

**CEYLON.**



# **ADMINISTRATION REPORTS, 1904.**

---

**PART V.  
PUBLIC WORKS.**

---

## **PUBLIC WORKS DEPARTMENT.**

---

REPORT OF MR. F. A. COOPER, C.M.G., DIRECTOR.



## PART V.—PUBLIC WORKS.

## PUBLIC WORKS DEPARTMENT.

## REPORT OF THE DIRECTOR OF PUBLIC WORKS FOR 1904.

I HAVE the honour to submit the following report on the operations of the Public Works Department for the year 1904.

## EXPENDITURE.

2. The following statement gives the expenditure under the respective headings of the Supply Bill:—

		Rs. c.
Personal Emoluments	...	422,009 37
Public Works Annually Recurrent	...	2,286,812 28
Public Works Extraordinary	...	1,858,657 46
Works chargeable to Loans	...	619,275 52
		<hr/>
	Total ...	5,186,754 63

3. In Appendix 1 will be found the expenditure on Public Works Annually Recurrent classified under the several sub-heads of the Supply Bill, and in Appendix 1A that charged to commutation and private contribution funds. In Appendix 2 will be found the expenditure on Public Works Extraordinary charged against votes in the Supply Bill, and in Appendix 2A that charged against private contribution funds. In Appendix 3 will be found the total expenditure classified under the several headings of account in each Province, including that charged against loans and other funds.

4. The total expenditure in the several Provinces was as follows:—

Province.	Public Works Annually Recurrent.	Public Works Extraordinary, including Loan Works.		Total.
		Rs.	c.	
Western	559,238 33*	1,013,429 23*	...	1,572,487 56
Central	438,395 88	323,227 76	...	761,623 64
Northern	151,348 17	151,917 55	...	303,265 72
Southern	230,757 38	80,641 38	...	311,398 76
Eastern	154,184 97	262,453 36	...	416,638 33
North-Western	210,762 27	209,526 93	...	420,289 20
North-Central	135,135 89	104,245 7	...	239,380 96
Uva	199,158 31	176,102 1	...	375,260 32
Sabaragamuwa	207,831 8	156,569 69	...	364,400 77
	<hr/>	<hr/>	<hr/>	<hr/>
	2,286,812 28	2,477,932 98	4,764,745 26	
				Establishment ... 422,009 37
				<hr/>
				Total ... 5,186,754 63

\* Including expenditure under heading "Miscellaneous" (see Appendix 3).

## MAINTENANCE OF ROADS.

5. The roads in the Colony are classified under the following descriptions:—Metalled, Track Metalled, Gravelled, and Natural. The total length maintained during the year in each Province was as follows:—

Province.	Metalled.	Track Metalled.	Gravelled.	Natural.	Total.
	Miles.	Miles.	Miles.	Miles.	Miles.
Western	320.07	...	52.41	...	372.48
Central	540.58	...	67.88	57.48	665.94
Northern	318.58	...	90.00	111.00	519.58
Southern	283.86	...	36.50	—	320.36
Eastern	164.25	...	133.96	53.00	351.21
North-Western	190.16	140.00	78.78	29.00	437.94
North-Central	117.47	71.50	128.09	5.25	322.31
Uva	250.78	—	31.83	100.50	383.11
Sabaragamuwa	198.88	73.65	44.66	17.00	334.19
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total ...	2,384.63	285.15	664.11	373.23	3,707.12

The above statement shows an increase of 46.81 miles over the mileage in charge of this Department in 1903, and is due to the following minor roads previously in charge of the Provincial and District Road Committees being taken over by Government:—

					Miles.
Mupe-Padukka-Millawa	...	...	...	...	7.16
Kosgama to Pugoda	...	...	...	...	2.80
Padukka to Bope	...	...	...	...	2.50
Blackpool bridle path	...	...	...	...	1.98
Pattipola-Horton Plains bridle path	...	...	...	...	6.25
Kekirawa-Ganawalpola	...	...	...	...	4.25
Sigiriya	...	...	...	...	5.25
Haputale-Nannoya-Pattipola bridle path	...	...	...	...	15.50
Kalmunai-Sea View road	...	...	...	...	.75

and the following new roads having been constructed:—

				Miles.
Getambe ferry	...	...	...	1.75
Ulapane-Riverside	...	...	...	4.32

6. In Appendix 4 will be found a return giving the name of each road, length, description, and particulars in regard to the cost of maintenance, and approximate average traffic so far as it can be ascertained in the absence of special means for that purpose.

7. The average cost per mile of road maintained in the several Provinces of each of the above descriptions was as follows:—

Province.	Metalled.	Track Metalled.	Gravelled.	Natural.	General Average.
	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Western ...	722 94	—	290 59	—	662 10
Central ...	650 80	—	229 29	64 54	557 23
Northern ...	315 16	—	211 41	59 79	242 63
Southern ...	636 74	—	184 49	—	585 22
Eastern ...	560 97	—	255 7	39 35	365 58
North-Western	428 29	473 92	245 32	21 44	383 3
North-Central	479 90	480 42	194 85	72 82	360 9
Uva ...	635 39	—	271 13	75 55	468 23
Sabaragamuwa	669 79	523 11	263 1	123 37	555 31

The general average throughout the Colony was—metalled, including track metalled roads, Rs. 571 per mile, gravelled roads Rs. 234 per mile, and natural roads Rs. 62 per mile.

8. The roads throughout the Island have, with the exception of some in the North-Western Province, been maintained in a satisfactory condition, having due regard to their class and the traffic on them. The heavy traffic on some of the low-country roads constructed without foundations involves increased annual expenditure on their efficient maintenance.

In the North-Western Province the maintenance of the roads in the Kurunegala and Dandugama Districts require more detailed supervision than, I fear, they have received in the past.

During the month of January exceptional floods were experienced in the Eastern Province, heavy rain falling on the 27th and 28th. The Provincial Engineer reports that the average fall at six stations within the catchment area of the Batticaloa lake, 1,600 square miles (approximately), was 5.99 inches on the 27th and 9.85 inches on the 28th, or 15.84 inches in forty-eight hours. The heaviest fall was at Unnichchai, where 5.98 inches were recorded on the 27th and 15.43 inches on the 28th. The water in the Batticaloa lake reached 5.31 feet above mean sea level at Batticaloa, 4.63 feet at Ondatchimadam causeway, and 6.86 feet at Kallar causeway.

The floods in May, which rose to an unprecedented height, caused considerable temporary inconvenience to traffic in the Kelani Valley, but, with the exception of that caused by the damage done to the Kegalla-Bulatkohopitiya road, the bridge on the 42nd mile of the Kandy road, and the Wee-oya causeway on the Ardross-Polatagama road, the inconvenience was only of a temporary nature.

#### MAINTENANCE OF INLAND NAVIGATION.

9. The canals have been kept open for traffic without any exceptional expenditure.

#### FLOOD OUTLETS.

10. No work of an exceptional nature has been necessary under this heading.

#### REPAIRS TO PUBLIC BUILDINGS.

11. The following tabular statement shows the total number of buildings in charge of this Department in each Province:—

Province.	Government Buildings, exclusive of Police Stations and Hospitals.	Queen's House.	Police Buildings.	Medical Aid Hospitals.	Government Hospitals and Dispensaries.	Total.
Western ...	94	1	14	1	16	126
Central ...	95	2	18	20	14	149
Northern ...	107	1	4	—	22	134
Southern ...	58	—	9	2	17	86
Eastern ...	46	—	1	—	12	59
North-Western	50	—	2	—	8	60
North-Central	61	—	—	—	14	75
Uva ...	35	—	2	5	7	49
Sabaragamuwa	31	—	5	4	7	47
Total ...	577	4	55	32	117	785

12. The following statement shows the average expenditure per building under each of the several classifications :—

Province.	Government Buildings, exclusive of Police Stations and Hospitals.	Queen's House.	Police Buildings.	Medical Aid Hospitals.	Government Hospitals and Dispensaries.	
					Rs. c.	Rs. c.
Western	...	...	300 46	1,628 46	360 24	594 28
Central	...	...	128 0	2,486 0	133 0	320 0
Northern	...	...	61 51	235 3	119 8	—
Southern	...	...	156 0	—	102 0	130 0
Eastern	...	...	129 0	—	341 0	—
North-Western	...	...	92 0	—	261 0	—
North-Central	...	...	106 96	—	—	—
Uva	...	...	103 53	—	137 50	185 88
Sabaragamuwa	...	...	137 0	—	107 0	384 0

#### REPAIRS TO BRIDGES EXCEEDING FIFTY FEET IN LENGTH.

13. The usual repairs to all bridges exceeding 50 feet in length have been effected. The time has arrived when some of the long span bridges of light construction should be strengthened or renewed, and with this object in view provision has been included in the Supply Bill for 1905 for strengthening those on the Matale-Trincomalee and Bandarawela-Badulla roads.

#### WORKS IN PROGRESS DURING 1904.

14. The following are the more important public works in progress under the supervision of this Department during 1904 :—

##### *Western Province.*

Technical College.  
Supreme Court buildings.  
Administration Block, General Hospital, Colombo.  
Victoria Memorial Eye Institution.  
Civil Medical Stores, Maradana.  
Conversion of Slave Island Jail into Volunteer Headquarters.  
Additions to the Kachcheri buildings, Kalutara.  
Laying wood block flooring to the Tea Warehouse, Colombo Customs.  
Erection of quay wall and King's jetty, Colombo Customs.  
Extension of jetty (plumbago), Colombo Customs.  
Erection of salt store, Colombo Customs.  
Improvement of Hanwela-Bope-Nambapana road.  
Improvement of the Padukke-Bope and Padukke-Millawie roads.

##### *Central Province.*

Post and Telegraph Office, Teldeniya.  
Nurses' quarters, Civil Hospital, Kandy.  
Quarters for prison officers, Nuwara Eliya.  
Hospital, Dikoya.  
Laboratory, &c., Gangarawa Experimental Station.  
Drainage and latrine accommodation, Kandy Hospital.  
Adaptation of Post Office, Kandy, for Police Barracks.  
Additions, Uda Pussellawa Hospital.  
Temporary wards, Maskeliya Hospital.  
Construction of Nugawela-Ulapane road.  
Construction of Brookside-High Forest road.  
Construction of bridge over the Palapola-oya.  
Construction of bridge over the Mahaweli-ganga, Ulapane.  
Construction of bridge over the Mahaweli-ganga at Peradeniya.  
Strengthening the bridge over the Mahaweli-ganga at Katugastota.  
Improved water supply, Peradeniya Gardens.

##### *Northern Province.*

New wards, Puloli Hospital.  
Coast road (Mantai-Illapaiakadavai).  
Mannar-Talaimannar road.  
Coast road, northern portion to Punaryn.  
Pallai-Champion pattu road.  
Parantan-Mullaittivu road.  
Mullaittivu new trace improvement.  
Elephant Pass bridge.  
Erection of beacon at the pearl banks.  
Erection of temporary beacon at Mullaittivu.

##### *Southern Province.*

Improvements, Hospital, Tangalla.  
Improvements, Police Station, Galle.  
Additions, Marine Laboratory, Galle.  
Repairs, Eddystone House, Galle.  
Improvements, Lewaya road.  
Improvements, Hambantota-Tanamalwila road.  
Construction of Bandattara bridge.

##### *Eastern Province.*

Erection of ward for paying patients, Batticaloa.  
Police Station, Batticaloa.  
Quarters for Assistant Postmaster, Batticaloa.  
Alterations, Customs buildings, Trincomalee.

South Coast road extension.  
 Improvement, Kalkudah-Vallaichena road.  
 Track metalling, Coast road to Nilaveli salt store.  
 Track metalling, 49th mile, South Coast road.  
 Causeway, Periyakallar.  
 Ondatchimadam causeway.  
 Muppane-Pottuvil road.  
 Coast road, Verugal-aru to Kiliveddi.  
 Improvements, Akkaraipattu-Sagamam road.  
 Improvements, Maduraoya-Eravur road.  
 Construction of Muttur-Kiniyai road.  
 Kanganianodai bridge.  
 Bridge on 18th mile, Anuradhapura-Trincomalee road.  
 Converting timber platform bridges into iron ones, Maduraoya-Eravur road.  
 Converting timber platform bridges into iron ones, Kalmunai-Akkaraipattu road.

*North-Western Province.*

Nikaweratiya to Maho road.  
 Vilakatupota to Ganawatta road.  
 Maho to Polpitigama road.  
 Improvements, Giriulla-Dankotuwa road.  
 Improvements, Kurunegala-Giriulla road.  
 Improvements, Akkaraipattu road.

*North-Central Province.*

Quarters for Survey Department officers, Anuradhapura.  
 Jailer's-quarters, Anuradhapura.  
 Approach road, railway station, Anuradhapura.  
 Improvements, Maradankadawala-Habarana road.  
 Kekirawa-Talawe road.

*Province of Uva.*

Quarters for Office Assistant, Badulla.  
 Repairing huts, Volunteer camp, Diyatalawa.  
 Alterations and additions, Bandarawela Hotel.  
 Haputale-Dambatenna road.  
 Extension of Bibile-Medagama road.  
 Roads at Bandarawela.  
 Improvements, Wellawaya-Tanamalwila road.  
 Improvements, Muppane-Pottuvil road.

*Province of Sabaragamuwa.*

District Engineer's quarters, Avisawella.  
 Madampe-Hambantota road extension.  
 Madampe road deviation.  
 Polatagama-Ardross road.  
 Renewal of bridge platforms, Avisawella district.  
 Drainage, Yatiyantota bazaar.  
 Converting timber bridge, Rakwana bazaar, into iron one.

15. I now proceed to deal more in detail with the several public works that have been undertaken by the Public Works Department during the year in each Province, a good deal of the information being extracted from the annual reports furnished by the Provincial Engineers.

WESTERN PROVINCE.

*Public Works Annually Recurrent.*

16. *Maintenance of roads.*—The roads have generally been maintained in good order. Owing to the delay in effecting the necessary repairs to the Kandy road in the early part of the year, the condition of the road during May and June was far from what it ought to have been.

17. *Maintenance of inland navigation.*—The canals have been maintained in good order throughout the year. The planting of an aquatic plant known as "kara" along the banks as a protection against wash appears likely to be attended with success.

18. *Repairs to buildings.*—The usual annual repairs were carried out and the buildings maintained in a reasonable state of repair.

19. *Additions and improvements to buildings.*—The following works were completed:—

Improvement to latrines, Maradana Police Quarters and Borella Convict Hospital. Doulton squatting plates were provided in the latter establishment.  
 The flat tile roofs over the kitchen and godowns, Negombo Hospital, were replaced with Calicut tiles. One bedroom 14 ft. 3 in. by 17 ft. 6 in. with verandah was added to nurses' quarters, Hendala Hospital. Approximate cost per cubic foot 17 cents.  
 Minor additions, Pilots' Tower, Colombo.  
 Addition of incandescent gas lamps, Police Hospital, Borella.  
 Enclosing portions of the Police Inspector's quarters, Colombo.  
 Minor additions to photographic studio, Surveyor-General's Office.  
 Providing record shelves for Treasury.  
 Drainage, Sub-Collector of Customs quarters, Beruwala.  
 Provision of lavatory, District Judge's chambers, Negombo.  
 Drainage, Pettah Police Barracks, Colombo.  
 Addition of two bathrooms, Hendala Hospital.  
 Fencing to Director of Public Instruction's Office, Colombo.  
 Minor additions, General Post Office, Colombo.  
 Improvement of latrines, Negombo Jail and Borella Convict Hospital.  
 Improvements of guardroom, Colombo.  
 Improvement of drainage and provision of ceilings, Medical College, Colombo.  
 Improvement of drains and latrines, Police Office, Borella.  
 Addition of latrine, Lady Havelock Hospital.  
 Minor alterations and additions, Government Stores, Colombo.

20. *Repairs to bridges.*—The bridges have, as a rule, been well maintained. The Digarolla bridge requires renewal of roadway. A bridge on the 13th mile, Veyangoda-Negombo road, and one on the 4th mile, Kotte road, destroyed by floods, require rebuilding.

21. *Miscellaneous.*—The following works have been completed :—

Temporary bridge, 13th mile, Veyangoda-Negombo road.  
 Survey of site for new Police Barracks, Kollupitiya.  
 Survey of Kalu-ganga, near Angurantota.

*Public Works Extraordinary.*22. *New works and buildings.*—The following have been completed :—

Alterations and additions, Calf Vaccination Dépôt, Kanatta.  
 Quarters for Magazine-keeper, Welikada, consisting of three rooms, with the necessary bath, kitchen, and store accommodation. Approximate cost per cubic foot 27 cents.  
 Kitchen Kew Barracks, Slave Island, consisting of two blocks containing fourteen kitchens each. Approximate cost per cubic foot 23 cents.  
 Bicycle shed for Colombo Pilots.  
 Preventive Officer's quarters, Negombo, consisting of two rooms, kitchen, and latrine. Approximate cost per cubic foot 9 cents.

The following works have been carried out and completed by and under the immediate supervision of the Factory Staff, the designs being prepared in the Head Office by Mr. Woodeson :—

Supreme Court buildings consisting of the erection of—

- (a) Three blocks of stables and one set of latrines.
- (b) Jailer's and Assistant Jailer's quarters, comprising five rooms each with kitchen, bath, and store rooms. Approximate cost per cubic foot 22 cents.
- (c) Erection of boundary wall, Hulftsdorp Jail.
- (d) Improvement of quadrangle in front of Supreme Court, consisting of the formation, draining, roading, turfing of quadrangle, and erection of iron rail and gates on the Hulftsdorp street frontage.

Administration Block, General Civil Hospital, consisting of one block of buildings 140 ft. by 60 ft., containing on the ground floor entrance verandah, hall, lobby and corridors, outdoor patients' waiting-room, male and female dressing-rooms, each with a complete set of lavatories, medical officers' room, dispensary, room for nurses on duty, eye examination room, surgeons' office, also rooms and lavatories for each of the female servants, students, and dressers on duty, coroners, medical officers, and surgeons' clerks. On the first floor two large dining-rooms, two stores, twelve bedrooms, and four sets of lavatories with back staircases complete. Approximate cost per cubic foot 32 cents.

