofing the blocks of the District Jail were completed, also several petty repairs to buildings, at an aggregate cost of Rs. 6,237.

184. **Tinnevelly.**—Sub-Registrar's office at Sivagiri; estimate Rs .2,920, outlay Rs. 2,822, of which Rs. 25 were spent during the year in completing the building.

185. Under minor works demarcating boundaries of public buildings in Sankaranayinárkóyil, Tenkási, Tenkarai and Sáttúr taluks and constructing eight rain-gauge pillars were carried out; also improvements to the compound wall in the District Munsif's court at Ambásamudram. The outlay on these was Rs. 1,438.

186. A sum of Rs. 1,117 was spent during the year on repairs to buildings, including assessment paid on those in charge of the department.

187. **Presidency.**—The following works were in progress or completed under the supervision of the Consulting Architect:—

(1) Connemara Library and connected buildings; this building was completed except the tower; out of a total height of 185 feet, 69 feet remained to be done. A portion of furniture for the theatre had not been supplied; estimate Rs. 5,60,566, total outlay to end of the year Rs. 5,01,697.

(2) New Law College; only about half the number of wells required for the foundations were sunk at the end of the previous official year. During the year under review the whole of these were completed and sunk, the foundations above the wells were laid, the basement raised and the greater part of the interior superstructure built; estimate Rs. 3,41,360, total outlay Rs. 1,87,351, of which Rs. 1,29,746 were spent in the year.

(3) Additional accommodation on the north side of the Presidency College for the Professors of Biology and Physical Science; foundations laid, basement raised and a greater portion of the first story built during the year; estimate Rs. 62,870, outlay Rs. 35,457.

(4) Preparing the ground between the path leading to the fishermen village and the Presidency College at Chepauk as a cricket ground for the students of the Presidency College; the greater portion of the ground was raised to the full height and some grass planted; estimate Rs. 3,560, outlay Rs. 1,808.

(5) Additions and alterations to the old High Court buildings to accommodate the Stamp and Stationery office, Presidency Port office, Deputy Collector's office, &c.; this was so far completed as to allow all the offices to be removed into the building. Petty requirements found necessary after occupation were being attended to; estimate Rs. 66,920, total outlay Rs. 56,395.

(6) Converting the old Stamp and Stationery office buildings into offices for the Inspector-General of Registration, Registrar of Madras and Sub-Registrar of Sowcarpet, Madras; this work was in very active progress during the last two months of the year so as to allow the Registrar-General's office to move into the buildings during May 1895; estimate Rs. 10,385, outlay Rs. 8,154.

(7) Constructing a verandah with terrace roofing around the Banqueting Hall and a carriage Porch; the work could not be started till the Government left Madras for Ootacamund. Materials were collected and arrangements made to commence the work; estimate Rs. 14,985, outlay Rs. 2,969.

(8) Improving water-supply, Government House, Guindy; this work was fully completed at a cost of Rs. 7,595 against an estimate of Rs. 8,025.

(9) Additions to the Lying-in Hospital; this work was commenced in March 1895 and by the end of that month foundations and basement were completed and most part of the timber work collected at site; estimate Rs. 32,834, outlay Rs. 8,899.

(10) Improvements and additions to Her Majesty's Penitentiary; this work was commenced in May 1893 and completed in September 1894 with a saving of Rs. 3,744 on the estimate of Rs. 50,060. It is now in the occupation of the Jail Department.

(11) Additional accommodation for the Press Department and Carpenter shed at Her Majesty's Penitentiary; this work was commenced in June 1893 and completed in August 1894; estimate Rs. 9,300, total outlay Rs. 9,256.

(12) Re-roofing with Mangalore tiles Surgical sheds Nos. 2 and 3 at the General Hospital; this work was commenced in September and completed in November 1894, and immediately occupied; estimate Rs. 3,376, outlay Rs. 3,284.

(13) Re-roofing the workshed in Her Majesty's Penitentiary; this work was commenced in February 1894 and completed during the year at an outlay of Rs. 4,743.

(14) Constructing a public warehouse at the Custom House; this work was commenced in May 1894, and a great portion of it was completed, the plastering and flooring remaining to be done. It was stopped after an outlay of Rs. 31,213 had been incurred against an estimate of Rs. 43,657.

(15) Extending Chemical Laboratory, Medical College; estimate Rs. 17,410, outlay Rs. 5,837. Fair progress was made.

(16) Constructing iron-shed west of Sea Custom House; estimate Rs. 6,170, outlay Rs. 3,567. Work in progress.

188. Rupees 85,086 were expended on annual and general repairs to buildings in charge of this division; of this sum Rs. 6,316 was for municipal taxes on certain Public Works Department buildings and Rs. 1,466 for the conservancy of the Floating and Senate House latrines at Chepauk.

IV.—PROVINCIAL—COMMUNICATIONS.

189. **Ganjam.**—The following works were in progress or completed:—

(1) Iron bridge at Mahasinghi; estimate Rs. 55,100, expenditure during the year Rs. 4,094 against a grant of Rs. 3,390; 110 wells built 10 feet, 22 wells built 7 feet. Brick manufactured for the remaining wells. Lime manufactured for this season's work. Wells for one abutment sunk to full depth and earthwork for foundations taken out. Concrete begun.

(2) Ichchhápuram and Jarada road; estimate Rs. 39,400, outlay Rs. 735 against a grant of Rs. 2,000. Work completed. The short outlay was due to non-settlement of land compensation in the Civil Department.

(3) Improving and metalling the road from Govindapur to Lohagudi bungalow; estimate Rs. 9,670, outlay during the year Rs. 2,147 against a grant of Rs. 2,148. One mile and three furlongs completed; 30,008 cubic feet of metal was spread, 9,003 cubic feet gravel was collected and spread, 14,861 cubic feet of metal was collected, 14,000 cubic feet of earthwork was done and a big boulder blasted.

(4) Metalling the road from Udayagiri to Kalingia; estimate Rs. 4,250, outlay Rs. 647 against a grant of Rs. 511. Work completed.

(5) Tekkali-Anantagiri road; estimate Rs. 23,500, outlay during the year was only Rs. 224. Work completed.

(6 Metalling road from Kalingia to Tekkahalli; estimate Rs. 7,230, outlay Rs. 1,038 against a grant of Rs. 1,035. Work completed.

(7) Constructing Mohanagiri ghât road; estimate Rs. 12,000, outlay during the year was Rs. 4,273 against an allotment of Rs. 4,957. Mohanagiri ghât has been opened for traffic, about half the $2\frac{1}{2}$ miles was completed, revetment for the other half is in hand and the road dams have to be built to complete this work. The lapse of grant was due to two piece-workers and a large gang of coolies who came from Russellkonda leaving the work on account of fever, and the Sub-division officer had to depend latterly on local labour.

(8) Constructing road with masonry works from Kallikota to Boirani; estimate Rs. 71,200, outlay during the year was Rs. 9,500 against an allotment of Rs. 9,500; earthwork was practically finished except in the 11th, 16th, 17th, 19th and 20th miles where the work was in rapid progress. Materials for culverts and bridges were under collection.

190. A sum of Rs. 3,284 was spent under minor original works against an allotment of Rs. 3,000. The principal works carried out are detailed below:—

(1) Metalling the soft portion of road from Udayagiri to Dharmapur; estimate Rs. 1,110, outlay during the year Rs. 789. Work almost completed.

(2) Constructing Nos. 1 and 2 bridges on Lohagudi ghât road; estimate Rs. 1,190, outlay during the year Rs. 965. Work nearly completed.

(3) Diverting Londa ghât road between Kalingia and Udayagiri and constructing culverts required in the portions of road; estimate Rs. 1,400, outlay during the year Rs. 1,269. Work in progress.

191. The expenditure under repairs was Rs. 2,105 against an allotment of Rs. 1,500.

192. **Coimbatore.**—The following works were in progress :—

(1) Suspension bridge with 200 feet span and 10 feet roadway across the Kullar river; estimate Rs. 42,500, expenditure to end of previous year Rs. 43,885, grant for the year Rs. 12.085, outlay during the year Rs. 12,121. The work was completed and excess explained in the completion report.

(2) Iron girder bridge across Kullar river; estimate Rs. 28,600, expenditure to end of previous year Rs. 30,737, outlay during the year Rs. 82. This was the value of iron credited and used on other works.

(3) Iron girder bridge at Burlyar; estimate Rs. 15,600, previous expenditure Rs. 16,115, outlay during the year Rs. 188. This expenditure was for payment of arrears due.

(4) Temporary suspension bridge across the Kullar river; estimate Rs. 5,062, expenditure and grant during the year Rs. 1,784. This expenditure was an adjustment.

193. The only work in progress during the year under minor works was "providing side railings to the approaches of the Kullar suspension bridge;" estimate Rs. 1,030, expenditure Rs. 1,080.

194. The following repairs were executed at a cost of Rs. 43,415 against a grant of Rs. 43,000 :—

(1) Annual maintenance of Ootacamund-Kullar road; estimate Rs. 35,000, expenditure Rs. 35,980.

(2) Special repairs to Ootacamund-Kullar road; estimate Rs. 28,640, previous expenditure Rs. 28,931, outlay during the year Rs. 791.

(3) Repairs to laterite roads leading to Government buildings; estimate Rs. 3,330, expenditure Rs. 2,911.

(4) Reconstructing revetment and enlarging the culvert in the 22nd mile; estimate Rs. 3,980, previous expenditure Rs. 2,003, outlay during the year Rs. 1,674.

(5) Renewing and repairing old platform bridges on Ootacamund-Kullar road; estimate Rs. 10,550, expenditure Rs. 4,039. Pyngadu wood was collected. A large saving is anticipated on this work.

195. Besides the above, a sum of Rs. 4,175–1–7 was incurred in rectifying the damages due to Nilgiri Railway operations on the Ootacamund-Kullar road, and the expenditure was transferred to Examiner's division to be debited to Imperial (Railway) funds.

196. A further sum of Rs. 2,112 was spent in covering over Mr. James' channel in the Benhope Forest Reserve, and the expenditure was transferred to the Examiner's division.

197. **West Coast.**—The improvements to the Chundale-Mysore road were continued. Rupees 16,198 were spent against an allotment of Rs. 16,500 for the year, bringing the expenditure up to the end of the year to Rs. 19,925 against the estimate of Rs. 37,400; about 119·847 cubic feet of metal was collected. A sum of Rs. 3,396 was also spent in maintaining this road during the year.