Technical College consisting of one block of buildings 130 ft. by 96 ft., containing on the ground floor main porch, museum 45 ft. by 25 ft., two side rooms 18 ft. by 25 ft. each with three verandahs, chemical laboratory 58 ft. 6 in. by 40 ft., electrical laboratory 38 ft. 6 in. by 40 ft., engineering drawing room 38 ft. 6 in. by 30 ft., class room No. 1 18 ft. 6 in. by 30 ft., store and curators' rooms, lobby, &c. On the first floor large lecture hall 59 ft. by 41 ft., small lecture room 39 ft. by 31 ft., experimental laboratory 39 ft. by 40 ft., class room No. 2 20 ft. by 30 ft., superintendent's office 18 ft. 6 in. by 26 ft., two assistant masters' room aggregating 18 ft. 6 in. by 31 ft., as well as storerooms and laboratories. Approximate cost per cubic foot 30 cents.

The following works are in progress :—

Civil Medical Stores, Maradana.  
 Conversion of Slave Island Jail into Volunteer Headquarters.

23. *Alterations and additions to buildings.*—The following works have been completed :—

Providing and fixing Smith and Wellstood cast iron boilers at Welikada, Mutwal, and Hulftsdorp Jails. The boilers were of 60, 40, and 15 gallons capacity.  
 Electric light installation, Government Printing Office, Colombo.  
 Addition of verandah, Circuit Court, Pasyal.  
 Providing record shelves, Master Attendant's Office, Colombo.  
 Iron shed for workshop, Government Factory, Colombo.  
 Electrical installations, Secretariat, Treasury, and Kachcheri, Colombo.  
 Alterations, General Post Office, Colombo, providing increased accommodation for clerical staff and in mail rooms.  
 Improvements, Kew Barracks, Slave Island, including conversion of store into quarters for police constables and contingent works.  
 Completion of drainage and raising walls and roof of Training College, Colombo.  
 Extension of electric lights and fans, Law Courts, Colombo.  
 Erecting prisoners' meal shed, Mahara Jail.  
 Erecting latrine and water standpost, Hulftsdorp Jail.  
 Erecting Process Studio, Surveyor-General's Office, Colombo.

The following works are in progress :—

Additions to Kachcheri buildings, Kalutara.  
 Improvements, Branch Store, Government Factory.

24. *Special repairs to buildings.*—The following works were completed :—

Relaying floor of "A" Tea Export Warehouse, Colombo Customs, with jarrah blocks 3 inches thick grouted in with tar.  
 Painting Government buildings, Queen street.  
 White- and colour-washing Lunatic Asylum, Colombo.  
 Cleaning and painting north and west fronts of General Post Office, Colombo, with Szerelmey's liquid paint.  
 Relaying tiles and colour-washing buildings, Police Barracks, Kew Point, Slave Island.  
 Painting and relaying tiles and removal of verandah enclosure, Principal's bungalow, Royal College.  
 Extensive repairs to roof of District Judge's bungalow, Negombo. White- and colour-washing buildings.

The repairs to Kew Barracks are in progress.

25. *Additions and improvements to roads.*—The following works were completed :—

Providing and laying of 245 cubes of broken stone on the Jaela-Kotadeniya road.  
 Improvement of the Horawella-Moragalla road, consisting of widening, raising embankments, laying foundations, metalling, and renewing bridges. The road is 5 miles in length.  
 Providing and laying 500 cubes of broken stone on the Panadure-Nambapana road.  
 Improvement of the Padukka-Bope road consisting of improving steep gradient, forming and laying foundations on embankments, metalling, and renewal of bridges. The length of the road is 2½ miles.

The following works are in progress :—

- Completing the metalling of the Giriulla to Pasyala road.
- Improvement of Hanwella-Bope-Nambapana road.
- Improvement, Padukka-Millawę road.

26. *New bridges.*—The following works were completed :—

- The construction of a bridge 6 ft. span, width of roadway 14 ft. on 17th mile, Grandpass-Toppu road.
- Renewal of seven timber platform bridges, Bope road, Colombo District. These bridges varied in span from 6 ft. to 10 ft., and were replaced by iron and concrete bridges of type design.
- Renewal of six timber platform bridges on the Veyangoda-Ruanwella road. These bridges varied in span from 4 ft. to 16 ft., and were replaced by iron and concrete bridges of type design.

27. *Repair of bridges.*—The following works were completed :—

- Replacing seven timber platform bridges varying in span from 7 ft. to 14 ft. with iron and concrete platforms of type design.
- Replanking Toppu bridge.
- Erection of a temporary bridge on the 4th mile, Kotte road.

28. *Acquisition of lands and buildings.*—Land required for the extension of the Leper Asylum was acquired and marked by boundary stones :—

- (1) Area 1 acre 1 rood, 24 poles ; amount paid Rs. 1,330.
- (2) Area 2 roods 5.25 poles ; amount paid Rs. 490.

Land required for quarries was acquired as follows :—

- Palatota quarry : area 4.5 poles ; amount paid Rs. 20.
- Kirilapane quarry : 1 acre 2 roods 6 poles ; amount paid Rs. 2,500.
- Quarry, Kotte road : area 1 acre 2 roods 6 poles ; amount paid Rs. 260.
- Extension of Court-house, Panadure : area 9.75 poles ; amount paid Rs. 121.87.

29. *Miscellaneous.*—The following works were completed :—

- Construction of 400 lineal feet of canal wall on the 18th mile, towpath bridge on the 20th mile, and 400 lineal feet of camp sheeting on the 19th mile, Kaymal canal.
- Pitching 700 lineal feet of sea slope of roadway to Beruwala Customs.
- Providing wire entanglement, Mahara quarry.
- Rebuilding 121 lineal feet of dry rubble masonry walls along east bank on the 4th mile of Hamilton canal.
- Cost per lineal foot Rs. 13. Also raising towpath, Hamilton canal, on the 2nd, 6th, 7th, and 8th miles, and constructing seven culverts.
- Drainage, Minuangoda, comprising of the construction of 2,400 lineal feet of cement concrete drains.
- Surveys of the Hamilton and Kaymal canals.
- Removal of rock, Hendala flood outlet.
- Corridor fire engines for Colonial Secretary's Office have been obtained.
- Additional electric fans for Minor Courts, Colombo.
- Raising and lengthening Hunupitiya rifle range.
- Improvement of grounds round Queen's statue, Colombo.

#### CENTRAL PROVINCE.

##### *Public Works Annually Recurrent.*

30. *Maintenance of roads.*—The roads have been maintained in a satisfactory state of repair, though the slip on 31st mile, Tawalantenna-Pundalubya road, continues to give trouble. The slip which has given so much trouble on the 55th mile, Ramboda-Wilson's bungalow, has been thoroughly drained, with apparently very satisfactory results.

31. *Dredging, Nuwara Eliya lake.*—A hand dredger has been in use on the lake. 1,241.31 cubes of silt have been dredged during the year at a cost of Rs. 2,143, or at the rate of Re. 1.24 per cube.

32. *Repairs to buildings.*—The buildings have been kept in a reasonable state of repair. A portion of the hospital at Lindula and the hospital at Maskeliya were rendered unfit for occupation owing to serious settlements due to landslips.

33. *Additions and improvements to buildings.*—The following minor works have been carried out under this heading :—

- A fire escape has been procured for use in Kandy.
- A cooking range has been provided for the Government Agent's residence, Kandy.
- The verandah of the Medical Officer's quarters, Rangalla, has been enclosed.
- Minor alterations and additions to Medical Officer's quarters, Dambulla.
- Additions to Police Sergeant's quarters, Nuwara Eliya.
- Improvements to Police Station, Pundalu-oya.
- Alterations to the Armoury, Nuwara Eliya Kachcheri.
- Drainage of Medical Aid Hospital, Lindula, and of the Police Station, Hatton.

34. *Repairs to bridges.*—The bridges have been kept in a fair state of repair. A new bridge over the Mahaweli-ganga at Peradeniya is in course of construction, and the bridge over the Mahaweli-ganga at Katugastota is being strengthened. Long span bridges on the Matale to Trincomalee road require strengthening.

35. *Miscellaneous.*—The following minor works have been carried out under this heading :—

- Survey for bridge over Mahaweli-ganga at the 3 $\frac{3}{4}$  mile, Kandy-Hanguranketa road.
- Construction of a retaining wall, Padiapelella-Ellamulla road.
- Construction of a retaining wall, Ampitiya road.
- Repairs to culvert, 16 $\frac{3}{4}$  mile, Pupuressa road.
- Removing landslip, Gampola-Nawalapitiya road.
- Repairing storm damages, Ginigathena gap to boundary of Province.

##### *Public Works Extraordinary.*

36. *New works and buildings.*—The following works have been completed :—

- Quarters for Assistant Postmaster, Ramboda, consisting of two rooms with bathroom and kitchen. Approximate cost per cubic foot 38 cents.
- Circuit bungalow, Lindula-Nuwara Eliya road, consisting of two rooms, bathroom, kitchen, store, stable, and carriage shelter. Approximate cost per cubic foot 27 cents.
- Cooly lines of six rooms on 38th mile, Lindula-Agra road. Approximate cost per cubic foot 12 cents.

The following works are in progress :—

Post and Telegraph Office, Teldeniya.  
Nurses' quarters, Government Civil Hospital, Kandy.  
Quarters for prison officers, Nuwara Eliya.  
Hospital, Dikoya.

37. *Additions and alterations to buildings.*—The following works have been completed :—

Swimming bath, Kandy Pavilion : re-roofing with tiled roof.  
Electric light installation, Provincial Engineer's residence, Kandy.  
Additions and alterations, Post Office, Hatton.  
Improvements to Jailer's Office, Kandy.  
Provision of steps and drains, The Lodge, Kandy.  
Improved drainage, Kandy Kachcheri.  
Conversion of Dharma lines, Dambulla and Nalanda, into cooly lines for Public Works Department.  
Improvements to Registrar's Office, Matale, consisting of providing presses for records, boarded ceilings, new doors, and windows.  
Improvements to Registrar's Office, Nuwara Eliya, consisting of an additional room and presses for records. Two additional rooms have been added and minor alterations made to Postmaster's quarters, Gampola.  
Surface drainage has been improved and servants' latrines provided at the Government bungalow, Kandy.  
Enlargement of schoolroom and enclosing of verandahs, Boys' School, Kadugannawa.  
Two additional rooms with dressing-room and bathrooms, also an office, have been added to the quarters of the Director, Botanic Gardens, Peradeniya.  
Temporary wards, Medical Aid Hospital, Maskeliya.

The following works are in progress :—

Laboratory, Experimental Station, Gangaruwa.  
Operating room, Government Civil Hospital, Kandy.  
Drainage and latrine accommodation, Government Civil Hospital.  
Adaptation of Post Office, Kandy, as Police Barracks.  
Alterations and additions, Medical Aid Hospital, Uda Pussellawa.  
Additions, Assistant Government Agent's quarters, Nuwara Eliya.

38. *Special repairs to buildings.*—The following works have been completed :—

Adjusting roof, Public Works Department bungalow, Nuwara Eliya.  
Re-shingling court clerk's quarters, Nuwara Eliya.  
Repairs to United Service Library, Kandy.  
Repairs to Post Office, Dikoya.

39. *New roads.*—The Nuga-wela-Ulapane road, 4·32 miles in length, has been completed ; the surface is metalled throughout.

The approach road to railway station, Nuwara Eliya, has been completed.

Brookside siding to High Forest road. Survey, plan, and estimate for this road were completed, but the commencement of the road awaits the Department being placed in possession of the necessary land.

40. *Additions and improvements to roads.*—The improvement to the Alagalla-Kadugannawa road, 5 miles in length, has been completed.

Parapet walls and additional culverts have been constructed on the Lindula to end of Agra road.  
The following works are in progress :—

Bridle path, Ambawela to Pattipola.  
Improvement, Palapatwela and Galawela road.

41. *New bridges.*—The Ulapane bridge carrying the Nuga-wela-Ulapane road over the Mahaweli-ganga has been completed. This bridge situated on the 1st mile of the Ulapane-Riverside road consists of two approach spans of 30 feet, one at each end of the bridge, and a central span of 140 feet. The approach spans are of the ordinary type, carrying a roadway of cement and tar concrete on corrugated iron decking supported by iron rolled beams. The central span is of the inverted bow string type having a maximum depth of 14 feet, carrying a roadway of cement and tar concrete on corrugated iron decking supported at each side by the main girders. The girders were made at the Government Factory.

The bridge crossing a gorge of considerable depth and the river being liable to heavy floods the construction of a temporary staging for the final erection of the ironwork of the central span *in situ* would have involved considerable expense and risk. It was therefore decided to construct a low-level temporary staging about 12 feet above the bed of the river, on which the central span girders were erected.

The piers consisting of rock-faced ashlar masonry having a bottom width of 26 feet were carried up vertically for a height of 25 feet, viz., to the top of the cut waters, from which level they were completed with a batter of one inch in a foot, having at girder level dimensions of 18 feet by 6 feet, the bed plates of the girders being 38 feet above the bed of the river. The piers being carried up to the level of the bed plates of the girders as erected on the temporary staging, screw jacks were used, the girders gradually raised, and the masonry piers simultaneously carried up until they reached the required level.

The work of laying the foundations, which are on rock, was commenced in February, 1903. The erection of the ironwork on the temporary staging was completed on the 16th March, 1904, and the girders finally placed in their permanent position on the 29th June, 1904. The roadway and approaches were completed and the bridge opened to traffic on the 2nd November, 1904.

The total length of the bridge is 216 feet, and carries a roadway 10 feet in width. The total cost, including approaches, abutments, piers, and masonry parapet walls, was Rs. 69,975.

The satinwood bridge crossing the Mahaweli-ganga at Peradeniya having become unsafe for the ordinary traffic, it has been decided to erect a new bridge of steel arch construction surmounted by a masonry parapet. The design includes the erection of two masonry piers on iron curbs carrying three spans of arches supporting a roadway 19 feet 6 inches in width. The existing abutments to be taken down and rebuilt to springing level. During the year a large proportion of the stone necessary for the erection of the piers and the iron curbs were prepared. A temporary bridge required for the convenience of traffic is being erected at Getambe ferry, and will be finished early in 1905. The architectural details of the design have been prepared by Mr. A. Woodeson, Architect, in the Head Office. The work is being carried out under the immediate supervision of the Factory Engineer.

The bridge across the Palpal-oya, Matale District, has been proceeded with.

42. *Repairs to bridges.*—The bridge at Galaha, 17th mile, Deltota road, has been provided with an iron and concrete platform carrying the roadway.

Providing an iron and concrete platform for the Castlereagh bridge, 3rd mile, Wanarajah road, has not been proceeded with, by order of Government (see Colonial Secretary's letter No. 1,057 dated 14th July, 1904).

Good progress has been made with the strengthening of the Katugastota bridge by the erection of intermediate piers constructed of concrete cylinders 6 feet in diameter provided with flood plates. These piers will facilitate the renewal of the ironwork, and render it practicable to adopt a more economical design when the time comes for such renewal. The piers are founded on rock. The work is being carried out by the staff attached to the Government Factory under the immediate supervision of Mr. E. C. Davies.

*Acquisition of land.*—Land has been acquired for quarries in the Dikoya, Dimbula, and Katugastota districts.

43. *Miscellaneous.*—Water main fitted with fire hydrants and necessary hose pipes have been provided for Queen's Cottage, Nuwara Eliya.

A fence has been erected round the Assistant Government Agent's residence, Nuwara Eliya.

Water supply to the Lindula hospital has been completed.

A voltmeter has been supplied for testing purposes, Kandy.

The following works are in progress:—

Improved water supply, Peradeniya Gardens.

Water supply to Maduklele Hospital.

A survey of the Outer Circular road, Kandy. The portion from Getambe to Katugastota bridge has been completed, the remainder being suspended by order of Government. (Colonial Secretary's letter No. 411 dated 11th March, 1904.)

#### NORTHERN PROVINCE.

##### *Public Works Annually Recurrent.*

44. *Maintenance of roads.*—The roads have been maintained in fair order throughout. The usual difficulty as regards consolidation, owing to the small rainfall in this part of the Island, has been experienced. In the Mannar District the scarcity of carts and bulls for transport seriously hampers the operations of this Department.

45. *Maintenance of inland navigation.*—The boat channels have been kept to the required depth, and marks and guides properly maintained.

46. *Minor flood outlets.*—The bars at Chundikulam were cut in December.

47. *Repairs to buildings.*—The permanent buildings have been kept in a reasonable state of repair. Many of the buildings have additions of a temporary nature, which considerably increase the cost of annual repairs.

48. *Additions and improvements to Government buildings.*—Under this heading minor improvements were carried out to the Police Courts at Kays and Point Pedro and to the Government Agent's and District Engineer's quarters. The drainage of Provincial Engineer's quarters and Puloli hospital was improved, and minor additions made to the dispenser's quarters, Puloli hospital; Kachcheri, Mullaitivu; dispensary, Murungan; dispensaries, Pesalai; hospital, Mannar; Kachcheri, Mannar; and Post Office, Pallai.

*Repair of bridges.*—The repair of bridges has received due attention. There exist a great number of timber bridges, some of considerable length. These should be replaced by permanent structure. Near the sea coast the introduction of bridges constructed of reinforced concrete will be considered, as exposed ironwork suffers very rapidly from corrosion.

50. *Miscellaneous.*—Under this heading works were carried out at Kankesanturai jetty, culvert constructed on 23rd mile, Point Pedro-Punnalai road, construction of protective works, Mullaitivu beacon, survey for the extension of the Pallai-Champianpattu road to Maruthankeni.

##### *Public Works Extraordinary.*

51. *New works and buildings.*—The following works have been completed:—

Dispensary and dispenser's quarters, Nedunkeni. Approximate cost 9 cents per cubic foot.

Overseer's quarters, Pannikkaeravi. Approximate cost 15 cents per cubic foot.

Dispensary and dispenser's quarters, Chavakachcheri. Approximate cost 12 cents per cubic foot.

The following works were not proceeded with, by order of Government. (Colonial Secretary's letter No. 1,057 dated 14th July, 1904):—

Powder magazine, Pallai.

Medical Officer's quarters, Mannar.

Overseer's quarters, Cheddkulam.

52. *Alterations and additions to buildings.*—The following works were completed:—

Boundary wall, Public Works Department premises, Mannar.

The Post Office, Mannar, was provided with a well and additional doors.