198. On improvements to Vayittiri-Gúdalúr road Rs. 3,129 were spent against an allotment of Rs. 3,500. Repairs to Nadgani bridge were completed.

199. The Calicut-Vayittiri road (39 miles) and Vayittiri-Gúdalúr road (47 miles) were kept in good repair during the year at a total cost of Rs. 59,395. All the inspection bungalows on these roads were maintained in good order.

200. **Madura.**—The following works were completed during the year :—

(1) Bridge over the Suriliyar at Uttamapálaiyam; estimate Rs. 42,800, outlay Rs. 40,892. The work was completed in 1893–94, but the outlay incurred in 1894–95, viz., Rs. 800, was on account of compensation for land taken up for forming the approaches.

(2) Bridge over Suriliyar at Veerapandi; estimate Rs. 40,600, outlay Rs. 36,826. This work was also completed in 1893–94, but the outlay during the year 1894–95 (Rs. 148) was for land compensation.

201. Cutting a trace of ghât road from Athur to road No. 49, Lower Palnis; estimate Rs. 3,940, outlay Rs. 1,537. In progress.

202. **Presidency.**—Rupees 13,501 were paid to the Madras Municipality for maintaining the roads and bridges over the Cooum river.

V.—PROVINCIAL—MISCELLANEOUS PUBLIC IMPROVEMENTS.

203. **Godavari (Eastern).**—The roads and drainage culverts in the Sappers cantonment at Dowlaishweram were repaired at a cost of Rs. 272 against a grant of Rs. 300.

204. **Kistna (Northern).**—Widening Ryves' canal; estimate Rs. 11,600, total outlay up to date Rs. 10,150, outlay during the year Rs. 172. The revetment was completed.

205. **Kistna (Eastern).**—The sea dyke at Masulipatam and the outlet sluice near the tidal lock at Masulipatam were repaired at an outlay of Rs. 800.

206. **Coimbatore.**—A sum of Rs. 294 was spent against an allotment of Rs. 400 for minor works, mostly on petty items at Ootacamund.

207. Rupees 568 were spent against an allotment of Rs. 1,000. Seven petty works costing less than Rs. 200 were in progress during the year.

208. **West Coast.**—A sum of Rs. 679 was spent on deepening the Kallai bar, Calicut, and Rs. 62 on some urgent repairs to revetment and groyne along the foreshore opposite to the Public offices, Ponnáni.

209. **Madura.**—Cutting a rough trace from Kodaikánal to Pillar rocks; estimate Rs. 2,560, outlay Rs. 2,519, of which Rs. 684 were spent during the year. The work was completed, but the land compensation remained to be adjusted.

210. **Presidency.**—Rupees 13,915 were expended in maintaining the Chepauk Park and Marina, the grass plots and trees in the old Fishing village site and on the conservancy of the Cooum river, and Rs. 216 were paid to the Telegraph Department as rent for the line from the clock at Messrs. Orr and Sons, Mount Road, to the Observatory.

VI.—LOCAL—INCORPORATED.

211. **Rushikulya.**—The Aska and Suradá road was maintained at a cost of Rs. 405.

212. **Godavari (Eastern).**—Maintenance of Kovur-Munjair junction canal; estimate Rs. 3,980, outlay Rs. 2,004 against a grant of Rs. 2,000.

213. Maintenance of road on the Gódávari left embankment for the first four miles below anicut; estimate Rs. 300, outlay Rs. 160 against a grant of Rs. 400. The lapse of grant was partly due to late receipt of order sanctioning the additional allotment and partly to bills for work done in March having been received too late for payment in that month.

214. **Godavari (Western).**—A sum of Rs. 3,045 was spent from the local fund contributions for raising river embankment from Vijeswaram to Polavaram and diversion of river bank at Pattisam 20 miles 2 furlongs from Vijeswaram.

215. **Kistna (Northern).**—Technical Institute and Jubilee Museum, Bezwada; estimate Rs. 27,500, total outlay Rs. 27,267, total outlay during the year Rs. 1,032. The wire-fencing and other small items were carried out during the year and the building handed over to the District Board, Kistna.

216. **Kistna (Eastern).**—Materials for constructing an iron girder bridge 33 miles 7 furlongs of Masulipatam canal, and a road culvert across the west side channel of the same canal were collected and the works were in progress; outlay Rs. 983 and Rs. 278 against estimates of Rs. 1,140 and Rs. 410, respectively.

217. **Kistna (Western).**—Improvements to good-water channel, Nizampatam, were carried out at a cost of Rs. 78.

218. **South Arcot, &c.**—Two hundred and seven and half miles of road on river and channel banks in the South Arcot, Tanjore and Negapatam divisions in the circle were maintained during the year at an outlay of Rs. 16,858, including Rs. 3,460 on account of maintenance of Védáranniyam canal.

219. **Trichinopoly.**—Road No. 20 from Sirudiyur to the lower anicut *viâ* Sengarayur, 20 miles, and the road along the Iyar Konakarai flood bank, $\frac{7}{8}$ mile, were maintained at a cost of Rs. 1,106 from the contribution of Rs. 1,070 made by the district board.

220. **Tinnevelly.**—A sum of Rs. 1,012 was spent from the grant made by the district board on repairing the road running along the bund of Srívaikuntam-Periyakulam tank. The work was completed with a total expenditure of Rs. 1,344.

VII.—LOCAL—EXCLUDED.

221. **Ganjam.**—The following works were completed or in progress:—

(1) Constructing masonry pillar at north end of the port of Ganjám; estimate Rs. 100, outlay during the year Rs. 41 against a grant of Rs. 41. Work completed.

(2) Erecting a temporary lighthouse at Calingapatam; estimate Rs. 180, outlay during the year Rs. 195 against a grant of Rs. 195. Work completed.

(3) Improving the lower platform of the flagstaff at Gopálpur; estimate Rs. 124, outlay during the year Rs. 99 against a grant of Rs. 100. Work completed.

(4) Fitting the new light to the obelisk at Calingapatam; estimate submitted for sanction, outlay during the year Rs. 1,218 against an allotment of Rs. 1,340. Work very nearly completed.

(5) Demarcating the port limits at Gopálpur; estimate Rs. 75, outlay during the year Rs. 67 against a grant of Rs. 75. Work completed.

222. A sum of Rs. 3 was spent in repairing light-keeper's quarters, flagstaff and signal room at Calingapatam; estimate Rs. 100. Work completed.

223. **Vizagapatam.**—The following works were completed or in progress:—

(1) Demarcating the port limits, Vizagapatam; estimate Rs. 60, outlay Rs. 8.

(2) Digging trial pits for the proposed Port officer's quarters at Vizagapatam.

224. **Godavari (Eastern).**—The Marine Villa at Cocanada was repaired at a cost of Rs. 126.

225. **Godavari (Western).**—A sum of Rs. 25 was spent on preliminary operations in connection with the construction of a lighthouse at Therthalamundi.

226. **Kistna (Eastern).**—Mr. Maiden's bungalow at Masulipatam was purchased at a cost of Rs. 4,500 as a residence for the Port Officer.

227. A wind indicator was fixed at the Port office at Masulipatam at a cost of Rs. 144.

228. Repairs to the lighthouse at Point Divi were completed at a cost of Rs. 694 and materials collected at a cost of Rs. 128 for providing rails and sleepers for the port crane at Masulipatam.

229. **Buckingham Canal.**—Alterations to lighthouse superintendent's quarters, &c., at Monapalem; estimate Rs. 2,740, outlay Rs. 2,680.

230. Constructing a block of cook-rooms for light-keepers at Pulicat; estimate Rs. 760, outlay Rs. 760.

231. Re-building cook-room and godown for lighthouse superintendent, Pulicat; estimate Rs. 610, outlay Rs. 606.

232. Repairing and white-washing superintendent's and light-keeper's quarters at Seven Pagodas; estimate Rs. 214, outlay Rs. 209.

233. **West Coast.**—The following works were completed:—

(1) Improvements to the Port office at Beypore; estimate Rs. 1,460, outlay Rs. 1,350.

(2) Re-erecting the lighthouse at Coondapoor on a new site; estimate and expenditure Rs. 100.

(3) Converting the existing vacant buildings in the lighthouse bastion at Tellicherry into quarters for light-keepers; estimate Rs. 241, outlay Rs. 256.

(4) Improvements to the revetment of the Cruz Milagre dam at Cochin; estimate and expenditure Rs. 360.

(5) Erecting the sea wall north of groyne N at foreshore, Vypeen; estimate Rs. 700, outlay Rs. 693.

(6) One boundary pillar at Cochin, cost Rs. 100.
One ,, ,, at Maday ,, ,, 100.
One ,, ,, at Chowghat ,, ,, 150.
One ,, ,, at Attupuram ,, ,, 115.
Two ,, ,, at Ponnáni ,, ,, 230.

234. Improvements to the groyne at Gangolly (Coondapoor) were undertaken and Rs. 722 spent against a grant of Rs. 1,500. About one-fourth of the eastern rough-stone groyne, road reclamation, planking, sand filling to road, and about 30 feet of the western groyne were completed.

235. Under repairs the following works were carried out:—

(1) Repairs to Boat jetty at Cannanore, expenditure Rs. 1,248.
(2) Groyne B along foreshore at Cochin, expenditure Rs. 751.
(3) Repairs to light house at Calicut, outlay Rs. 158.

236. **Negapatam.**—Two stone groynes on the west side of the island in the Negapatam harbour, incomplete works of the previous year were completed during the year with an outlay of Rs. 715. The total expenditure was Rs. 2,399 against an estimate of Rs. 2,680.

237. The construction of a training groyne, Negapatam harbour, estimate Rs. 2,250; also an incomplete work of the previous year was completed during the year with an outlay of Rs. 780. Total expenditure on the work Rs. 1,986.

238. An outlay of Rs. 414 was incurred on repairs to the jetty and other marine works at Porto Novo.

239. Rupees 181 were spent in carrying out petty repairs to the jetty wall at the Negapatam harbour.

240. **Madura.**—Constructing a residence with out-houses for the Port Officer at Pámban; estimate Rs. 6,400, outlay Rs. 4,078. The work was in progress. Walls of main building raised to full height and lower terrace nearly put on. Tiled-roof to kitchen was put on and walls roughly plastered. Three minor works, viz., Port Officer's office at Pámban, constructing two godowns to the same, and reconstructing the Deputy Telegraph Master's quarters were in progress; the outlay being Rs. 2,445.

241. Repairs to the Port Officer's bungalow at Pámban were completed at a cost of Rs. 256.

242. Repairs to the light house at Manapad were completed; outlay Rs. 2,262, of which Rs. 1,270 were spent during the year.