Medical Officer's quarters, Puloli Hospital. Approximate cost 15 cents per cubic foot.

Infectious diseases ward, Puloli Hospital. Approximate cost 12 cents per cubic foot.

53. *Special repairs to buildings.*—The Assistant Government Agent's quarters, Vavuniya, were re-painted and repaired.

54. *New roads:*—

Coast road (Mantai-Illuppaikadavai deviation). The earthwork on the 8th, 9th, and 10th miles has been completed, the 6th and 7th miles gravelled. A bridge of three spans of 30 feet and a causeway 200 feet in length have been completed on the 7th mile, and a bridge and causeway on the 8th mile have been commenced.

Mannar-Talaimannar road. Owing to the difficulty of transport little progress was made with this work, it being delayed for want of clay.

Coast road, northern portion to Punerny. This work has been continued.

Pallai-Champianpattu road. The earthwork on the first two miles has been completed, and that on the third mile commenced.

Paranthan-Mullaitivu road. Good progress has been made with this work. The road is completed to the end of the 4th mile, except graveling. Earthwork on the 5th mile is completed, and that on the 6th and 7th miles commenced.

55. *Additions and improvements to roads:—*

Mannar to Pesalai road. Good progress was made with this work on the 6th, 7th, 8th, and 9th miles. Pesalai-Yakwewa road. Good progress has been made with this work on the 13, 14th, 15th, and 16th miles. Punnalai causeway. The repairs of masonry and bridge platforms have been completed. Mullaittivu new trace. The improvement of this road has made good progress. The work on miles 1 to 6 and 16 to 21 was completed during the year. Mannar-Madawachchiya road. The construction of an embankment across a backwater near Mannar was completed.

56. *Repair of bridges.*—The filling up of lagoon at the site of the Elephant Pass bridge has made satisfactory progress.

57. *Miscellaneous.*—Five timber bridges were replaced by iron and concrete ones on the Yakwewa-Pesalai road.

A new ferry boat and wire rope have been provided for the Mannar causeway crossing.

At the forts at Jaffna, Mannar, and Pneryn permanent repairs were carried out to the masonry works.

The well at Puttukudiyirippu has been sunk to a further depth of 5 feet.

Four timber bridges were replaced by iron and concrete ones on the Mankulam-Mullaittivu road.

A temporary beacon was erected at Mullaittivu.

Survey and estimate were made for a water supply project for Mannar. The project involves—

- (a) The improvement of an existing well and increasing its collecting area by the construction of subterranean channels.
- (b) Providing and installing pumping plant and erection of elevated tank.
- (c) Providing and laying pumping and distributing mains.

## SOUTHERN PROVINCE.

*Public Works Annually Recurrent.*

58. *Maintenance of roads.*—The roads in the Galle and Matara Districts have been maintained in a satisfactory state, with the exception of the Hakmana-Beliatta road, which requires improvement if a better class of road is necessary. The roads in the Hambantota District were maintained in fair order. The difficulties usually experienced owing to the small rainfall in this district were aggravated this year, the rainfall for the year being only 12·38 inches.

59. *Repairs to buildings.*—The buildings have been maintained in a reasonable state of repair.

60. *Additions and improvements to buildings.*—Minor additions and improvements were carried out to the Office Assistant's quarters, Galle; the Jail, Galle; Balapitiya Police Court; Galle Customs; Police barracks, Galle; District Judge's quarters, Galle; Mahamodara hospital; Matara hospital; Registrar's Office, Matara; Kachcheri, Matara; and Cemetery, Deniyaya. Improvements to the operating room, Galle hospital, were commenced.

61. *Repair of bridges.*—The bridges have been maintained in a fairly satisfactory state. There are, however, several timber bridges that require replacing with iron and concrete structures, and the iron bridge at Matara should be reconstructed. A vote on account has been included in the Supply Bill for 1905 for this work.

62. *Miscellaneous.*—The following works have been carried out under this heading:—

- Repairs to Halpatota ferry boat.
- Repairs to wells, Cotton Garden, Galle.
- Improvements, Akuressa-Viharahena road.
- Surveying trace of proposed road from Andella to Tissamaharama.
- Survey of jetty and harbour, Hambantota.
- Erecting iron bridge, 105 $\frac{1}{4}$  mile, Goyapana-Tangalla road.
- Fixing turnstile, Tangalla wells.
- Survey at site of Ambalantota bridge.

*Public Works Extraordinary.*

63. *New works and buildings.*—Cable lines have been erected on the 33rd, 39th, and 46th miles, Akuressa-Viharahena road. Approximate cost per cubic foot 19 cents, 18 cents, and 19 cents respectively.

The erection of a material store for the Salt Department was commenced.

The erection of a new Police Court for Matara was postponed by order of Government (see Colonial Secretary's letter No. 34 dated 12th January, 1904).

64. *Alterations and additions to buildings.*—The following works have been completed:—

- Improvements to the Police Station, Galle, consisting of reconstructing a block of buildings, providing accommodation for six families, with necessary kitchen and outbuildings.
- Improvements to Hospital, Galle, consisting of bathrooms and latrines and minor alterations to the paying ward and House Surgeon's quarters.
- Improvements to the Registrar's Office, Galle, consisting of providing presses for records.
- Improvements to the hospital, Tangalla, were commenced, but not completed.
- The conversion of the present Police Court, Matara, into quarters for the District Judge was postponed by order of Government (Colonial Secretary's letter No. 1,812 dated 18th December, 1903).

65. *Special repairs to buildings.*—Special repairs have been carried out at The Residency, Civil Hospital, and Eddystone House, Galle.

66. *Additions and improvements to roads.*—The following works have been completed:—

- The construction of additional culverts on the 138th mile, Liyangahatota road.
- The improvement of the Lewaya and the Hambantota-Tanamalwila road were proceeded with.

67. *New bridges.*—The ironwork of the Bandattara bridge was erected under the immediate supervision of the Factory Engineer, and the making up of the approaches is being carried out under the immediate supervision of the provincial staff. The bridge consists of six spans of 30 feet each. The platform carrying the roadway is 14 $\frac{1}{2}$  feet in width and constructed of rolled beams and curved

plates with concrete roadway. The platform is carried on trestles constructed of rolled beams 9 inches by 7 inches furnished with flood plates. The vertical beams in each trestle, three in number, are carried down 31 feet below road level, being fitted with a wrought iron shoe  $2\frac{1}{2}$  feet by  $2\frac{1}{2}$  feet embedded in a circular block of cement concrete 5 feet in diameter and 6 feet thick.

68. *Repairs to bridges.*—Repairs were carried out to the Ambalantota bridge on the Tangalla-Hambantota road, Matara bridge, and the Maguru-oya bridge on the 3rd mile, Wirawila-Kirinde road. The damaged abutment of a bridge on the 134th mile, Tangalla-Hambantota road, was rebuilt.

69. *Miscellaneous.*—The following works were completed:—

Repairing rampart wall, Galle.

Preliminary survey and estimate for water supply to Galle from the Ma-dola. This project includes the construction of intake dam across the Ma-dola, providing and laying cast iron mains, and construction of small reservoir on the Fort ramparts.

Preliminary survey and estimate for water supply to Matara from the Kekenadura tank. This project includes the construction of siphon outlet, providing and laying cast iron mains, construction of service reservoir.

Minor works of a miscellaneous nature were carried out for the Plague Committee, involving an expenditure of Rs. 1,686.01.

The following works were commenced:—

Improvements to quarries, Hambantota and Welligata.

#### EASTERN PROVINCE.

##### *Public Works Annually Recurrent.*

70. *Maintenance of roads.*—The roads have, with the exception of certain portions of the Maduraoya-Eravur and the Karaitivu-Sammanturai-Irrakkamam roads damaged by floods, been maintained in a satisfactory manner. The floods experienced in January were exceptionally heavy.

71. *General.*—During the year 333,300 cubic feet of silt have been dredged from the Batticaloa lake at a cost of Rs. 3,685, or at the rate of Re. 1.10 per cube. This rate is higher than it would otherwise have been owing to the dredger being in dock for four months having alterations and repairs effected. The dredger has been altered so as to admit of its dredging a channel  $5\frac{1}{2}$  feet in depth.

72. *Repairs to buildings.*—The buildings have been maintained in fair order. The numerous eadjan roofs that exist prevent a very high standard of maintenance being obtained throughout the year.

73. *Repair of bridges.*—The bridges have been kept in a satisfactory state of repair.

74. *Miscellaneous.*—Survey and levels have been completed, Sammanturai-Irrakkamam road. Minor improvements have been carried out at Kalkudah and Trincomalee jetties.

##### *Public Works Extraordinary.*

75. *New works and buildings.*—Ward for paying patients, Batticaloa hospital. This building, which is self-contained, comprising two wards 15 feet by 20 feet, bathrooms, store, kitchen, and servants' room, was completed. Approximate cost per cubic foot 18 cents.

Quarters consisting of four rooms with verandah were erected for the Assistant Postmaster at Batticaloa. Approximate cost per cubic foot 23 cents.

The erection of the new police station and Public Works Department workshop has made satisfactory progress, the administration block and quarters for married constables being now practically completed.

The erection of a Police Court at Kalmunai was not proceeded with by orders of Government (Colonial Secretary's letter No. 1,867 dated 31st December, 1903).

76. *Alterations and additions to buildings.*—The following works have been completed:—

Additional bed (22 feet by 18 feet), dressing, and bathrooms, District Engineer's quarters, Kalmunai.

Approximate cost per cubic foot 29 cents.

Re-roofing the Customs buildings, Trincomalee, with Calicut tiles.

Addition of latrines, Foul Point lighthouse.

Addition of two cells, Kalmunai lock-up.

77. *Special repairs to buildings.*—The quarters of the Government Agent, Superintendent of Surveys, and District Engineer, Batticaloa, were thoroughly repaired.

78. *New roads.*—The South Coast road has been extended, with the exception of laying the gravel up to the 70th mile, which has been postponed pending the settlement of the clay foundation which it was necessary to lay over certain sandy portions. The work on the 71st mile is well advanced.

79. *Additions and improvements to roads.*—The following works were completed:—

Lowering and re-making roadway, Periyakallar and Ondatchimadam causeways. These causeways, 888 lineal feet and 1,370 lineal feet in length respectively, with a width of roadway of 20 feet, were lowered to a level of 2.62 feet above mean sea level. The roadway was formed of concrete slabs laid *in situ* 10 feet by 10 feet, 9 inches thick, with joints run in with asphalt. The concrete was laid on good stone hand pitching 9 inches thick.

The track metalling of the road to the Nilaveli salt store from the high road was completed.

The track metalling of the 49th mile, South Coast road, was completed.

Good progress has been made with the Muppane-Pottuvil road, the Coast road from the Verugal-aar to Kiliveddi, the Maduraoya-Eravur road, and the Muttur-Kiniyai road.

Work on the Kalkudah-Valaichena road, Coast road (Trincomalee to 8th mile, Nilaveli road), and the Akkaraipattu-Sagamam road was postponed by order of Government. (Colonial Secretary's letter No. 1,057 dated 14th July, 1904.)

The Manmunai to Pulugannawa road survey has been completed during the year.

80. *New bridges.*—The Kanganiodai bridge on the 33rd mile, South Coast road, has been completed. This bridge consists of three spans of 80 feet girders of lattice type carrying an iron and concrete roadway 14 feet in width. The girders are carried on concrete cylinder piers, the lower

portion being 8 feet in diameter reduced to 6 feet for the upper portion. These cylinders were sunk 20 feet through the sandy bed of the river into the clay. The banks are sloped and pitched with stone. Average cost per foot run of bridge :—

	Rs. c.
Including approaches	330 0
Exclusive of approaches	324 0
Cost of staging per foot run	12 0
Cost of erection, including rivetting of ironwork, per foot run	10 42

Satisfactory progress has been made with the construction of an iron bridge, two spans, of 30 feet on the Anuradhapura-Trincomalee road, 18th mile, which is completed, except the roadway.

81. *Miscellaneous.*—The following works were completed :—

- The construction of a rain water tank having a capacity of 10,096 gallons collecting rain water from 13,300 square feet of roof area at The Residency, Trincomalee.
- Repairs to Batticaloa Fort.
- Survey of Manmuni-Pulugannawa road.

Good progress was made with the replacing of timber platform bridges with iron and concrete ones on the Maduraoya-Eravur and Kalmunai-Akkaraipattu roads.

The surveys of the West Coast road (Lake road) and Vavunativu-Sammanturai road were not proceeded with.

NORTH-WESTERN PROVINCE.

*Public Works Annually Recurrent.*

82. *Maintenance of roads.*—The roads in this Province have not been maintained in a satisfactory state of repair. More intelligent and energetic supervision is required on the part of the District Engineers.

83. *Maintenance of inland navigation.*—The Toppu to Puttalam canal and the canal to Nachchikali salt pans have been maintained in fair order. The continual washing of the unprotected banks and the existence of numerous timber pile bridges render the maintenance of these canals in a thoroughly satisfactory condition practically impossible unless extensive improvements of an expensive nature are carried out.

84. *Repairs to buildings.*—The buildings have been maintained in a reasonable state of repair.

85. *Additions and improvements to buildings.*—The following works have been completed :—

- Converting Ward F, Kurunegala Jail Hospital, into seven cells.
- Boundary wall round the lock-up at Marawila.
- Latrine, Chilaw Jail.
- Fence round Land Registry Office, Kurunegala.
- Fence round Post Office, Nikaweratiya.
- Storeroom, Puttalam Kachcheri.
- Drainage, Police Barracks, Kurunegala.
- Jury box, Police Court, Kurunegala.
- Storeroom, hospital, Nikaweratiya.
- Latrine, District Court, Chilaw.
- Minor additions and alterations, Kurunegala Hospital.
- Improvements, District Court, Chilaw.

86. *Repair of bridges.*—The bridges exceeding 50 feet in length have been maintained in good order. Some of the light long span bridges require strengthening.

87. *Miscellaneous.*—The following works have been completed :—

- Tracing road from Hiripitiya to Kumbukgeta.
- Erection of a 12 feet span bridge on the 19th mile, Naranmulla-Dummelasuriya road.
- Building culvert 8 feet span on the 30th mile, Naranmulla-Dummelasuriya road.
- Rebuilding abutments of culvert 12 feet span on the 7th mile, Puttalam-Anuradhapura road.
- Building bridge 14 feet span on the 26th mile, Naranmulla-Dummelasuriya road.
- Building bridge 8 feet span on the 16th mile, Padeniya-Anuradhapura road.
- Repair of bridge over the Deduru-oya on the Kurunegala-Dambulla road.

*Public Works Extraordinary.*

88. *New works and buildings.*—The following works have been completed :—

- Quarters for the Apothecary, Dandugama. These consist of a sitting room, bedroom, bath and dry-earth closet, storeroom, and kitchen, with verandah in front of the sitting and bedrooms and the kitchen. Approximate cost per cubic foot 23 cents.
- Cooly lines, 1st mile, Kurunegala-Dambulla road. Approximate cost per cubic foot 13 cents.

The Department has not yet been placed in possession of the land required for the Jailer's quarters, Kurunegala.

The following works were not proceeded with by order of Government (see Colonial Secretary's letters No. 1,564 dated 22nd October, 1904, No. 555 dated 30th July, 1904, to Government Agent, North-Western Province, and No. 1,057 of 14th July, 1904):—

- Post Office, Kurunegala.
- District Judge's quarters, Kurunegala.
- Land Registry Office, Chilaw.

89. *Additions and alterations to buildings.*—The following works have been completed :—

- Additional latrines, Dandugama Hospital.
- Addition of shutters and record presses, Registrar's Office, Chilaw.
- Enlarging the record-room of the District Court, Chilaw.
- Building three cells, Puttalam Jail.

90. *Special repairs to buildings.*—Special repairs have been carried out to the hospitals at Kurunegala, Chilaw, Marawila, and Dandugama. Also to the Government buildings at Kurunegala, Polgahawela, Puttalam, Kalpitiya, Chilaw, and Marawila. The repairs to the Marawila salt stores were let on contract, but owing to repeated delays the work is not completed.

91. *New roads.*—Considerable progress has been made with the construction of the Nikaweratiya to Maho and the Vilakatupota to Gonawatta railway station and on to Hiripitiya roads.

Though originally intended to be metalled and bridged, the Government have decided that the Nikaweratiya road be constructed of the class known as natural roads, and that all bridges should be omitted. This road will only be suitable for traffic in dry weather.

The construction of the road from Maho to Polpitigama has been postponed, pending the further consideration of constructing a tramway.

The construction of the approach road to Palavi has been stopped by order of Government. (Colonial Secretary's letter No. 1,057 dated 14th July, 1904.)

92. *Repairs to bridges.*—A bridge 12 feet span has been constructed on the 24th mile, Kurunegala-Puttalam road.

93. *Acquisition of land.*—A site for Land Registry Office has been acquired.

94. *Converting timber bridges into iron ones, Puttalam District.*—The following bridge has been completed:—

Bridge 19th mile, Puttalam-Battuluoya road.

The silt trap at Horakella has been rebuilt.

Surveys of the following proposed roads have been made:—

Ehatuwewa to Ambanpola.

Kuliapitiya to Hettipola.

Alawe to Dampaleesa.

The survey of the Toppu to Puttalam canal is in hand.

#### NORTH-CENTRAL PROVINCE.

##### *Public Works Annually Recurrent.*

95. *Maintenance of roads.*—The roads have been maintained in fair order, with the exception of the Kekirawe-Talawe road, the satisfactory maintenance of which was rendered impossible during the progress of the improvement works.

96. *Maintenance of Mirisawetiya and Abhayagiriya Dagobas.*—The steps, ladders, and hand rails were maintained.

97. *Repairs to buildings.*—The buildings have been maintained in a reasonable state of repair.

98. *Additions and improvements to buildings.*—An additional room has been added to Public Works Department store, Anuradhapura. The back verandah of the Post Office, Anuradhapura, has been enclosed and drainage provided. To the Chief Surveyor's quarters, Anuradhapura, a verandah has been added and the premises fenced. A well has been sunk at the Tamuttagama dispensary. Latrines have been provided for the dispensary, Topawewa, and apothecary's quarters, Anuradhapura. The cholera shed at Tirapane has been converted into a dispensary. Two additional rooms have been added to the Court Interpreter's quarters, Anuradhapura.