243. An estimate of Rs. 1,91,500 for constructing an iron screw pile pier at Tuticorin was submitted in February 1895 for the sanction of Government; but it was returned for revision, with instructions that a turn-table should be provided in lieu of the reverse curve and back shunt originally proposed. In connection with the pier, it was considered necessary to reclaim the foreshore, and a revised estimate of

Rs. 37,500 for this work was sanctioned in September 1894. This amount has been included in the pier estimate above referred to, so that the total cost of the pier and reclamation may be shown together. The reclamation work was given out on contract in December; but the contractor having died subsequently, the contract had to be cancelled and renewed in the name of his brother. Further, the amount of compensation to be paid for the corner of Messrs. Ralli Brothers' compound had not been settled, and as the corner of the compound could not be acquired until the question of compensation was decided, the railway siding to the beach for the carriage of sand could not be laid down. No reclamation was therefore carried out during the year and the grant for the work (Rs. 37,500) had to be surrendered. About Rs. 3,000 worth of work was done on the coral stone bund, and the railway siding to the sand hill was completed. The total outlay on the pier to the end of the year was Rs. 97,630. The iron work was finished and the planking nearly completed. Hand-rails were being fixed.

244. **Presidency.**—Rs. 7,233 were expended under this head for original works and repairs of the Senate House.

VIII.—MISCELLANEOUS—DEPOSITS CONTRIBUTIONS.

245. The following works required by the Municipality of Bezwada were in progress:—

(1) Constructing three ghâts for bathing, &c., on the Kistna anicut; estimate Rs. 7,000, contribution Rs. 1,834, outlay Rs. 720. The necessity of passing water through the Bezwada under-sluices prevented any progress being made with this work.

(2) Fixing stanchions and chains on Bezwada under-sluices; estimate and contribution Rs. 650, outlay Rs. 613.

(3) Making three cuts through the spoil bank of the Bundar canal for foot traffic from Buckinghampet; completed at a cost of Rs. 698.

246. **Coimbatore.**—The following works were executed during the year:—

(1) Fixing a stained glass window in St. Stephen's Church at Ootacamund; expenditure Rs. 113.

(2) Additions and improvements to the chancel of All Souls' Church at Coonoor; expenditure Rs. 814.

Both works were completed and balances were returned to depositors.

(3) Fixing a cast iron socket pipe-sluice in Areapuram channel; expenditure Rs. 11.

247. **Salem.**—Out of a sum of Rs. 37 recovered from the Manager, Sholagiri Estate, in January 1894 for boring operations in the Sittipalli anicut, Rs. 25 were spent, and the balance Rs. 11 not being required was refunded to the manager of the estate in July 1894 and accounts closed.

248. **Presidency.**—Rs. 4,088 were expended during the year in carrying out certain works for the Military Female Orphan Asylum buildings.

From

I.S.Sherlock-Hubbard Esq.

Examiner,P.W.Accounts,Madras.

To

The Secretary to Government,

Public Works Department.

No. 2189 D/A Madras, 21 June 1895.

Sir,

With reference to G.O.No.2544 W.dated 6th.October 1893, have the honour to report that the latest half yearly returns of To and Plant and office furniture of all officers furnishing such re turns to this office have been correctly rendered.

2. A return for my own office has been duly maintained.

I have the honour to be,

Sir,

Your Most Obedient Servant.

I. S. Sherlock-Hubbard

Examiner,P.W.Accounts,Madras.

P. W. CURRENT No. 4791

No 2544 W dt 6-10-93

The Examiner, P.W. Accounts,
Madras.

The Secretary to Government,
P.W. Department.

Rec'd: 22.6.95

2189 D/A

ed 21 June 1895.
d.

Half yearly returns of Tools
Plant and office furniture. Re-
rting that the latest----- have
n correctly rendered.

W. L. Letter from the Superintd Engineer Nellore

PUBLIC WORKS DEPARTM

No. 2084 W dt 20 August 1895

PROCEEDINGS OF THE MADRAS GOVERNMENT

READ the f

From the S. E. I Circle (AE nr 160 G.L dt 1st June
" " II " (" " — dt 27 May
" " III " (" " 642 dt 30 May
(a) " " IV " (" 223 W dt 5th June
" " V " (" 224 dt 21 June 189
" " VI " (" 316 J.C. dt 30 May
" Consg: Architect (" " 1202 dt 24 June 189
(b) " Examiner P. W. Accts (" " 2189 D/A dt 21 June
(c) Pros: of Govt: in the Local and Municipal Depts (" " 1290 La/24 July 18

(a) Circle Admn Report
(b) Report on receipt of returns of stocks
(c) Statement of roads -

Recorded.

Note - The Circle file has been retained at Madras.

D 6/8

CK
16/8 95

(40—4,000—14-3-95.)

Comm Reports, General
P Branch

No 2084 W&J 20th Aug: 1895

Copy of letter from the Inspr t. Inspector Nellore

Copy of letter No 1133 of 1895 dated 10th Aug. 1895 from the Treasury Deputy Collector Nellore to Accountant General Madras. No 2016 dt.

In continuation of my office letter No. dated 25th April 1895, I have the honor to forward herewith the salary bill of Mr. R. Hood, Assistant Superintendent of Police, Nellore, for April in favour of receipt from Messrs Binny and Co Madras. Deptl. encashment.

2 Mr Hood has not vacated the bungalow provided for the Assistant Superintendent at Gudur. A duplicate copy of Superintendent's letter to Mr Hood, the house rent bill while casting this bill to the honorarium of Rs. due by him for Guards and April has to be recovered.

True Copy

R. a. Sivaram Engineer
20.7.95
Executive Engineer
Nellore Division

Compd
K.C
19-7-95

Office
K.
19/7/95

ENGINEER'S OFFICE
NELSON
25 JUL 95
RECEIVED

Copy of letter No. 2022/Acc dated 13th July
from the Treasury Deputy Collector, Re
To The Executive Engineer Nellore.

I have the honor to forward herew
form No 44 B. received with your letter
dated 26th June 1895.

2 Both the Amount due from Mrs
I place the matter before the Accoun
General and he recovered the last pie
ancilable from her pay as already
3 The Superintendent of Police states
his office has as yet been appointed su
to Guntoor.

(True Copy)

R. A. Srinivasa Ayyangar
20.7.95
Executive Engineer
Nellore Division

Compd
K.C
19-7-95

Accts
J.R
19/7/95

The last mentioned return reached

ENGINEER SECTION
25 JUL. 95
SECOND CIRCLE

Copy of letter from the Executive Engineer Nellore
to the Superintending Engineer Circle No 2 Dist. &c.
22nd July 1895.

I have the honor to bring to your notice that
Mr Hood Assistant Superintendent of Police
Ongole has not been paying rent for his quarters
from 1st March 95. I included this rent in forms
No 44 B months after month. The Treasury Depts
Collectors explanation for the non-recovery of rent is
as follows:-

Form No 44 B for March 95 - "Under correspondence with
the Superintendent of Police
N. Hood."

Do. for April 95. "Mr Hood is not now in
the District. The Accountant
General to whom his pay bills
are forwarded for encashment
was requested to recover the
house rent due for 2 months."

Do. for May 95. "From copy of correspondence
it will be seen that the
Accountant General recovered
what was recoverable."

The last mentioned return reached this Office on

17th June 95. Copy of correspondence alluded to
by the Treasury Deputy Collector is Kunrath submitted
for perusal. From the Accountant Generals letter it
is observed that Mr Hood was removed from the
Service from the 8th March 95 and only Rs 26
has been recovered from this pay.

2. On the 20th June 1895 I wrote to the Sub Div Officer
Kanduker to report the date on which Mr Hood
vacated his quarters at Bugole and Sucessively
on the 6th July 1895 that the quarters was vacated
on the 25th June 95. The rent due by the Assistant
Superintendent is Rs 98-6-0 as shewn below.

	Rs. as p.
1 3/95 to 6 6/95 at Rs 25 per month	80 - - -
7 6/95 to 25 6/95 at Rs 34 per do	
(sic) 0 to 20 4 95 for the rate)	21 - 8 - 6
	101 - 8 - 6
Deduct amount recovered by	
the Accountant General	3 - 2 - 6
Net	98 - 6 - 0

3 I was not at all aware till the 17th June 95
that the services of Mr Hood were dispensed with
on the 8th March 1895; otherwise I should have
compelled him to quit the building at once

4. On further correspondence the Treasury Depu
Collector informs me in his No 2022 dated 18th Ju
1895 (copy enclosed) that the last pid available
from Mr Hoods pay was recovered.

5. Your orders are therefore solicited as to how th
amount should be recovered.

No 318 R
5-8-'95

Submitted to the Chief Engineer Public Works
Department for favour orders as to the recovery of
the amount due from Mr Hood for the occupation
of the building at Bugole

Wm. Mc
Captain R E
for Supt Engineer II Circle.

3-8.

P. W. CURRENT No. 6073

Encls 3

Recd: 8-8-95

From

The Supdg Engineer

No. 2088 W dd 20th August 1895

Madras

To

The Chief Engineer

& Secretary

to Govt

Madras.

No. 318 D.A.

dated 6th August 95

Quarters for the Asstt

Supdt of Police at Bgde.

Letter from the Ex. Engr

Nellore dd informing

that Mr Hood had

to pay certain rent for

occupying the

forwarding a copy of for

orders.

In the circumstances stated the amount of rent due by Mr Hood must be written off.

L

1.9.95

DESPATCHED
21 AUG. 95

Mr H Circle

Mr Hood

Gnat Pass

9/1x

29 292 R15/8

P. W. CURRENT No. 6385

Recd: 20-8-95

29.6.95 No. 1605-6 W
16.5.95 " 1842 C
10.3.94 " 674 W
1.11.93 " 2781 W
29.10.91 " 2895 W
17.10.91 " 4555 C
6.8.90 " 2127 W

Recd 12.8.95

Encl Ind

D 277
21/9/8

P. W. CURRESPONDENCE No. 6073

6388

Govt. of 1895 Madras.

PUBLIC WORKS.

Dated

Read. Encl.

G.O. 20/87 1895 No. 20824

Quarters.

=

Estimate of Rs. 8962 for constructing — for the Vice Principal of the Teachers' College at Saidapet, sanctioned with remarks and the amount appropriated from the Provincial reserve

—

RECORDED

Revd

Documents accompanying:-

P. W. CURRESPONDENCE No. 6073

Encls 3

Recd: 8.8.95

From

The Supdg Engineer

Madras

No. 2082 W dated 20th August 1895

To

The Chief Engineer.