99. *Repairs to bridges.*—The bridges have been maintained in a fair condition, though some of the long span bridges require strengthening, and the bridge over the Malwatu-oya near Anuradhapura, on the old road, requires renewal.

100. *Miscellaneous.*—The survey of Ganawalpola-Kekirawe road has been completed.

##### *Public Works Extraordinary.*

101. *New works and buildings.*—The following works have been completed:—

One set of quarters for survey officers consisting of two complete blocks, each block containing three large rooms with front and back verandah, storeroom, bathroom, latrine, kitchen, and servants' room. Approximate cost 17½ cents per cubic foot.

Quarters for Stock Inspector, Anuradhapura. This building is of wattle and daub with thatched roof, and contains two rooms with verandah and outbuildings. Approximate cost 12 cents per cubic foot.

Workshop, Public Works Department, Maradankadawala, consisting of an open shed, masonry piers, and store. Approximate cost 13 cents per cubic foot.

Powder magazine, Maradankadawala.

Jailer's quarters, Anuradhapura, consisting of five rooms, verandah, and outbuildings. Approximate cost 26 cents per cubic foot.

Workshop, Public Works Department, Anuradhapura, consisting of open shed with masonry pillars. Approximate cost 10½ cents per cubic foot.

Medical Officer's quarters, Anuradhapura, consisting of seven rooms and verandah with necessary outbuildings. Approximate cost 18½ cents per cubic foot.

Overseer's quarters, cooly lines, and the erection of a police station and barracks at Anuradhapura were not proceeded with by order of Government.

102. *Alterations and additions to buildings.*—A wire fence was erected round the court-house, Anuradhapura. Shelves were provided for the record-room, Anuradhapura Kachcheri.

103. *Special repairs to buildings.*—Special repairs were carried out to the jail, Anuradhapura; dispensary, Topawewa; cooly bungalow, Mihintale; and Medical Officer's quarters, Anuradhapura.

104. *New roads.*—The construction of the approach road to Anuradhapura railway station has made satisfactory progress. The work includes the construction of 1½ mile of road, the erection of two bridges, one over the Malwatu-oya consisting of eight spans, six of 34 feet and 2 of 31 feet. The platform is of iron carrying a concrete roadway, and is supported on rolled beam trestles, heavily cross-braced on account of the timber carried down the river during floods. The abutments are of masonry. The other bridge is of the usual construction, iron and concrete on masonry piers, and consists of two spans of 31 feet. The bridges are completed, and the road is very nearly completed.

105. *Additions and improvements to roads.*—The Maradankadawala-Habarana road, 15 miles in length, has been re-formed and gravelled, and a bridge of 30 feet span erected on the 6th mile.

The Sigiriya road has been much improved by the provision of wing walls to bridge and culverts.

The Habarana-Topawewa road has been improved by re-forming and graveling portions.

The strip metalling of the Madawachchiya-Yakwewa and Anuradhapura-Kurunegala roads has been completed.

The improvements of the Kekirawa-Talawe road has made satisfactory progress.

106. *New bridges.*—A bridge 10 feet span on the 47th mile of the Yakwewa road has been completed.

## PROVINCE OF UVA.

## Public Works Annually Recurrent.

107. *Maintenance of roads.*—The roads have been maintained in a satisfactory state of repair.

108. *Repairs to buildings.*—The permanent buildings have been maintained in a satisfactory condition, special provision being made for the repair of Diyatalawa Camp buildings.

109. *Alterations and additions to buildings.*—The following works were completed :—

Additional room, Public Works Department Office, Koslanda.

Minor improvements, Court-house, Bandarawela.

Conversion of kitchen into cells, Bandarawela Police Station.

Minor alterations and additions to Jailer's quarters, Badulla.

Minor improvements, The Residency, Badulla.

Erecting sunshades, Bandarawela dispensary.

110. *Repairs to bridges.*—The bridges have been maintained in a satisfactory condition. Some of the bridges on the Bandarawela-Batticaloa road require strengthening, and those on the Muppane-Pottuvil road require the timber platforms replacing with iron and concrete ones.

111. *Miscellaneous.*—The following works were carried out :—

Survey of road from Madagama to Muppane.

Special repairs to Uma-oya, Uda Pussellawa, and Dikwella-Madulle roads.

## Public Works Extraordinary.

112. *New works and buildings.*—Quarters for Office Assistant, Badulla, were purchased, the buildings repaired, and coach-house and stables provided.

113. *Alterations and additions to buildings.*—The following works were completed :—

Improvements, Civil Hospital, Buttala.

Construction of metal shed, Badulla Jail.

Additions to Post Offices at Bandarawela and Passara.

Preparing Volunteer Camp huts, Diyatalawa.

Addition of drains to Aluthuwara Hospital.

114. *Special repairs to buildings.*—The Government bungalow, Diyatalawa, was repaired.

115. *New roads.*—The new roads at Bandarawela were completed, and satisfactory progress was made with the construction of the Haputale-Dambatenna, Bibile-Medagama-Obbekota roads, and Badulla-Spring Valley bridle road.

116. *Additions and improvements to roads.*—Good progress was made with the improvements on the Wellawaya-Tanamalwila, Muppane-Pottuvil roads, and Haputale-Blackpool bridle path as far as Pattipola.

117. *Lands and buildings to be acquired.*—Land was purchased from the proprietors of Roehampton estate for the proposed water supply project to Bandarawela.

118. *Miscellaneous.*—Beyond the purchase of land, no further action was taken towards the carrying out of the project for the water supply to Bandarawela pending instructions from Government.

Slips were removed from the Badulla-Haputale road and the road made good. The work of removing slips and repairing flood damages on the Badulla-Taldena road was completed.

An incinerator was provided for Diyatalawa Camp.

## PROVINCE OF SABARAGAMUWA.

## Public Works Annually Recurrent.

119. *Maintenance of roads.*—The roads have been fairly well maintained. Until recently the roads in the Kegalla District left much to be desired. The Kegalla-Polgahawela road was in very bad order in June, but under the immediate supervision of the present District Engineer a marked improvement has taken place. The Glenalla-Havilland, Yatiyantota-Polatagama road, and Kegalla-Bulatkohopitiya suffered severely from the heavy rainfall of May last.

120. *Repairs to buildings.*—The buildings have been maintained in a reasonable state of repair, except the Yatiyantota Post Office, which suffered severely from the exceptional floods in the Kelani river in May.

121. *Additions to buildings.*—The following works were carried out :—

Lock-up and latrine, Avisawella Police Station.

Drainage, Ratnapura Jail.

Storeroom, Karawella Hospital.

Minor improvements, Land Registry, Ratnapura.

122. *Repairs to bridges.*—The repair of bridges has received attention, and, with the exception of those in the Kegalla District, are in a satisfactory condition.

123. *Miscellaneous.*—The following works were completed under this heading :—

Repair of slip on 46th mile, Ratnapura-Glenella road.

Survey of proposed deviation, Ratnapura-Malwella ferry grant-in-aid road.

Repair of flood damages, Glenella-Havilland road.

Repair of approach road to railway station, Yatiyantota.

## Public Works Extraordinary.

124. *New works and buildings.*—The following works were completed :—

Erection of cooly lines, eight rooms, on the 42nd mile, Avisawella-Ratnapura road. Approximate cost 17 cents per cubic foot.

Erection of permanent labour shed, Ratnapura Jail. Stone pillars with Calicut tile roof. Work done by prison labour. Materials supplied on contract. Cost of material, approximately, 13 cents per cubic foot.

Erection of material shed, Public Works Department yard, Ratnapura. Stone pillars, Calicut tile roof. Approximate cost 8 cents per cubic foot.

125. *Additions and alterations to buildings.*—The District Engineer's quarters at Avisawella were reconstructed. Approximate cost 10 cents per cubic foot. A well was sunk 42 ft. in depth in the compound.

Presses for records were provided and fixed at the Registrar's Offices, Ratnapura and Kegalla. A new office was erected at The Residency, Ratnapura, and minor alterations effected.

126. *Special repairs to buildings.*—The following works were completed:—

The roof of the Magistrate's quarters at Rakwana was re-shingled.

Special repairs to the roof of the main building and the floors of the stable, The Residency, Ratnapura.

Special repairs amounting to practically rebuilding the Deputy Jailer's quarters, Ratnapura.

The re-tiling with Calicut tiles the roof of the main ward, Ratnapura hospital.

127. *New roads.*—The following works were completed:—

The Madampe Pass deviation, 3½ miles in length.

The completion of the Madampe-Hambantota road.

The completion of the Balangoda-Chetnole road, 3 miles in length.

The completion of the Ardross-Polatagama road, 3 miles in length. Shortly after the completion of this road the exceptional flood of May, which rose 18 feet over the We-oya causeway, breached the road at the Yatiyantota end of the causeway. The causeway itself, which is 192 feet in length with a low-level bridge of 20 feet span in centre and having a top width of 16 feet, suffered but little, but the large breach in the road stopped through traffic.

128. *Additions and improvements to roads.*—The extension of the We-oya causeway rendered necessary by the damage done to the Ardross-Polatagama road has made very fair progress.

129. *Repair of bridges.*—The following works were completed:—

Renewal of bridge platform, 45th mile, Avisawella-Ratnapura road.

Renewal of bridge platforms, Avisawella-Ginigathena and Avisawella-Ratnapura roads.

The erection of a new iron bridge 40 feet span on the 1st mile, Kegalla-Bulaikohopitiya road, to replace a wooden structure damaged by the flood in May, was commenced late in the year.

130. *Miscellaneous.*—The following works were completed.

The drainage of the Yatiyantota bazaar consisting of 2,411 lineal feet of side channels and 1,103 lineal feet of outlet channels.

The construction of two iron bridges 20 feet and 10 feet spans on the 72nd and 77th miles, Pelmadulla-Gilgarron road.

The repair of flood damages on the Karawanella-Glenalla, Avisawella-Ginigathena, and Kandy roads.

The repair of the Kegalla-Polgahawela road.

Satisfactory progress has been made with the conversion of the timber bridge, Rakwana bazaar, into an iron one; the repair of the masonry arch bridge on the 43rd-mile, Kandy road, consisting of underpinning abutments, constructing masonry invert; and repairing the Kegalla-Bulatkohopitiya road.

#### WORKS CHARGEABLE TO LOANS AND OTHER FUNDS.

131. The following are the more important works carried out under this heading:—

Duplication of water main, Labugama to Colombo. This work is nearly completed.

Construction of service reservoir, capacity 8,000,000 gallons, at Elie House, Colombo, with which good progress has been made.

Naval Camp, Diyatalawa. Completed.

Victoria Memorial Eye Institution. Nearly completed.

New Salt Stores, Kochchikade, Colombo. Completed.

The total expenditure under this heading in respect of each of the works in hand during the year will be found in Statement No. 3.

#### GOVERNMENT FACTORY.

132. This branch of the Department has been under the immediate control of Mr. E. C. Davies, Factory Engineer.

Particulars of the works carried out during the year will be found in the Factory Engineer's report annexed, from which it will be seen that the following works have been completed:—

Jailer's and Assistant Jailer's quarters, Hulftsdrorp.

Three blocks of stables and coach-houses, Supreme Court.

Technical College. Approximate cost per cubic foot 30 cents.

Government Civil Hospital Administration Block. Approximate cost per cubic foot 32 cents.

Improvement of the quadrangle, Supreme Court.

Quay wall. Cost per foot run Rs. 271.

Iron sheds, Customs premises.

King's jetty. Cost per square foot Rs. 10·85.

Wood paving, Tea warehouse. Cost per square Rs. 87·70.

Erection of 2-ton and 4-ton electric cranes on King's jetty.

Salt store, Kochchikade.

Various electrical installations.

Good progress has been made with the carrying out of the Victoria Eye Memorial for the Committee from the design of Mr. E. Skinner, A.R.I.B.A.; the extension of the Supreme Court, Colombo; extension of plumbago jetty; strengthening Katugastota bridge; and the erection of the new bridge over the Mahaweli-ganga, Peradeniya.

In Appendix 5 will be found the particulars of the several bridges constructed at the Factory during the year, in Appendix 6 a statement of the distribution of Factory expenditure under the several classifications for the years 1901 to 1904, and in Appendix 7 the classification of expenditure on the several classes of work during the years 1898 to 1904, inclusive.

#### COLOMBO WATERWORKS.

133. *Labugama Reservoir.*—The rainfall registered at Labugama during the year amounted to 145·42 inches, rain falling on 186 days. The maximum rainfall during twenty-four hours occurred on 9th May, when 3·80 inches were registered. The water level in the reservoir never rose to a

height above 6 inches below spill level throughout the year. The maximum depth from which water was drawn from the reservoir was 12 feet below overflow level. The lowest water level reached was 3 feet 1½ inch on 30th April. The reservoir and connected works have been maintained in satisfactory order.

134. *Main pipe line.*—The pipe line has been maintained in working order; a constant flow obtained throughout the year, except on the 13th November last, when for twelve hours the water was shut off to allow of repairs to a leak at Wellampitiya.

135. *Maligakanda service reservoir.*—This reservoir has been maintained throughout the year in working order without any exceptional expenditure.

136. *Distribution works.*—The distribution works have been maintained in good order. During the year 1,020 yards of 3-feet main were laid and nine new standposts erected. There are now 709 street fountains fixed in various parts of Colombo. Four watering posts were erected, one of which was made locally, 255 new services for domestic supply were constructed, making a total of 3,519. Twenty-seven water meters were fixed and thirty removed, leaving a total of 238 in use.

137. *Consumption of water.*—In Appendix 8 will be found a tabular statement of the consumption of water during each month of the year. In Appendix 9 will be found a monthly return of water supplied by meter to each ward during the year. The water supply to the city was continuous throughout the year. The average consumption of water per head per diem, assuming the population of Colombo at 155,000, was for all purposes at the rate of 21.5 gallons; deducting the metered supplies, reduces the rate to 16 gallons per head per diem.

138. *Quality of water.*—The results of the monthly analyses of samples of water taken from the mains at various points in Colombo will be found in Appendix 10.

139. The following is a tabular statement giving the consumption of water for each of the last nine years:—

Year.	Water supplied by Meter. Gallons.	Total Consumption. Gallons.	Maximum Daily Consumption. Gallons.
1896	38,097,840	762,435,360	2,555,508
1897	51,353,450	780,584,671	2,502,300
1898	82,941,553	805,341,489	2,646,241
1899	105,569,529	877,980,521	2,869,581
1900	129,933,208	981,841,489	3,997,067
1901	162,997,699	1,011,958,277	3,149,578
1902	205,061,720	914,457,500	3,342,228
1903	198,931,860	881,171,425	3,527,608
1904	217,995,490	1,223,333,722	3,589,725

140. *Duplication of the main from Labugama to Colombo.*—The entire duplication of the main from Wellampitiya junction to Labugama (2½ miles) was in constant use throughout the year. The supply main from Wellampitiya junction to the new service reservoir at Elie House (4 miles) was completed, and this main was connected direct with the town supply at Urugodawatta junction and Alutawatta. This work included the construction of two stream crossings of four spans of 24 feet at Wellampitiya and Urugodawatta, in addition to small crossings and culverts.

The work of inserting hatch-boxes in the old main pipe and easing sharp bends was proceeded with during the year, eight hatch-boxes being inserted in the old main.

The valves and junctions between the old and the new mains at Labugama connecting up both mains with the reservoir direct and the gauge basin were completed.

Owing to the several connections made between the two mains, the few leaks which occurred during the year were repaired without stopping the supply to the town.

The distributing mains, 18 inches and 20 inches diameter cast iron pipes, for connecting the service reservoir with the town supply were laid, and the special valves and castings for the service reservoir were received and erected. The 20-inch diameter cast iron overflow pipe and wash out from the service reservoir to the sea were completed.

141. A sum of Rs. 126,459.18 was expended during the year according to the following details:—

	Rs. c.
Cost of pipes and specials ...	42,954 34
Materials and plant from Government Stores and Government Factory ...	12,546 66
Stream crossings, chambers, &c. ...	23,986 12
Transport of pipes, &c. ...	12,005 82
Laying and jointing of cast iron pipes ...	10,605 35
Trench excavation and filling ...	15,418 41
Supervision, overseerage, &c. ...	8,942 48
<hr/> 126,459 18	

142. *Service Reservoir, Elie House.*—The excavation for the reservoir was completed, a total quantity of 16,000 cubes of cabook, gravel, and rock being removed.

143. The following cement concrete work was completed:—

2,000 cubes cement concrete in the two first layers of the floor and the backing to reservoir walls, and 180 cubes of brickwork consisting of 235,000 cement concrete bricks. The bricks were made on the site.

144. The ironwork for nearly one-half the reservoir was erected. The whole of the ironwork (500 tons) was delivered at the site.

145. The following remains to be done to complete the work:—

Ironwork:—The erecting of baseplates, columns, main girders, joists, and curved corrugated iron roofing for half the reservoir.

Cement concrete and brickwork:—The concrete for roof, the finishing layer of the floor, and the construction of valve and inlet chambers.

Earthwork:—The filling over roof, forming and trimming embankments.

146. The expenditure for the year was Rs. 174,035.66 :—

		Rs. c.
Excavation and walling for concrete, &c. ...	...	30,583 86
Cement concrete ...	...	82,310 63
Materials and plant from Government Stores and Government Factory; ironwork for columns and roof ...	...	57,702 19
Pulling down buildings, erecting ironwork, and overseerage ...	...	3,438 98
Total ...		174,035 66

147. The whole of the work of duplicating the main from Labugama to Colombo and the construction of the Elie House reservoir has been carried under the immediate supervision of Mr. H. T. Creasy, District Engineer, who, as stated in my report for 1903, was seconded for this service.

#### STAFF.

148. Hon. Mr. F. A. Cooper, C.M.G., returned from leave in March, and resumed his duties as Director of Public Works, relieving Mr. L. Creasy. Mr. C. A. Lovegrove proceeded on one year's leave in September, Mr. F. J. Pigott being appointed Acting Assistant Director of Public Works. Mr. H. A. Martin, Financial Assistant and Accountant, left for England on leave in November, his duties being performed by Mr. H. T. Creasy. Mr. A. Clementi Smith, District Engineer, attached to the Head Office, was appointed District Engineer, Jaffna, in May. Mr. G. J. Misso, Chief Clerk of this Department, retired in May after thirty-five years' service, and was succeeded by Mr. A. Tilliampalam, Mudaliyar.

149. The following officers retired from service during the year :—Mr. H. B. Christie in April, Mr. H. E. H. Hayes in January, and Mr. G. S. Goodman in November. Mr. T. R. Ward left the Department in October, having been appointed Commissioner of Lands and Works, Fiji.

150. It is with much regret that I have to record the deaths of Mr. F. Ludovici, who died at Galle, on 15th April (after retirement); Mr. E. S. de Silva, who died in Colombo on 11th May; and of Mr. G. J. Misso, late Chief Clerk in Colombo, on 15th January, 1905, shortly after his retirement.

151. The retirement of Mr. H. B. Christie and of Mr. G. S. Goodman on account of ill-health in April and November, respectively, deprived the Department of experienced officers, who had done good work in the service of this Department.

152. Though congratulating Messrs. T. R. Ward and F. J. Pigott (the latter has recently gone to the Straits Settlements) on their promotion in other Colonies, the loss of capable and experienced senior officers is much to be regretted in the interests of this Department.

153. Messrs. A. Sathasivan and V. Tamboo, Clerks, Head Office, retired from service in February and May, respectively, their places being filled by Messrs. A. P. Amerasinghe and V. E. A. Poulier. An exchange of duties was effected between Mr. A. Goonetileke, Clerk, Head Office, and Mr. V. E. Ludekens, Clerk, Police Office, Kandy. Mr. S. de S. Muttucumarana, Clerk, Head Office, having been appointed to the District Court, Ratnapura, was succeeded by Mr. J. B. Arianayagam, a passed candidate. Mr. A. P. Beebee, Clerk, Head Office, was transferred to District Engineer's Office, Negombo, his place being filled by Mr. P. Penniah Hubert from the Irrigation Department. Mr. J. E. Venayagam, Clerk, Head Office, being appointed Clerk to the Consulting Electrical Engineer in January, Mr. P. Samugantram was appointed to the post, the latter was subsequently transferred to the District Engineer's Office, Ratnapura, his place in the Head Office being filled by Mr. T. Welayuthan.

154. The following officers were on leave during the year :—

Name.	Commencement of Leave.	Period.	Returned to Duty.
Hon. Mr. F. A. Cooper, C.M.G.	March 15, 1903	... 11 months and 21 days	... March 7, 1904
Mr. J. Jeffery	... March 17, 1903	... 12 months and 4 days	... March 21, 1904
“ W. R. W. Morgan	... May 1, 1903	... 9 months	... January 31, 1904
“ F. J. Pigott	... January 1, 1904	... 7 months and 18 days	... August 19, 1904
“ G. S. Goodman	... February 8, 1904	... 9 months	... Retired November 7, 1904
“ H. B. Christie	... February 1, 1904	... 2 months and 26 days	... Retired April 27, 1904
“ W. P. Fletcher	... February 24, 1904	... 9 months and 25 days	... December 19, 1904
“ A. de C. Carson	... June 8, 1904	... 1 year	... —
“ S. H. Bower	... June 1, 1904	... do.	... —
“ P. M. Bingham	... June 26, 1904	... do.	... —
“ F. B. Rylands	... July 26, 1904	... 6 months and 20 days	... —
“ C. A. Lovegrove	... September 1, 1904	... 1 year	... —
“ H. A. Martin	... November 16, 1904	... 9 months	... —
“ E. S. de Silva	... January 31, 1904	—	... Died May 11, 1904
“ F. Ludovici	... July 29, 1903	—	{ Retired February 29, 1904 Died April 15, 1904

155. The following officers were appointed as District Engineers :—Mr. A. H. Nathanielsz in October, Mr. H. L. Grocock in November, Mr. H. K. de Kretser in November, and Mr. S. H. Hobday in December. Messrs. F. A. Jacolyn and F. B. Toussaint were appointed Head Overseers in September.

156. The changes that have taken place during the year in the Provincial Offices were as follows :—

*Western Province.*—Mr. H. B. Christie retired in April last, and was succeeded by Mr. H. F. Tomalin. Mr. A. P. Brohier was appointed District Engineer in Charge of Buildings in November, *vice* Mr. A. E. Vanderstraaten transferred to Pallai. Mr. A. E. Mayes, on being relieved by Mr. A. H. Nathanielsz, took charge of the Southern Province in October last. Mr. A. Hubert, Head Clerk, Provincial Engineer's Office, retired in May, and was succeeded by Mr. H. M. Muttucumarasamy. The latter was subsequently appointed Maniagar, Tenmaradchi, Northern Province, his place being filled by Mr. G. Sivapragasam, District Engineer's Clerk, Ratnapura. Mr. G. E. Vangunster, Second Clerk, Provincial Engineer's Office, was transferred to Koslanda, Mr. J. A. J. Ondatjie, District Engineer's Clerk, Mihintale, succeeding him. Mr. Ondatjie was subsequently transferred to Provincial Engineer's Office, Badulla, and was succeeded by Mr. K. C. Allagarajah, a passed candidate. Mr. A. M.

Kandasamy, Clerk to District Engineer in Charge of Buildings, was transferred to Pallai, Mr. C. Tambiah, Clerk to the District Engineer at the latter station, succeeding him.

157. *Central Province.*—Mr. L. Creasy relieved Mr. H. F. Tomalin of the duties of Provincial Engineer, who took charge of the Western Province in March last. Mr. C. F. Emerson succeeded Mr. G. Waddell as District Engineer, Dikoya, in February. In June Mr. Emerson took charge of the Province of Sabaragamuwa, being relieved by Mr. A. E. Caldicott. Mr. H. Bucknall relieved Mr. S. H. Bower at Dimbula in June, when the latter proceeded on leave. Mr. C. D. Fernando was appointed Draughtsman, Provincial Engineer's Office, Kandy, in succession to Mr. H. Young, who left the Department. Mr. S. F. Johnpulle, Second Clerk, Provincial Engineer's Office, was transferred to the General Treasury, and was succeeded by Mr. J. J. Gnanamutto from the Anuradhapura Kachcheri. Mr. Zain Amith, Clerk, Provincial Engineer's Office, was transferred to Mihintale, and Mr. E. H. Ponniah, Clerk, Provincial Engineer's Office, Badulla, was appointed in his place. Mr. S. Eliyatamby, Clerk, Provincial Engineer's Office, retired in January, and was succeeded by Mr. J. H. Samaranayake from Kegalla. The latter resigned his appointment in July, and Mr. Ampigapager, an extra clerk, was appointed in his stead.

158. *Northern Province.*—Mr. W. P. Fletcher proceeded on leave in February last, and was succeeded by Mr. G. Waddell. Mr. Clementi Smith relieved Mr. Bucknall at Jaffna in May, the latter proceeding to Dimbula. Mr. H. V. Walbeoff took over charge of Mannar District from Mr. Weerasinghe in March last. Mr. A. E. Vanderstraaten relieved Mr. Brohier at Pallai in November, the latter proceeding to Colombo. Mr. H. K. de Kretser was attached to the Provincial Engineer's Office in November last. Mr. W. A. de Silva, District Engineer's Clerk, Jaffna, was transferred to Avisawella in September, and was succeeded by Mr. T. S. Appadurai from Avisawella. Mr. C. Candiah, District Engineer's Clerk, Vavuniya, was appointed Clerk, Provincial Engineer's Office, Batticaloa, Mr. Navaratnam from Mannar succeeding him. Mr. B. Bastampillai, extra clerk, was appointed Clerk to District Engineer, Mannar. Mr. C. Tambiah, District Engineer's Clerk, Pallai, was transferred to Colombo, and was succeeded by Mr. A. M. Kandasamy, Clerk to District Engineer in Charge of Buildings.

159. *Southern Province.*—Mr. R. W. Smith took charge of the Province temporarily from Mr. H. A. G. Grant in August last, and was relieved by Mr. Mayes in November. Mr. H. M. Muttucumarasamy, Head Clerk, Provincial Engineer's Office, was transferred to Colombo, and Mr. T. Ponnampalam, Clerk, Provincial Engineer's Office, Badulla, succeeded him.

160. *Eastern Province.*—Mr. F. J. Pigott proceeded on leave in January, being relieved of his duties of Provincial Engineer by Mr. T. H. Chapman. Mr. C. Herft relieved Mr. A. de Courcy Carson at Batticaloa in June, when the latter proceeded on leave. Mr. G. S. Goodman proceeded on leave in February, being succeeded by Mr. G. F. Buultjens, Inspector. Mr. A. N. Robertson relieved Mr. Buultjens in April, who proceeded to Colombo in October for duty under the Provincial Engineer, Western Province. Mr. H. E. E. Koch, Head Overseer, Batticaloa, was transferred to Trincomalee in March. Mr. W. G. Macarthy, Head Overseer, attached to the Government Factory, was transferred to Batticaloa in March, and from thence to Trincomalee in December last. Mr. A. Ponnusamy, Clerk, Provincial Engineer's Office, Batticaloa, was dismissed the service, and Mr. C. Candiah, District Engineer's Clerk, Vavuniya, was appointed in his stead.

161. *North-Western Province.*—Mr. L. M. Acland relieved Mr. W. C. Price in May, the latter proceeding to Anuradhapura. Mr. F. W. Sproule took charge of the Dandugama district temporarily from Mr. Thuraisingham in September, and was relieved by Mr. H. E. de Kretser in the same month. Mr. V. Chinnatamby, Second Clerk, Provincial Engineer's Office, was transferred to Kegalla, and was succeeded by Mr. M. A. Cader from District Engineer's Office, Badulla.

162. *North-Central Province.*—Mr. W. C. Price took charge of the Province from Mr. Acland in May. Mr. J. R. Thuraisingham relieved Mr. H. E. de Kretser at Maradankadawala in September, the latter proceeding to Dandugama. Mr. J. A. J. Ondatjie, District Engineer's Clerk, Mihintale, was transferred to Provincial Engineer's Office, Colombo, Mr. Zain Amith, Clerk, Provincial Engineer's Office, Kandy, succeeding him.

163. *Province of Uva.*—Mr. H. A. Grant took charge of the Province in September from Mr. T. R. Ward, who left the Department. Mr. B. F. de Silva, Head Overseer stationed at Medagama, was transferred to Colombo in December for duty under the District Engineer, Colombo Waterworks Extension. Mr. T. Ponnampalam, Head Clerk, Provincial Engineer's Office, was transferred to Galle, and was succeeded by Mr. J. A. J. Ondatjie, Second Clerk, Provincial Engineer's Office, Colombo. Mr. S. T. Savundranayagam, Second Clerk, Provincial Engineer's Office, was dismissed the service, and Mr. H. J. Vanderslott, Extra Clerk, was appointed in his stead. Mr. D. E. Perera, Clerk to District Engineer, Koslanda, was dismissed the service, and was succeeded by Mr. G. E. VanGunster, Clerk, Provincial Engineer's Office, Colombo.

164. *Province of Sabaragamuwa.*—Mr. P. M. Bingham proceeded on leave in June, being relieved of his duties by Mr. C. F. Emerson. Mr. A. C. B. Jonklaas relieved Mr. A. E. Caldicott at Kegalla in June. Mr. C. Herft, District Engineer in charge of Balangoda road, took charge of the Batticaloa District in June from Mr. A. de Courcy Carson. Mr. G. Sivapragasam, District Engineer's Clerk, Ratnapura, was appointed Head Clerk, Provincial Engineer's Office, Colombo, and was succeeded by Mr. P. Samugantram from the Head Office. Mr. T. S. Appadurai, District Engineer's Clerk, Avisawella, was transferred to Jaffna, and was succeeded by Mr. W. A. de Silva, District Engineer's Clerk, Jaffna. Mr. J. H. Samaranayake, District Engineer's Clerk, Kegalla, being appointed Clerk, Provincial Engineer's Office, Kandy, Mr. V. Chinnatamby, Clerk, Provincial Engineer's Office, Kurunegala, took his place.

#### GENERAL.

165. *Waterworks.*—The detail plan and estimates for the water supply to Jaffna referred to in paragraph 169 of my report for 1903 have been completed and forwarded to Government. Mr. R. W. Smith, who was seconded for the purpose of making the necessary surveys, collecting information, preparing estimate, &c., under the direction of the Director of Public Works, for various projects of water supplies, completed and submitted such information in respect of the water supplies of Jaffna, Mannar, Galle, and Matara.

166. The following tabular statement shows the expenditure on annually recurrent work, extraordinary public works, and those chargeable to loans and other funds during the years 1895 to 1904 inclusive :—

Year.	Recurrent. Rs.	Extraordinary. Rs.	Miscellaneous, including Loans. Rs.	Total. Rs.
1895	1,756,001	1,286,889	—	3,042,890
1896	1,823,558	1,219,106	—	3,042,664
1897	1,726,669	1,838,650	—	3,565,319
1898	1,900,307	1,510,143	369,324	3,779,774
1899	2,040,684	1,707,119	1,250,125	4,997,928
1900	2,029,279	1,610,261	1,074,665	4,714,205
1901	2,112,905	1,348,032	666,028	4,126,965
1902	2,163,394	1,448,491	572,143	4,184,028
1903	2,240,086	1,339,699	1,275,968	4,855,753
1904	2,286,812	1,858,657	619,275	4,764,744

167. In accordance with instructions received from Government, the construction of several extraordinary public works provided for in the Supply Bill was postponed. (Colonial Secretary's letter No. 1,057 dated 14th July, 1904.)

168. Amongst the more important works carried out in the Drawing Office, Head Office, under the immediate supervision of Mr. A. Woodeson, Architect, during the year, may be mentioned—

(a) The preparation of detail drawings for works in progress :—

Victoria Memorial Eye Institution.

Additions to Supreme Court.

Improvement of quadrangle, Supreme Court.

Elie House Reservoir : valve, tower, and inlet chambers, Colombo Waterworks.

New bridge at Peradeniya.

Technical College Laboratory fittings.

(b) Preparation of designs for—

Additions to Museum, Colombo.

New Office for Public Works Department, Colombo.

Additional Courts and Offices, Supreme Court.

Lighthouse and quarters, Mullaitivu.

Beacon, Kudiramalai, for Pearl Banks.

Type buildings : Medical Department ; Postal Department ; Clerks, Police Department.

Types of building details.

In addition to the above, numerous tracings have been made of plans, &c., of suggested projects, and estimates checked.

FRANCIS A. COOPER, M.I.C.E.,  
Fellow of the Sanitary Institute, Member of the Association  
of Municipal and County Engineers,  
Director of Public Works.

Public Works Department,  
Colombo, March 6, 1905.

#### REPORT OF THE FACTORY ENGINEER FOR THE YEAR 1904.

DURING the year 488 orders were received amounting to Rs. 780,643.06, making with Rs. 243,053 brought forward from 1903 a total of Rs. 1,023,696.06 ; to this must be added disbursements on account of Transport Fund Rs. 6,014.49. The total amount, therefore, available for expenditure for 1904 was as follows :—

	Rs. c.
Brought forward from 1903	243,053 0
Factory Orders, 1904	780,643 6
Transport Fund	6,014 49
Total	1,029,710 55

#### EXPENDITURE.

The expenditure has been distributed as follows :—

	Rs. c.
Bridges	187,068 51
Buildings	333,013 51
Harbour Improvements	99,192 7
Miscellaneous Departmental	95,685 29
Other Departments	37,420 25
Railway Castings	18,857 49
Waterworks	12,135 65
Electrical	30,599 33
Transport	6,014 49
Total	819,686 59

And has been paid as follows :—

		Rs. c.
Daily Labour Check Roll	...	158,204 70
Fuel	...	13,903 97
Government Store payments	...	364,647 95
Piecework	...	132,171 90
Market payments	...	150,758 7
		819,686 59
Carried forward	...	181,848 49
Unexpended balance	...	28,175 47
		Total ... 1,029,710 55

#### BRIDGES.

During the year 130 iron bridges of different spans and width of roadway were made and sent to outstations, including the Bandattara, a bridge of six spans on braced steel and concrete piers, which was erected and completed under Factory supervision. Total expenditure Rs. 187,068.51.

The new steel bridge over the Mahaweli-ganga at Peradeniya was commenced during the year, but very little work could be carried out at the site owing to high water in the river, but the time was occupied in collecting material for the work and erecting a temporary bridge and ferry across the river at Getambe.

#### BUILDINGS.

The expenditure under this head has been Rs. 333,013.51 on account of the Supreme and Minor Courts buildings, which include the latrines, stables, Jailer's quarters, &c.; Fiscal's Office; Technical College; Administration Block, General Hospital; Victoria Memorial Eye Institution; as well as the usual supply of doors and windows for the public buildings at outstations.

*Minor Courts.*—A small additional expenditure of Rs. 1,217.11 has been made this year, principally for a new room for the Medical Officers, tat doors, and platforms for the police record-room, and extra fittings to the windows of the clerks' rooms.

*Supreme Court, Jailer's and Assistant Jailer's quarters, stables, latrines, &c.*—The erection of the three blocks of stables and one set of latrines has been completed, as well as the Jailer's and Assistant Jailer's quarters. These latter are contained in a two-storied building, each set having a large hall, two ground floor rooms, and three bedrooms on the first floor, together with a kitchen, bath, and two storerooms outside.

The design of the guard-house for the jail has been altered from a building with one floor only to one of two floors with a basement, owing to increased accommodation being required for the prison offices, dispensary, identification offices, lamp room, &c.

The foundation of the new main wall separating the prison from the court buildings is now under construction and approaching completion.