P. Wks Dept.

Madras.

In the circumstances stated the amount of rent due by Mr Hood must be written off.

No. 318 N.L.

dated 5th August 95

Quarters for the Asstt Supdt of Police at Royd.

Letter from the Supdg Engr Vellore dt in forwarding that the Mr Hood had to pay certain rent for occupying the — forwarding a copy of for order.

Sd 13/8/95

DESPATCHED 21 AUG. 95

The II Circle

For perusal

Sd/ 9/8/95

RECORDED

L 8292 R 15/8

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers :—

G.O., dated 28th June 1895, No. 1605 W., Public Works.

From N. F. MACKENZIE, Esq., Under Secretary to the Government of India, Public Works Department (Civil Works—Buildings), to the Secretary to the Government of Madras, Public Works Department, dated Simla, the 6th August 1895, No. 297 B.

I am directed to acknowledge the receipt of your letter No. 1606 W., dated the 28th June 1895, and, under the circumstances therein explained, to communicate the sanction of the Government of India to the construction of quarters for the Vice-Principal of the Teachers' College at Saidapet, near Madras, at an estimated cost, including percentages, of Rs. 9,858, subject to the condition that the present and future incumbents of the post be required to occupy the quarters.

2. I am, at the same time, to point out that, if no state expenditure has been incurred on the site on which the quarters are to be constructed, the value of the site should, under paragraph 28 I (*a*) of Chapter X, Volume I of the Public Works Department Code, as amended by Standing Order No. 42, dated the 17th May 1895, be excluded from the data on which the rent has been assessed.

ORDER—dated 20th August 1895, No. 2082 W., Public Works.

The estimate amounting to Rs. 8,962, exclusive of the cost of site, for constructing quarters for the Vice-Principal of the Teachers' College at Saidapet, is sanctioned, and the amount is appropriated from the Provincial reserve.

2. In assessing the rent for the building after its completion, the value of the site should not be included in the Capital cost, unless state expenditure has been incurred on the site.

3. This sanction has been registered as Provincial No. 51 W. of 1895–96 and classified as Civil Buildings—Original Works.

(True Extract.)

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

To the Consulting Architect, with plans and estimates.
" Examiner, Public Works Accounts.
" Educational Department.

Exd. J. P. Oliver.
Spare Copies

Documents accompanying:-

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1895} Madras.

PUBLIC WORKS.

Dated August, 20th.

Read. *Encl.*

G.O., 20th Aug. 1895, No. 2082 W.

AUGUST.

Quarters

Estimate of Rs. 8,962 for constructing — for the Vice-Principal of the Teachers' College at Saidapet, sanctioned, with remarks, and the amount appropriated from the Provincial reserve.

No. 2082 W. of 20th August 1895

PROCEEDINGS OF THE MADRAS GOVERNMENT.

G.O.R.No. 1605 W. dated 28th June 1895

Letter from the Government of India P.W.D. R.No. 2978 B. d/6 August 1895

Read also

Read ~~the following~~ again

The estimate amounting to Rs 8,962, exclusive of the cost of site, for constructing quarters for the Vice Principal of the Teachers' College at Saidapet, is sanctioned and the amount is appropriated from the Provincial reserve.

2. In assessing the rent for the building after its completion the value of the site should not be included in the capital cost unless ~~state~~ expenditure ~~is~~ has been incurred on the site.

"3. This sanction has been registered as Provincial No. 51 W of 1895-96, and classified as Civil Buildings, Original Works.

DESPATCHED
27 AUG. 95

The Consg: Architect with plans & estimates (6)
a Examiner, P.W. Accts.
" Educational ~~Dft. 4,000 - 16-3-95.~~ Dept.

Under Secy. to the Govt. of India.

Documents accompanying:-

Nil.

IRRIGATION 6073

P. W. CURRENT No. 2/35

Govt. of {1895} Madras.

No. 297 B.

All communications should be addressed to the Secretary.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

CIVIL WORKS.
Buildings.

2 Paras

To

The Secretary to the Government of Madras,

Public Works Department.

Simla, the 6th August 1895.

Sir,

I am directed to acknowledge the receipt of your letter No.1606 W., dated the 28th June 1895, and, under the circumstances therein explained, to communicate the sanction of the Government of India to the construction of quarters for the Vice Principal of the Teacher's College at Saidapet, near Madras, at an estimated cost, including percentages, of Rs.9,858, subject to the condition that the present and future incumbents of the post be required to occupy the quarters.

2. I am, at the same time, to point out that, if no state expenditure has been incurred on the site on which the quarters are to be constructed, the value of the site should under paragraph 28 I (a) of Chapter X, Volume I of the Public Works Department Code, as amended by Standing Order No.42, dated the 17th May 1895, be excluded from the data on which the rent has been assessed.

I have the honour to be,

Sir,

Your most obedient servant,

N. F. Mackenzie

Under Secy. to the Govt. of India.

Documents accompanying:-

Nil.

1473

P. W. CURRENT No. 6388

Recd: 20.8.95

28.6.95 No. 1605-6 W
16.5.95 " 1842 C
10.3.94 " 674 W
1.11.93 " 2781 W
29.10.91 " 2895 W
17.10.91 " 4555 C
6.8.90 " 2127 W

Recd 12.8.95

Govt. of {1895} Madras.