The details of expenditure are as follows :—

	Rs. c.		Rs. c.
Clearing site	58 84	Roof	6,040 68
Excavations	988 53	Water pipes and rain water pipes	1,324 73
Brickwork...	13,200 42	Painting	787 15
Concrete ...	5,222 49	Drains	1,633 84
Plastering	1,569 91	Supervision	1,110 57
Doors and windows	4,158 44	Contingencies	1,207 28
Flooring ...	3,247 12		
Ironwork ...	1,501 78		
Woodwork and staircases	3,818 66		
		Total ... 45,870 44	

*Technical College.*—The whole of the work in connection with this estimate, with the exception of the top concrete dressing of floors of the two laboratories, was completed in September. The supplying of the laboratory fitting and general equipment with gas, water, and electrical mains has still to be sanctioned, and until this is done the floors cannot be completed in accordance with the original estimate. The expenditure under their various heads is as follows :—

	Rs. c.		Rs. c.
Excavation	306 99	Ceilings and woodwork	9,016 32
Brickwork...	7,876 33	Painting	1,026 36
Pointing ...	1,599 78	Stone work	210 0
Plastering...	2,845 98	Gutters, rain water pipes, &c.	3,854 47
Doors and windows	5,534 46	Supervision and contingencies	1,138 52
Ironwork ...	4,041 74		
Flooring ...	4,122 21		
Roof	5,044 19		
		Total ... 46,617 25	

*General Hospital Administration Block.*—This building was completed in accordance with the estimate and ready to be handed over on the 15th November, but this was not done as the installation of the electrical equipment had not been sanctioned or started. It is, however, hoped to hand over the building complete in January, 1905. The expenditure is as follows :—

	Rs. c.		Rs. c.
Cutting site and excavation	612 91	Painting	5,140 83
Concrete floor	6,385 77	Gutters, &c.	3,849 10
Roads ...	1,062 50	Concrete	143 20
Brickwork	2,935 29	Drains	800 22
Plastering...	9,379 56	Electrical works	1,953 34
Wood floor	14,730 1	Supervision	929 63
Roof ...	6,792 21	Contingencies	614 51
Doors and windows	6,796 58		
Ironwork ...	2,667 93		
Woodwork	6,004 45		
		Total ... 70,798 1	

*Victoria Memorial Eye Institution.*—The work on this building is well in hand. The central or administration block, together with the four towers, are faced throughout with concrete bricks. The voissours of the arches are made of solid concrete, the domes of all the towers being taken up in armoured concrete in mass, being the first work of this description done in the Island. The whole of the exterior of the building is cement pointed, as well as the inside face of the outer walls and the ground floor verandah. The blocks containing the male and female wards and kitchens are one-storied and encircled with a verandah, the roof of which is carried on concrete pillars, the concrete floor of all the buildings being raised 3 feet from the ground level. The south-eastern entrance to the building is at the end of the female wards, and forms a special gateway and covered entrance from Ward place in commemoration of the "Grenier Memorial," the marble tablet in connection with the same being placed in the wall on the left-hand side of the approach. I received definite instructions to proceed with the male block and towers on the 8th September only, and the electric lighting on 19th September. The following is the expenditure:—

	Rs. c.		Rs. c.
Clearing site	122 18	Lead work and guttering	7,053 21
Excavation	337 19	Wood flooring	3,418 19
Brickwork	18,359 41	Electrical work	811 24
Concrete bricks	18,498 50	Concrete	1,280 0
Cabook work	1,611 51	Concrete flooring	4,690 28
Doors and windows	12,333 56	Plastering	2,022 71
Woodwork	7,003 13	Pointing	1,247 69
Roof	16,435 82	Stone work	67 50
Boundary wall	719 19	Supervision	691 81
Drains	963 16	Contingencies	757 29
Painting	1,232 0		
Ironwork	3,197 32		
		Total	102,852 89

*Improvements to the quadrangle, Supreme Court (estimated cost Rs. 16,870).*—The work of improving the quadrangle comprises the draining, roading, and turfing the enclosure formed by enclosing the area between the old Police Court and District Court with a set of handsome iron railings and gateways from the main road. A small crescent-shaped grass plot bordered by stone fenders and spiked chains laid out in front of the enclosure presents a suitable frontage to the Supreme Courts. Expenditure—

	Rs. c.		Rs. c.
Roads and drains	861 87	Ironwork	4,169 97
Clearing site	311 34	Painting	16 55
Excavation	322 92	Turfing	223 87
Brickwork	645 69	Supervision	167 0
Concrete	2,465 54	Contingencies	168 35
Plastering	623 97		
Stone work	1,031 1		
		Total	11,008 8

#### HARBOUR IMPROVEMENTS.

The expenditure, Rs. 99,192.07, was for the following works:—

Quay wall.	Drainage, Kochchikade.
King's jetty (old Master Attendant's jetty).	Erecting electrical cranes.
Widening Seashore street.	Salt store.
Wood paving "A" Tea Warehouse.	Fumigatorium, Kochchikade.
	Master Attendant's boat slip.

*Quay wall (expenditure Rs. 12,118.32).*—The completion of this work gives a quay frontage of 661 feet of concrete walling round the harbour basin rented by the Ceylon Wharfage Company, it being an extension of the base of the South-West Breakwater. It was handed over by me on the 30th April, although I would mention that the Wharfage Company have during the last three years been in possession of each foot of walling as soon as it was completed.

*King's jetty: old Master Attendant's jetty (expenditure Rs. 46,699.78).*—This jetty was built to replace the old Master Attendant's jetty of a quarter of its size; it is now 150 feet long and 35 feet wide, erected upon eight sets of three cylinders made of concrete and 5 feet in diameter. The flooring and superstructure is composed of Singapore hard wood, and jarrah strong "Z" iron fenders in keeping with those round the new quay wall are securely bolted to the cylinder runners. Cast iron bollards are also firmly fastened to both sides of the jetty, they being of similar design to those placed on the top of the new quay wall. The head of the jetty is sloped off with a strong staircase down to the water's edge. The jetty is covered with a galvanized iron roof, supported on wrought iron trusses, carried by H section steel posts and wall plates, the guttering being of galvanized cast iron fitted with down pipes.

*Wood paving of Tea Warehouse.*—The whole of the floor of "A" Tea Export Warehouse has been refloated and levelled and 3 cwt. jarrah wood blocks laid with tar grouting, the door sills facing the east and west having been raised and ramped to meet the altered levels. This floor should with very little attention now last for many years. Expenditure Rs. 12,481.28.

*Electric cranes.*—One 2-ton and one 4-ton electric cranes have been erected during this year on the new King's jetty, and should greatly facilitate the rapid landing of cargo.

*Salt store, Kochchikade.*—On 1st October I received instructions to erect an iron building 120 feet long, 60 feet wide, and 16 feet high of similar design and construction as the grain sheds at Kochchikade. It was completed and ready for occupation on the 30th November. Expenditure Rs. 24,998.04.

*Plumbago jetty.*—This work was sanctioned on the 6th June during this year, and was for an extension to the plumbago jetty of 80 feet in length, 42 feet 6 inches in width, the width being 12 feet wider than the existing jetty. The design of the old jetty is carried out; that is a superstructure of jarrah wood and steel girders upon 17.5 feet diameter concrete cylinders sunk to a depth of 20 feet below mean sea level. During this year thirteen cylinders have been sunk to a

depth of 20 and 23 feet and the jarrah wood has been ordered from Australia. The staging for the remaining four cylinders has been erected. Expenditure Rs. 9,373.22.

#### MISCELLANEOUS DEPARTMENTAL.

The manufacture of the usual departmental tools and plant, derrick cranes, pile drivers, road rollers, water and hand carts, dredger and barge for the Negombo canal, ferry boats for Mannar and Getambe, repairs of pickaxes and hammers accounted for an expenditure of Rs. 95,685.29.

#### OTHER DEPARTMENTS.

A fair amount of work was executed for the Principal Civil Medical Officer, the Government Agents, Government Printer, Surveyor-General, Inspector-General of Police and Local Boards, Colombo Drainage Engineer, and the Master Attendant, accounting for an expenditure of Rs. 37,420.25.

#### CASTINGS.

A further increase in the output of castings from the foundry is to be recorded this year. The total output represents 5,601 cwt., against 5,343 in 1903, of which the Railway Department has been supplied with 2,879 $\frac{1}{2}$  cwt. at a cost of Rs. 18,557.49.

#### WATERWORKS.

The duplication of the main and construction of the Elie House reservoir accounts for an expenditure of Rs. 12,135.65 for ironwork, valve, &c.

#### ELECTRICAL.

This Department, under the supervision of the Superintendent of Works, Mr. Rylands, accounts for an expenditure of Rs. 30,599.33 during the year on the general upkeep of installations in Colombo and Kandy, and the following new installations:—Malabar House, Kandy; bells, Civil Hospital, Colombo; fans, Survey Office; fans, Minor Courts; fans and lamps, Colombo Kachcheri, Master Attendant's Office, Law Courts, Colonial Office, and Government Printing Office; and full installation of fans, lights, switch board, distribution boards, &c., for the Administration Block, General Hospital. Two more cranes were erected on the King's jetty, making in all five electrical cranes working in the Customs premises.

#### GENERAL.

The new machines added to the Government Factory this year are a high speed turret lathe and a wood planing and moulding machine, both of which are doing good work. The new smith shop provided for on the Estimates of 1904 has been erected. The building is completed, and contains ten double forges and 10-cwt, steam hammer, with cranes, &c, and when fitted with the hydraulic forging press now under indent on England will be one of the most complete forges in Ceylon.

The output of work during the year compares favourably with that of previous years, and shows an increase of Rs. 29,140.54. The increase has been under the following heads:—Bridges (130 being made against 117), Buildings, Miscellaneous Departmental, Railway Castings, Duplication of Main, Colombo Waterworks, and Transport; and the decrease has been in Harbour Improvements (owing to the quay wall and King's jetty having been near completion in 1903), Irrigation, Other Departments and Electrical Extension in Colombo and Kandy.

#### STAFF.

During the year the Mechanical Engineer as executive officer was in charge of buildings, quay wall, jetties, and other works in Colombo under construction outside the Government Factory. Mr. Jayawardene as executive officer was in charge of works executed in the Government Factory. Mr. Rylands, Superintendent of Works, as executive officer was in charge of all electrical installations, extensions, and repairs in public buildings, Colombo and Kandy. This officer was taken ill in June, and was granted leave out of the Island from the 25th July to 15th February, 1905, his duties being undertaken by other members of the Factory Staff, with the assistance of the Consulting Electrical Engineer.

The Head Overseers were employed on the following works during the year:—Mr. W. J. Misso, harbour improvements, warehouses, jetties, and cranes; Mr. W. N. Perera, Bridge Department, Government Factory; Mr. T. Muttucomaru at Peradeniya and Katugastota bridges; Mr. A. E. Wijesinghe, erecting Bandatarra bridge, near Matara; Mr. R. P. Seneviratne on the extension of the plumbago jetty; Mr. W. I. de Zilva in the carpenters' shop, Government Factory.

Inspector Mr. D. J. Wimalasurendra was ordered in August to Diyatalawa to relieve the District Engineer, Mr. Weerasinghe.

The Foreman Smith, Mr. J. T. de Run, after forty-five years of faithful and most useful service to Government, retired in May on pension, and Mr. Claude Crozier of the Technical College and Railway Workshop was appointed in September to the vacancy on probation for twelve months.

Mr. F. B. Toussaint and Mr. F. A. Jacolyn having completed their two years' apprenticeship were on the 1st October appointed Head Overseers and posted for duty, the former to the Eye Memorial Buildings and latter to Supreme Court building under the Mechanical Engineer.

All the members of the staff, including those of the Clerical Department, have worked well and cheerfully, been punctual and regular in their attendance, and discharged duties in every way satisfactorily, and to them I am indebted for the amount of work executed and the books, accounts, returns, and letters being kept up to date during the year.

I attach the following returns:—

- Statement of Expenditure for 1904.
- Distribution of 1904 compared with 1903.
- Bridges constructed during 1904.
- Classification of Factory Expenditure.

E. C. DAVIES,  
Factory Engineer.

## APPENDIX.

No. 1.—Statement of Expenditure (Public Works Annually Recurrent), 1904.

Classification.	Province.						Miscellaneous.		Total.	
	Western.	Central.	Northern.	Southern.	Eastern.	North-Western.	North-Central.	Uva.	Sabaragamuwa.	
Maintenance of Roads	160,731 57	290,639 65	Rs. c. 95,160 80	Rs. c. 136,592 72	Rs. c. 111,742 55	Rs. c. 124,867 1	Rs. c. 104,695 96	Rs. c. 162,696 33	Rs. c. 144,459 45	Rs. c. 1,331,646 5
Maintenance of Inland Navigation...	21,124 54	—	3,492 31	—	6,874 99	—	294 12	—	183 0	37,085 92
General	82 22	2,143 53	2 62	—	—	—	—	—	—	9,580 48
Repairs to Government Buildings and Works, exclusive of Police and Hospital Buildings	28,243 31	12,272 60	7,314 51	9,621 35	5,958 69	4,530 44	7,688 56	3,680 62	4,622 74	83,932 82
Repairs to Police Stations	5,043 48	2,442 69	488 58	930 16	341 6	523 37	—	275 95	536 35	10,581 64
Maintenance of Queen's Houses	6,062 75	4,980 3	200 3	—	—	—	—	—	—	11,242 81
Maintenance of Camp Buildings, Diyatalawa	—	—	—	—	—	—	—	4,003 96	—	4,003 96
Maintenance of Electric Light Installation, Colombo and Kandy	4,600 0	500 0	—	—	—	—	—	—	—	5,000 0
Maintenance of Medical Aid Hospitals	594 28	6,402 35	1,776 88	269 20	1,924 31	2,016 60	1,741 10	929 44	1,459 1	9,654 28
Repairs to Government Hospitals and Dispensaries	12,855 19	6,396 85	31 45	2,674 73	150 0	—	—	1,828 31	1,795 59	33,009 56
For Temporary Hospitals in cases of Epidemics	—	794 81	—	—	—	—	—	30 0	—	1,006 26
For Maintenance of Customs Wharf, Jetties, and Cranes	8,700 0	—	649 65	3,365 78	506 43	—	—	—	—	13,221 86
For Maintenance of Electric Cranes	5,000 0	—	—	—	—	—	—	—	—	5,000 0
For Additions and Improvements to Government Buildings and Works	4,821 14	4,497 58	2,207 67	1,900 4	1,359 86	2,994 17	2,668 51	1,455 97	116 79	22,021 73
For Additions and Improvements to Police and Prison Buildings."	2,025 48	2,300 66	—	1,720 89	43 15	464 60	—	264 40	575 26	7,394 44
For Additions and Alterations to Government Hospitals and Dispensaries	4,573 13	1,764 6	1,597 63	604 31	—	673 62	892 91	—	1,411 61	11,517 27
For Additions to Medical Aid Hospitals	—	2,798 23	—	552 85	—	—	—	52 10	348 49	3,751 67
For Iron and Timber Bridges throughout the Island exceeding 50 ft. in length	7,971 0	11,481 45	5,091 83	18,567 95	6,854 69	11,348 20	5,777 56	3,910 78	11,084 64	82,088 10
For Annual Painting of Kelani Bridge	2,100 0	—	3,894 86	2,424 60	3,083 47	8,076 22	—	7,205 72	1,674 16	2,100 0
Miscellaneous	26,769 84	—	—	—	—	—	—	—	—	213,458 95
Total	301,197 93	353,369 35	120,438 56	179,883 45	137,706 6	167,963 30	123,806 4	168,297 10	158,332 43	1,897,297 80

No. 1 A.—Statement of Expenditure (Public Works Annually Recurrent), 1904.

Classification.	Province.										Total.
	Western.	Central.	Northern.	Southern.	Eastern.	North-Western.			North-Central.	Uva.	
Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
<i>Commutation Money.</i>											
Maintenance of Roads	...	99,707 97	37,418 37	30,909 61	48,243 93	16,478 91	42,557 89	11,329 85	10,606 76	33,354 84	330,608 13
<i>Private Contribution spent from Branch Road Funds.</i>											
Maintenance of Roads	...	...	47,149 54	—	2,630 0	—	241 8	—	2,247 96	5,597 48	57,866 7
Miscellaneous	...	...	458 62	—	—	—	—	—	—	581 65	1,040 27
Total	...	...	47,608 16	—	2,630 0	—	241 8	—	2,247 96	6,179 14	58,906 34
Grand Total	...	99,707 97	85,026 53	30,909 61	50,873 93	16,478 91	42,798 97	11,329 85	12,854 72	39,533 98	389,514 47

No. 2.—Statement of Expenditure (Public Works Extraordinary), 1904.

Classification.	Province.						Miscellaneous.	Total.	
	Western.	Central.	Northern.	Southern.	Eastern.	North-Western.			
Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	
New Works and Buildings	181,272 83	77,577 57	8,376 83	9,041 24	38,683 52	7,275 56	20,697 45	5,406 48	361,758 92
Alterations and Additions to Buildings	66,107 79	72,845 8	12,994 47	15,481 70	13,645 13	1,672 55	29,529 75	8,540 63	222,400 72
Special Repairs to Buildings	30,778 74	6,204 43	749 52	5,636 26	—	1,583 62	1,929 54	4,258 57	59,888 19
New Roads	—	5,667 81	48,897 3	—	14,843 85	155,398 39	43,170 17	41,486 84 $\frac{1}{2}$	368,035 52
Additions and Improvements to Roads	77,259 80	13,867 88 $\frac{1}{2}$	40,328 94	10,232 46	111,038 45	23,340 7	33,069 68	9,785 30	324,592 15 $\frac{1}{2}$
New Bridges	18,018 66	75,375 73	—	23,999 89	17,998 29	—	1,592 24	—	136,984 81
Repair of Bridges	11,739 2	38,955 33	9,997 14	8,623 79	9,536 65	149 0	—	10,393 6	89,393 99
Lands and Buildings to be acquired	5,175 0	4,372 98	14,174 52	5,430 68	51,894 82	2,750 0	—	—	12,297 98
Miscellaneous	39,530 56	22,556 69	—	—	11,263 85	—	35,316 22	59,883 68	250,021 2
Total	429,882 40	317,423 50 $\frac{1}{2}$	135,518 45	78,446 2	259,611 44	208,479 65	102,042 70	152,693 41 $\frac{1}{2}$	10,000 0
									1,825,373 30 $\frac{1}{2}$

No. 2 A.—Statement of Expenditure (Public Works Extraordinary), 1904.

Classification.	Province.						Sabara-gamuwa.	Total.
	Western.	Central.	Northern.	Southern.	Eastern.	North-Western.		
Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
<i>Private Contribution spent from Branch Roads.</i>								
New Works and Buildings	...	...	—	—	—	—	—	687 20
New Roads	...	...	—	—	—	—	—	823 59
Additions and Improvements to Roads	...	...	—	—	—	—	—	1,537 52 $\frac{1}{2}$
New Bridges	...	...	—	—	—	—	—	—
Repair of Bridges	...	...	—	—	—	—	—	—
Total	...	—	3,048 31 $\frac{1}{2}$	—	—	—	—	26,486 96 $\frac{1}{2}$
								3,748 87 $\frac{1}{2}$
								33,284 15 $\frac{1}{2}$

## CEYLON ADMINISTRATION REPORTS FOR 1904.

PART V.

Classification.	Province.						Miscellaneous.	Total.
	Western.	Central.	Northern.	Southern.	Eastern.	Uva.		
<i>Public Works Annually Recurrent.</i>								
Maintenance of Roads	Rs. c. 260,439 54	Rs. c. 375,267 56	Rs. c. 126,070 41	Rs. c. 187,466 63	Rs. c. 128,221 46	Rs. c. 167,665 98	Rs. c. 175,551 6	Rs. c. 1,720,120 25
Maintenance of Inland Navigation	... 82 22	... 2,143 53	... 3,492 31	... 2 62	... 6,874 99	... 12,469 7	... 294 12	... 37,085 92
General	... 70,999 1	... 33,789 33	... 10,461 10	... 16,861 22	... 8,880 49	... 7,070 41	... 9,429 66	... 9,580 48
Repairs to Buildings	... 11,419 75	... 11,360 53	... 3,805 53	... 4,782 9	... 1,403 69	... 4,132 39	... 3,561 42	... 170,653 19
Additions to Buildings	... 10,071 0	... 11,481 45	... 5,091 83	... 18,567 95	... 6,854 69	... 11,348 20	... 5,777 56	... 44,685 11
Repairs of Bridges	... 26,769 84	... 4,353 48	... 2,424 60	... 3,088 47	... 1,950 33	... 8,076 22	... 47 32	... 84,188 10
Miscellaneous	... 400,905 90	... 438,395 88	... 151,348 17	... 230,757 38	... 154,184 97	... 210,762 27	... 135,135 89	... 158,332 43 2,286,812 28
Total Recurrent	...							
<i>Public Works Extraordinary.</i>								
New Works and Buildings	... 181,272 83	... 78,264 77	... 8,376 83	... 9,041 24	... 38,683 52	... 7,275 56	... 20,697 45	... 5,406 48
Alterations and Additions to Buildings	... 66,107 79	... 72,845 8	... 12,994 47	... 15,481 70	... 13,645 13	... 1,672 55	... 1,583 62	... 8,540 63
Special Repairs to Buildings	... 30,778 74	... 6,204 43	... 749 52	... 5,636 26	... 1,970 73	... 6,630 23	... 1,929 54	... 4,258 57
New Roads	... 67,259 80	... 15,405 41	... 48,897 3	... 14,843 85	... 155,398 39	... 43,170 17	... 67,973 81	... 62,320 30
Additions and Improvements to Roads	... 18,018 66	... 75,375 73	... 40,328 94	... 10,232 46	... 111,038 45	... 23,340 7	... 33,069 68	... 5,669 57
New Bridges	... 11,739 2	... 38,955 33	... 9,997 14	... 8,623 79	... 17,998 29	... 9,536 65	... 1,592 24	... 10,393 6
Repairs of Bridges	... 5,175 0	... 4,372 98	... 14,174 52	... 5,430 68	... 51,894 82	... 11,263 85	... 2,750 0	... 35,316 22
Lands and Buildings to be acquired	... 39,530 56	... 22,566 69	... 14,174 52	... 5,430 68	... 51,894 82	... 11,263 85	... 2,750 0	... 35,316 22
Miscellaneous	... 429,882 40	... 320,471 82	... 135,518 45	... 78,446 2	... 259,611 44	... 208,479 65	... 102,042 70	... 156,442 29
Total Extraordinary	...							
Total Recurrent and Extraordinary	... 830,788 30	... 758,867 70	... 286,866 62	... 309,203 40	... 413,796 41	... 419,241 92	... 237,178 59	... 356,921 0
<i>Works chargeable to Loans, &amp;c.</i>								
Duplication of Main and Service Reservoir, Elie House	... 374,118 77	... 5,154 35	... —	... —	... —	... —	... —	... 374,118 77
Plague Precautions	... 6,331 6	... —	... —	... —	... —	... —	... —	... 6,331 6
Harbour Loan (repairs, &c., to Matwala and Mahara Jails)	... 1,514 11	... —	... —	... —	... —	... —	... —	... 1,514 11
Dairy Funds (repairs to Government Dairy, Agricultural School, &c.)	... —	... —	... —	... —	... —	... —	... —	... 100 71
Fixing two Stoves, King's Pavilion, Kandy	... —	... —	... —	... —	... —	... —	... —	... 272 36
For a Sink, King's Pavilion, Kandy	... —	... —	... —	... —	... —	... —	... —	... 411 0
For a Fretwork Screen for Dining Hall, King's Pavilion, Kandy	... —	... —	... —	... —	... —	... —	... —	... 171 95
For a Cooking Stove, Queen's Cottage, Nuwara Eliya	... —	... —	... —	... —	... —	... —	... —	... 77 95
For a Stove, Queen's Cottage, Nuwara Eliya	... —	... —	... —	... —	... —	... —	... —	... 273 46
For a Plate Chest, Queen's Cottage, Nuwara Eliya	... —	... —	... —	... —	... —	... —	... —	... 2,349 52
Building Office and Store for Assistant Conservator of Forests, Trincomalee	... —	... —	... —	... —	... —	... —	... —	... —
Improvements to Forest Offices, Kandy and Batticaloa	... —	... —	... —	... —	... —	... —	... —	... 106 40
Repairs to Yapahuwa Ruins	... —	... —	... —	... —	... —	... —	... —	... 494 7
Repairs to Kelani Valley Railway Stores Building, Maradana	... —	... —	... —	... —	... —	... —	... —	... 228 70
Wire Fencing for Cotton Cultivation Experiments	... —	... —	... —	... —	... —	... —	... —	... 4,628 73
Beacon at Pearl banks	... —	... —	... —	... —	... —	... —	... —	... 2,202 37
Water Supply, Talawakele	... 201 25	... —	... —	... —	... —	... —	... —	... 201 25

PUBLIC WORKS.]		PUBLIC WORKS		DEPARTMENT.	
175 0	1,167 86				
Improvements to Kandy Art Museum ...	1,167 86				
Painting and mooring buoys, Batticaloa Harbour ...	324 78				
Mooring chains and anchor blocks, Batticaloa ...	140 62				
55 Taking levels for the proposed cattle market, Dematagoda ...	150 0			150 0	
One new stock to be fitted to old anchor ss. Serendib Improving railway road deviation, North-Western Province ...	240 0			240 0	
Diyatalawa Camp for Prisoners of War Distinct account for house connections ...	553 21			553 21	
Meter account ...	4,224 6			4,224 6	
Tin labels for carts ...	3,070 36			3,070 36	
Articles for hospitals ...	699 38			699 38	
Railway castings ...	914 93			914 93	
Repairs to machinery, Government Printing Office ...	18,377 49			18,377 49	
Supplying electric fans, &c, Surveyor-General, Colombo ...	844 90			844 90	
Repairs to Master Attendant's steam launch ...	451 83			451 83	
Supplying and erecting two electric fans, &c, Master Attendant, Colombo ...	614 58			614 58	
Alteration to Master Attendant's barge ...	299 31			299 31	
Repairing mooring chains, Master Attendant, Colombo ...	747 29			747 29	
Repairs to Pilots' steam launch, Master Attendant, Colombo ...	1,238 48			1,238 48	
Almirah with 131 drawers, &c, Hon. the Colonial Secretary ...	778 38			778 38	
Teak bookcase, Director, Colombo Museum ...	252 91			252 91	
Fitting up camp at Diyatalawa for Naval Department Victoria Memorial Eye Institution ...	449 76			449 76	
Supplying and laying Mopas, Salt Store, Kochchikade Illuminating Queen's House, Colombo, and Garden Boat ship, Master Attendant, Colombo ...	102,853 79			14,115 26	
Cutting away bank for Salt Store, Kochchikade ...	320 63			102,853 79	
Six small dredging machines ...	506 75			320 63	
Three road rollers, Chairman, District Road Committee, Colombo ...	1,045 66			506 75	
Hand and water carts, Resident Engineer, Colombo Drainage Works ...	1,117 76			1,045 66	
Repairs to steam launches, Inspector-General of Police ...	360 53			1,117 76	
New salt store, Colombo ...	—			360 53	
Repairs to telegraphic instruments, Postmaster-General ...	374 57			—	
Repairs to steam launches, Inspector-General of Police ...	1,333 61			374 57	
Repairs to steam launches, Inspector-General of Police ...	560 19			1,333 61	
Repairs to telegraphic instruments, Postmaster-General ...	24,998 4			560 19	
Repairs to Gindura buoy, Master Attendant, Galle Supplying labour, packing, carting, and despatching stores to Marichchikaddi for Mr. Dixon ...	497 47			24,998 4	
Repairs to ss. Serendib ...	—			497 47	
Repairs to ss. Violet ...	509 35			509 35	
Upkeep of tugs ...	1,140 984			1,140 984	
Repairs to Port Surgeon's launch, Principal Civil Medical Officer ...	1,195 95			1,195 95	
Miscellaneous other works ...	1,290 65			1,290 65	
	2,958 43			2,958 43	
	419 19			419 19	
	—			—	
Total Loans, &c. ...	545,326 67			4,978 0	
Grand Total ...	1,376,114 97			4,978 0	
	761,023 64			4,978 0	
	303,205 72			4,978 0	
	311,398 76			4,978 0	
	375,260 32			4,978 0	
	239,380 96			4,978 0	
	420,289 20			4,978 0	
	2,202 37			4,978 0	
	1,047 28			4,978 0	
	2,195 36			4,978 0	
	16,399 10			4,978 0	
	2,755 94			4,978 0	
	2,841 92			4,978 0	
	18,339 32			4,978 0	
	327 40			4,978 0	
	28,040 16			4,978 0	
	364,400 77			4,978 0	
	196,372 59			4,978 0	
	4,764,745 26			4,978 0	

No. 4.—Return of Roads in charge of the Public Works Department, 1904.

Name of Road,	Length in Miles.		Cost of Maintenance during 1904.						Width of Track in Feet.		Average Cost per Mile.		Traffic Average per Diem over portions.		
	Natural.	Gravelled.	Metalled.	Track Metalled.	Natural.	Gravelled.	Metalled.	Total.	Natural.	Gravelled.	Metalled.	Total.	Natural.	Gravelled.	Metalled.
WESTERN PROVINCE.															
COLOMBO DISTRICT.															
Approach road to public offices in the Colombo Fort	—	0·22	—	—	0·22	—	—	398 58	—	—	—	—	—	—	—
Approach roads to railway stations, Wellawatta, Dehiwala, and Mount Lavinia	—	1·80	—	—	1·80	—	—	1,000 0	—	10	9	—	—	—	—
Approach road to Kelaniya railway station	—	—	—	—	—	—	—	1,96 25	—	—	—	—	—	—	—
Branch roads, Dematagoda	—	—	—	—	—	—	—	59 15	—	10	—	—	—	—	—
Kotte road toll bar to junction of Galle road near Wellawatta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chatram street extension	—	—	—	—	7	—	—	4,898 53	—	—	11	—	—	—	—
Dematagoda to Wellampitiya	—	—	—	—	—	—	—	2,994 81	—	—	—	—	—	—	—
Victoria Bridge to 34th mile, Kandy road	—	—	—	—	—	—	—	260 25	—	—	—	—	—	—	—
Gradapass to Avisawella	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hawella to Bope	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kelaniya to Biyagama	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Municipal toll bar at Bambalapitiya to Kotte road junction at Pamankuda	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Roads within the Customs premises	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Urugodawatta road	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Veyangoda-Banwella road to Western Province boundary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Wellawatta to 7th mile, Galle road	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Wak-ova bridge to Labugama	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Road to grain sheds, Kochchikade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pasyala to Attanagolla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mupe-Padukka-Millewa road	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kosgama to Pugoda	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Padukka to Bope	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
KALUTARA DISTRICT.															
Horana to Alutgama	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approach roads to railway stations, Panadure and Wadduwa and beyond Kalutara to Alutgama, Angulana, Lunawa, and Moratuwa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7th mile, Galle road to Bentota	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Moratuwa to junction of Keshewa road	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nagoda-Nepoda road	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Panadure to Nambatpana	...	1,135 72	—	499 22	—	—	—	—	—	—	—	—	—
Road to Boruwala Customs	...	328 76	—	498 13	—	—	—	—	—	—	—	—	—
Road leading to district hospital, Neboda	...	100 97	—	201 94	331 95	—	—	—	—	—	—	—	—
Bope-Nambapana road	...	515 91	—	—	349 57	—	—	—	—	—	—	—	—
Horawala to Moragolla resthouse	...	2,272 22	—	—	572 30	—	—	—	—	—	—	—	—
Mupe-Padukka-Millewa	...	284 54	—	—	258 30	—	—	—	—	—	—	—	—
<b>NEGOMBO DISTRICT.</b>													
Approach road to Henaragoda railway station	—	—	—	—	—	—	—	—	—	—	—	—	—
Approach road to Veyangoda railway station	—	—	—	—	—	—	—	—	—	—	—	—	—
Approach road to Malpara prison	—	—	—	—	—	—	—	—	—	—	—	—	—
Grandpass to Toppu	—	—	—	—	—	—	—	—	—	—	—	—	—
Giriulla to Pasvala	—	—	—	—	—	—	—	—	—	—	—	—	—
Jae-ela to Kotadeniyyawa	—	—	—	—	—	—	—	—	—	—	—	—	—
Minuwangoda to Henaragoda	—	—	—	—	—	—	—	—	—	—	—	—	—
Maha Hannanipitiya to Mugurugampola	—	—	—	—	—	—	—	—	—	—	—	—	—
Negombo to Girihulla	—	—	—	—	—	—	—	—	—	—	—	—	—
Negombo to Negombo	—	—	—	—	—	—	—	—	—	—	—	—	—
Veyangoda to Negombo	—	—	—	—	—	—	—	—	—	—	—	—	—
Welisara to Bagama	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	...	52.41	320.07	—	372.48	—	15,229 97	231,392 65	—	246,622 62	—	—	—
<b>CENTRAL PROVINCE.</b>													
<b>KANDY DISTRICT.</b>													
Approach roads to public buildings	—	—	—	—	—	—	—	—	—	—	—	—	—
Ampitiva road	—	2.32	—	—	2.32	—	—	—	—	—	—	—	—
Haragama to Kurundu-oya	—	—	—	—	4.75	—	—	—	—	—	—	—	—
Kandy to Haragama	—	—	—	—	28.25	—	—	—	—	—	—	—	—
Kandy railway approach roads	—	—	—	—	8.50	—	—	—	—	—	—	—	—
Katugastota to Queen's Hotel	—	—	—	—	1	—	—	—	—	—	—	—	—
Lower Badulla road, Kandy section	—	—	—	—	2.57	—	—	—	—	—	—	—	—
Paradeniya to Lowell ferry	—	—	—	—	5.81	—	—	—	—	—	—	—	—
Paradeniya to Gampola	—	—	—	—	8	—	—	—	—	—	—	—	—
Deltoya road	—	—	—	—	19	—	—	—	—	—	—	—	—
Getambe ferry road	—	—	—	—	1.75	—	—	—	—	—	—	—	—
<i>Branch Roads.</i>													
Padiyapellella and Ellamulla roads	—	—	—	—	4.89	—	—	—	—	—	—	—	—
<b>KATUGASTOTA DISTRICT.</b>													
From junction of Hunasgiriya road to Iriyagastenna	—	—	—	—	3.20	—	—	—	—	—	—	—	—
Gonawatta ferry to Rajawella	—	—	—	—	3.75	—	—	—	—	—	—	—	—
Iriyagama to Aladeniya	—	—	—	—	6	—	—	—	—	—	—	—	—
Kadugannawa to Peradeniya	—	—	—	—	6	—	—	—	—	—	—	—	—
Katugastota to Madulkelle	—	—	—	—	18.50	—	—	—	—	—	—	—	—
Katugastota to Balakaduwa	—	—	—	—	7.50	—	—	—	—	—	—	—	—
Katugastota to Galagedara	—	—	—	—	10	—	—	—	—	—	—	—	—
Laggala Kavalam road, Laggala bridle path	—	—	—	—	19.25	1,435	7	403	37	—	—	—	—
Mada-wala to Teledeniya and Nigatonna gap	—	—	—	—	17.07	—	—	—	—	—	—	—	—
Teldeniya to Ragalla	—	—	—	—	9.75	—	—	—	—	—	—	—	—