Local and Municipal Department.

To

The Public Works Deptt.

13.8.94 No. 1992 W

Proceedings, dated 3rd. August 1895,
No. 1257 M. Mis.

Subject.

Poti mund Lake improvements.

Communicating to the Public Works Deptt. a copy of the Proceedings of the Sanitary Board regarding ——— and requesting it to forward at an early date certain estimates.

P. W. CURRENT No. 6435

30-10-95

Recd: 10.8.95
No. 2066 W, 19th August 1895
Urgent

B

Communicated to the Supdg Engr III Circle for early submission of the estimates called for

(No. 8353 / 30-10-95)

12.8

M.H.B. 13/8/95

I/B
U.R.C.

DESP.
19 AUG. 95

C2

S.E. III Circle

O.L.S 293

The complete under-draining of the area and arranging for discharge of the ground water into the stream, which flows below its general level is therefore regarded as an essential procedure in securing full sanitary results.

Order. 3rd August 1895 No. 1257/Miscellaneous.

A copy of the Proceedings of the Sanitary Board will be communicated to the Public Works Department, which will be requested to forward to Government at an early date, estimates both for filling up the portion of the lake referred to therein with clean material, and for draining such parts of the area as require it.

(True Extract)

W Francis

ag. Under Secretary,

for Chief Secretary.

To

The Public Works Department.

" Sanitary Board.

Sent

of Ootacamund near the lake has not
been in accord with the high standard
desirable in a locality that ranks as
the first sanitarium in India, and they
would therefore advise that so evidently
evil a sanitary condition should no longer
be allowed to exist, and that the attempt
to attain the desired end by simple silting
should, in the interests of the public health
be forthwith abandoned in favour of
filling the remaining portion of the upper
end of the lake with building debris and
clean earth. The Board also believe that
the plan now advocated will be found
more economical than that hitherto adopted
of spreading the operation over a long
series of years.

3. The Board would further point out
that the mere filling of the lake cannot
be regarded as sufficiently meeting sanitary
ends, in that the portion hitherto so treated
remains water-logged, and to all intents
and purposes consequently a marsh.

mode of late years selected of gradually
filling it by encouraging silting, although
not at first detrimental so long as its
operation was confined to deeper parts
of the lake, has, with approaching shal-
lowness, become a serious source of
nuisance by producing a highly marshy
condition of the area. Taking into con-
sideration the fact that the silt is
derived from a stream which conveys
the surface washings and sullage water
from villages chiefly occupied by dhobies
and cow-keepers, and that their sewage
has been further added to for sometime
past by the inefficient condition of
the intercepting sewer, there has
resulted a deposit containing large amount
of organic matter that, in slowly
undergoing decomposition in this climate,
ie the midst of marshy grounds, cannot
fail to be highly obnoxious.

2. The Board are informed that the
general condition of health of the population

of

Present.

The Hon'ble. Col. Pennycuick R.E.

Secretary to Govt. P.W.D.

Surgn. Lt. col. W.G. King M.B.C.M. & R.H.

Ag. Sanitary Com.r

J.A. Jones Esqr. M.I.C.E. F.R.S.E.

Proceedings of the Sanitary Board No. 12 dated 12th June 1895.

The Board having carefully inspected the condition of the upper portion of the Lake of Ootacamund, resolve to advise Govt. that its present condition is such as to form a Sanitary danger to the public, and consequently detracts seriously from the advantages of this locality as a sanitarium. The Board are aware that this matter has occupied the attention of Govt. for many years past, & that endeavours have been made to meet the requirement of filling the lake in an economical manner. In the opinion of the Board, however, the mode process was commenced. This portion together with the portions marked "deep portion" on the sketch (area 69 cents) may be reclaimed during the current year, if His Excellency the Governor in Council is pleased to sanction a further sum of Rs 1000 to be expended during 1895-96. The total area which will be reclaimed for the money will be 1 acre and 38 cents.

5. The amount expended in 1893-94 was Rs 2994 and the total expenditure up to 31st March 1895, was Rs 3993.

From the Sanitary Commissioner for Madras

dated 27th June 1895 No. 1119/8.

I have the honour to forward herewith Proceedings of Sanitary Board advising the abandonment of the present method of filling the upper portion of the Lake of Ootacamund and suggesting the mode to be pursued hereafter.

Enclosure.

Government of Madras

Sanitary Board Office

Depatts. of General Sanitation & Sanitary Engineering

Local and Municipal Department.

CHIEF SECRETARIAT MADRAS.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following paper :—

From the Chairman, Municipal Council, Ootacamund,

dated 1st May 1895 No. 638.

G.O. 2 M. dy 31st July 1894 No. 1005 Munis. G.O. 2 M. dy 10th August 1894 No. 615.

In the orders marginally noted the Govt. were pleased to sanction an additional allotment of Rs 1000 for the purpose of dredging the main Stream, which runs into the Ootacamund Lake, during the year 1894-95.

2. The work was commenced in August 1894, and continued until the 14th February 1895. The expenditure incurred upto the 31st March 1895, amounted to Rs 999-7-3.

3. The area filled up, above present water level and reclaimed is 70 cents, or nearly three quarters of an acre as shown in pink on the enclosed Sketch.

4. Six [redacted]nts of land has been also raised [redacted] water level since the Silting proc[illegible]