No. 4.—Return of Roads—*continued.*

Name of Road.	Length in Miles.			Cost of Maintenance during 1904.			Width of Track in Feet.			Average Cost per Mile.			Traffic Average Number of Cars per Diem over portions.		
	Natural.	Gravelled.	Metalled.	Natural.	Gravelled.	Metalled.	Total.	Metalled.	Gravelled.	Natural.	Gravelled.	Metalled.	Natural.	Gravelled.	Metalled.
<b>CENTRAL PROVINCE—<i>contd.</i></b>															
<b>KATUGASTOTA DISTRICT—<i>contd.</i></b>															
<i>Branch Roads.</i>															
Dotal road ...	818	—	818	—	—	—	2,715	59	—	8	—	—	330	75	—
Duckwari bazaar to Kotaganga ...	175	—	175	—	—	—	804	44	—	8	—	—	459	68	—
Madulkele to Kabaragala ...	325	—	325	—	—	—	2,618	78	—	8	—	—	805	77	—
Madulkele to Bambara-ela ...	775	—	775	—	—	—	3,561	31	—	8	—	—	459	52	—
Nugatenna and Deansstone road ...	477	—	477	—	—	—	2,199	93	—	8	—	—	444	42	—
Rangalla-Nitre Cave road ...	375	—	375	—	—	—	1,197	58	—	8	—	—	319	35	—
Kadugannawa to Alagalla ...	5	—	5	—	—	—	2,857	49	—	8	—	—	571	49	—
<b>MATALE DISTRICT.</b>															
Balakaduwa to junction of Trincomalee-Anuradhapura road ...	3650	—	3650	—	—	—	28,556	35	—	12	—	—	782	36	—
Beligamwa to Minigoni-oya ...	1410	—	1410	—	—	—	2,896	58	—	12	—	—	205	43	—
Kalawewa to Galawela ...	750	—	750	—	—	—	1,640	0	—	12	—	—	218	69	—
NaNala to Elahera ...	1425	—	1425	—	—	—	3,138	83	—	12	—	—	220	26	—
Matale to Rattofa ...	650	—	650	—	—	—	4,400	45	—	12	—	—	676	99	—
Palapatwela to Galawela ...	1750	150	19	—	3,960	0	550	0	—	12	12	—	235	72	366
Ulkuwela road ...	138	—	138	—	—	—	582	84	—	12	—	—	422	34	—
Matale to Udapella and Kala pitiya to Ukwela railway station ...	512	—	512	—	—	—	2,999	72	—	12	—	—	585	88	—
<b>PUSSELLAWA DISTRICT.</b>															
Approach roads to public buildings and to railway stations, Gampola and Ulapane ...	10	55	65	—	25	50	293	82	—	10	10	—	255	0	534
Gampola to Pussellawa ...	12	—	12	—	—	—	10,695	90	—	10	10	—	891	33	—
Gampola to Nawalapitiya ...	1070	—	1070	—	—	—	5,000	15	—	10	10	—	467	30	—
Pundaluoya-Watagoda road ...	715	—	715	—	—	—	3,999	52	—	10	10	—	559	37	—
Pussellawa to Ramboda ...	9	—	9	—	—	—	5,398	51	—	10	10	—	599	83	—
Tawalantenna to Pundaluoya ...	925	—	925	—	—	—	4,388	0	—	10	10	—	474	37	—
<i>Branch Roads.</i>															
Pupurella road ...	10	—	10	—	—	—	6,412	19	—	10	—	—	641	22	—
Ulapane to Riverside road ...	432	—	432	—	—	—	2,474	62	—	10	—	—	572	83	—
<b>NUWARA ELIYA DISTRICT.</b>															
Ambawela road ...	512	—	512	—	—	—	2,349	82	—	12	—	—	458	96	—
Blackpool bridle path ...	978	—	978	—	—	—	489	38	4	—	50	4	—	—	—
Approach roads to public buildings and railway stations, Nuwara Eliya ...	361	31	392	—	1,050	64	473	75	—	8	18	—	291	4,1528	23

Lindula to Nuwara Eliya (Namu-oya to Nuwara Eliya)	...	...	6,588 91	—	6,588 91	—	210 28	1,098 15	—	—	—	—
Lake and Moon Plains road ...	...	—	841 14	—	10,725 34	—	71 28	—	—	—	—	40
New Bazaar road connecting the Uda Pussellawa and Badulla road ...	...	—	26	—	1,20	—	12	—	—	—	—	20
Ramboda to Wilson's Bungalow	...	—	1·20	—	1	—	12	—	—	—	—	—
Rappahannock bridle path ...	...	—	1	—	1	—	12	—	—	—	—	15
Uda Pussellawa-Dimbula junction road	...	—	6	—	6	—	12	—	—	—	—	—
Uda Pussellawa road ...	...	—	1·40	—	1·40	—	12	—	—	—	—	—
Forest Service road, Kandapola	...	—	·60	—	·60	—	12	—	—	—	—	—
Uda Pussellawa road to Havelock drive	...	—	·07	—	·07	—	12	—	—	—	—	—
Hospital junction to the Brewery, Nuwara Eliya	...	—	8·50	—	8·50	—	12	—	—	—	—	—
Kandapola-Uda Pussellawa road	...	—	6·25	—	6·25	—	12	—	—	—	—	—
Pattipola-Horton Plains bridle path ...	...	—	—	—	—	—	—	—	—	—	—	—
DIMBULA DISTRICT.												
Craigie Lea to Lindula	...	—	6	—	6	—	—	—	—	—	—	—
Dimbula road, Nawalapitiya to Craigie Lea	...	—	20	—	20	—	12	—	—	—	—	164
Dolosbage road, 1st section ...	...	—	4	—	4	—	12	—	—	—	—	55
Dimbula-Dikoya junction (Dimbula junction to Hattton) ...	...	—	6·57	—	6·57	—	12	—	—	—	—	42
Holyrood road	...	—	·30	—	·30	—	12	—	—	—	—	—
Lindula to Nuwara Eliya (Lindula to Namu-oya)	...	—	10	—	10	—	12	—	—	—	—	—
Tispine road	Branch Roads.	—	2·72	—	2·72	—	12	—	—	—	—	—
Dolosbage road, 2nd section ...	...	—	6·25	—	6·25	—	12	—	—	—	—	—
Glealyon-Preston road ...	...	—	2·55	—	2·55	—	12	—	—	—	—	—
Lindula to end of Agra road ...	...	—	14	—	14	—	12	—	—	—	—	—
Railway Gorge road ...	...	—	3	—	3	—	12	—	—	—	—	—
Walaha road ...	...	—	1·91	—	1·91	—	12	—	—	—	—	—
DIKOYA DISTRICT.												
Approach roads to buildings at Hatton and railway stations ...	...	—	·66	—	·66	—	—	—	—	—	—	—
Carolina road, Nawalapitiya to Hatton bridge junction ...	...	—	1·20	—	1·20	—	12	—	—	—	—	50
Dikoya road, Nawalapitiya to Hatton bridge junction ...	...	—	21·70	—	21·70	—	11	—	—	—	—	26
Dimbula-Dikoya junction ...	...	—	1·50	—	1·50	—	16	—	—	—	—	—
Ginigathena to boundary of Province	...	—	7·37	—	7·67	—	10	—	—	—	—	69
Strathdon-Fruit Hill road ...	...	—	1·70	—	1·70	—	10	—	—	—	—	425
Branch Roads.												
Bathford Valley road	...	—	6·60	—	6·60	—	—	—	—	—	—	112
Dikoya road, Hatton bridge junction to Norwood bridge	...	—	4·98	—	4·98	—	8	—	—	—	—	398
Dikoya road, Norwood bridge to Campion	...	—	10·05	—	10·05	—	12	—	—	—	—	90
Maskelyna road, Norwood bridge to Moray	...	—	9·73	—	9·73	—	11	—	—	—	—	175
Maskelyna road, Maskelyna to Cruden	...	—	3·60	—	3·60	—	10	—	—	—	—	32
Maskelyna road, Brownlow to Luccombe	...	—	3·87	—	3·87	—	9	—	—	—	—	—
Norton-Carolina road ...	...	—	5·25	—	5·25	—	10	—	—	—	—	—

No. 4.—Return of Roads—*continued.*

Name of Road.	Length in Miles.						Cost of Maintenance during 1904.						Width of Track in Feet.		Average Cost per Mile.		Traffic Average Number of Carts per Diem over portions.					
	Natural.	Gravelled.	Metalled.	Total.	Natural.	Gravelled.	Metalled.	Total.	Natural.	Gravelled.	Metalled.	Total.	Natural.	Gravelled.	Metalled.	Natural.	Gravelled.	Metalled.				
<b>CENTRAL PROVINCE—<i>contd.</i></b>																						
Dikoya District— <i>contd.</i>																						
Norwood-Upcot road	...	—	7.90	—	7.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Wanarajah road	...	—	4.50	—	4.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Annfield road	...	—	3.50	—	3.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
<b>NORTHERN PROVINCE.</b>	<b>Total</b>	<b>...</b>	<b>57.48</b>	<b>67.88</b>	<b>540.58</b>	<b>—</b>	<b>665.94</b>	<b>3,710</b>	<b>41</b>	<b>15,564</b>	<b>72</b>	<b>351,809</b>	<b>42</b>	<b>—</b>	<b>371,084</b>	<b>55</b>	<b>—</b>	<b>64</b>	<b>54,229</b>	<b>29</b>		
<b>JAFFNA DISTRICT.</b>																						
Achchuveli to Tondaimannar...	10	—	3.50	—	3.50	—	—	—	—	—	—	349	98	—	—	12	—	—	99	99	—	
Drainage channels	...	—	—	—	10	671	92	—	—	—	—	671	92	—	—	67	19	—	—	25	—	
Gravels of Jaffna	...	—	44	—	44	—	—	—	—	—	—	7,992	37	—	—	14	—	—	181	64	—	
Jaffna to Karaiyiu	...	—	14.25	—	14.25	—	—	—	—	—	—	2,977	69	—	—	12	—	—	208	96	—	
Jaffna to Kankesanthurai	...	—	11.50	—	11.50	—	—	—	—	—	—	3,462	35	—	—	15	—	—	301	77	—	
Jaffna to Point Pedro	...	—	21	—	21	—	—	—	—	—	—	4,501	5	—	—	14	—	—	214	33	—	
Jaffna to Kaitadi	...	—	6.50	—	6.50	—	—	—	—	—	—	2,355	39	—	—	15	—	—	362	37	—	
Manipal to Kaitadi	...	—	8.50	—	8.50	—	—	—	—	—	—	1,388	26	—	—	12	—	—	163	32	—	
Punnalai road	...	—	10.50	—	10.50	—	—	—	—	—	—	1,979	46	—	—	12	—	—	188	52	—	
Punnalai road to Kajts	...	—	10	—	10	—	—	—	—	—	—	760	23	—	—	10	—	—	76	2	—	
Point Pedro to Punnalai	...	—	25	—	25	—	—	—	—	—	—	2,944	13	—	—	12	—	—	117	76	—	
Thippalai to Pandairuppu	...	—	4.50	—	4.50	—	—	—	—	—	—	729	58	—	—	10	—	—	162	13	—	
Vallai to Valluvedditurei	...	—	3.50	—	3.50	—	—	—	—	—	—	619	43	—	—	10	—	—	185	55	—	
Vahkkai-aru to Velanai	...	—	4	—	4	—	—	—	—	—	—	314	84	—	—	10	—	—	78	71	—	
Approach road to Valluvedditurei Customs	...	—	0.7	—	0.7	—	—	—	—	—	—	17	69	—	—	10	—	—	252	71	—	
Approach road to Goods Station, Jaffna.	...	—	6.8	—	6.8	—	—	—	—	—	—	615	65	—	—	12	—	—	905	30	—	
<b>PALAI DISTRICT.</b>																						
Chavakachcheri to Karaveldi...	...	—	12	—	12	—	—	—	—	—	—	1,635	32	—	—	12	—	—	136	27	—	
Karanavai to Tannai...	...	—	5.50	—	5.50	—	—	—	—	—	—	757	39	—	—	10	—	—	216	39	—	
Kaitadi to Mankulam...	...	—	54	—	54	—	—	—	—	—	—	27,203	8	—	—	12	—	—	503	76	—	
Point Pedro to Kodikamam...	...	—	8.50	—	8.50	—	—	—	—	—	—	1,659	39	—	—	12	—	—	195	22	—	
Puttur to Kodikamam...	...	—	8.50	—	8.50	—	—	—	—	—	—	1,264	69	—	—	10	—	—	148	78	—	
Approach roads to Chavakachcheri and Pallai railway stations...	...	—	—	—	—	—	—	—	—	—	—	572	9	—	—	12	—	—	—	—	—	
<b>VAVUNIYA DISTRICT.</b>																						
Central road to Mullaithivu (new trace)	...	25.50	5	—	30.50	—	5,216	50	—	2,372	10	—	7,588	60	—	15	12	—	204	57	—	
Mankulam to Galkandamadu	...	—	34.25	—	34.25	—	20,462	19	—	20,462	19	—	1,994	24	—	12	12	—	474	42	—	
Mullaithivu to Central road (old trace)	...	3	—	—	27	1,406	77	587	47	—	—	—	—	—	—	—	—	—	597	44	—	
	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	58	61	195	82



No. 4.—Return of Roads—*continued.*

Name of Road.	Length in Miles.			Cost of Maintenance during 1904.						Width of Track in Feet.			Average Cost per Mile.			Traffic Average Number of Carts per Diem over portions.			
	Gravelled.	Metalled.	Total.	Gravelled.	Metalled.	Total.	Rs. c.	Rs. c.	Rs. c.	Gravelled.	Metalled.	Total.	Rs. c.	Rs. c.	Rs. c.	Gravelled.	Metalled.	Track.	
<b>EASTERN PROVINCE.</b>																			
BATTICALOA DISTRICT.																			
Coast road north, Batticaloa District	—	26.50	20.50	—	47	3.50	—	8,121	0	16,776	0	—	24,897	0	—	12	12	95	
Kalkuda road	—	—	3.50	—	—	44.25	—	—	—	1,993	0	—	1,993	0	—	9	—	—	
Maduru-oya to Eravur	...	...	...	...	...	1.50	—	—	139	0	—	31,825	0	—	10	—	15		
Punkiduvveli road	...	—	1.50	—	—	3	—	—	—	—	—	—	139	0	—	10	—	120	
Road from the resthouse to bar, Batticaloa	...	—	—	—	—	—	—	—	824	0	—	824	0	—	—	—	—	30	
<b>KALMUNAI DISTRICT.</b>																			
Akkaraipattin-Sagamam road...	...	—	5.50	6	—	11.50	—	954	0	2,625	0	—	3,579	0	—	8	12	4	
Arasadi to Malkompuddi	...	—	3.25	—	—	3.25	—	647	0	—	647	0	—	—	—	—	—	—	
Akkaraipattin-Irakkamam road	...	—	1	—	—	1	—	200	0	—	200	0	—	10	—	—	199	—	
Coast road south	29	21	48	—	98	—	1,290	0	4,205	0	21,694	0	—	27,189	0	20	12	44	
Karaitivu to Sammanturai and Irakkamam	...	—	4	9	—	13	—	358	0	2,980	0	—	3,338	0	—	8	14	18	
Kalmunai-Chadiyantala road	...	—	5.50	2	—	7.50	—	526	0	923	0	—	1,449	0	—	10	14	32	
Poitivu-Muppane road	...	7	8.50	—	—	15.50	—	286	0	1,713	0	—	1,999	0	—	40	—	96	
Kalmunai sea view road	...	—	7.5	—	—	7.5	—	149	0	—	149	0	—	149	0	—	—	—	461
<b>TRINCOMALEE DISTRICT.</b>																			
Coast road, Trincomalee District	17	25.34	—	—	42.34	510	0	9,488	0	—	—	—	9,998	0	16	10	—	—	
Gravels of Trincomalee	—	5.40	—	—	5.40	—	—	1,205	0	—	—	—	1,205	0	—	16	—	—	
Road from the salt store at Nilaveli to the high road	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Trincomalee to Kitulutti	...	—	1	28	—	—	61	—	215	0	—	215	0	—	6	—	—	352	
Trincomalee towards Anuradhapura	...	—	22.50	—	—	22.50	—	29	—	200	0	12,500	0	—	12,700	0	10	—	
Coast road to Toppur	...	—	1.61	—	—	1.61	—	—	—	5,000	0	—	5,000	0	—	14	—	200	
Total	...	53	133.96	164.25	—	351.21	2,086	0	34,170	0	92,140	0	—	128,396	0	—	—	—	446
<b>NORTH-WESTERN PROVINCE.</b>																			
KURUNEGALA DISTRICT.																			
Approach roads to public buildings	—	—	1.80	—	—	1.80	—	932	0	—	—	—	932	0	—	10	—	518	
Getawana circular road	—	—	1.25	—	—	2.25	—	—	—	522	0	—	522	0	—	12	—	418	
Kurunegala-Nikaweratiya road	—	—	5	—	—	17	—	1,417	0	14,229	0	—	14,229	0	—	14	—	569	
Kurunegala-Beligamwra road	—	—	13.50	—	—	13.50	—	—	—	6,237	0	—	6,237	0	—	13	—	283	
Padeniya-Siyambalagama road	—	—	33.50	—	—	33.50	—	—	—	5,762	0	—	5,762	0	—	13	—	427	
Polgahawela-Kurunegala road	—	—	12	—	—	12	—	—	—	12,268	0	—	12,268	0	—	10	—	366	
Railway approach roads and Edinburgh street	—	—	—	—	—	—	—	—	—	3,527	0	—	3,527	0	—	12	—	294	
Branch Road.	—	—	—	—	—	—	—	—	—	528	0	—	528	0	—	14	—	844	
Kurunegala-Polgahawela road to Lowlands estate	—	—	1.17	—	—	1.17	—	—	—	—	—	—	482	0	—	12	—	412	

PUTTALAM DISTRICT.		CHULAW DISTRICT.		DANDUGAMA DISTRICT.		NORTH-CENTRAL PROVINCE.		MININTALE DISTRICT.		MARA DANKADAWELA DISTRICT.	
Akkaraiputtu road .....	25	25	1.25	1.25	1.25	1.25	1.25	2.1	2.1	2.1	2.1
Main road to Kirankalka bridge .....	29	29	16	16	32	32	32	2.1	2.1	2.1	2.1
Road from Nickeratuttya to Puttalam .....	23.50	23.50	6	6	3	3	3	2.1	2.1	2.1	2.1
Road from Puttalam to Kala-oya .....	20.50	20.50	3	3	2	2	2	1.0	1.0	1.0	1.0
Road from Puttalam to Battal-oya .....	41	622	2,122	0	265	0	265	10	10	10	10
Road from Puttalam to Madurugama .....	41	4.50	795	0	369	0	1,439	10	10	10	10
Service road at Palavi .....	10.50	10.50	4,394	0	355	0	369	10	10	10	10
Road to salt stores and town roads .....	1.27	1.27	199	—	35	—	25,718	0	25,718	0	25,718
Approach roads to public buildings .....	1.27	1.27	—	—	—	—	—	—	—	—	—
Bo-tree road .....	16	16	3,612	0	430	0	430	0	430	0	430
Chilaw-Wariyapola road .....	16	16	—	—	6,690	0	10,802	0	10,802	0	10,802
Madumpe-Dammalasuriya road .....	2	2	—	—	3,532	0	3,532	0	3,532	0	3,532
Nattanduwa-Marawila road .....	2	2	—	—	1,490	0	1,490	0	1,490	0	1,490
Pilakatunnila road .....	2	2	—	—	—	—	—	10	10	10	10
Toppu to Dankotuwawa road .....	1	1	2.25	2.25	1	1	1	2.1	2.1	2.1	2.1
Approach road to Govt. buildings, Chilaw .....	1	1	35	35	35	35	35	35	35	35	35
Toppa-Battal-oya road .....	18	18	—	—	—	—	—	8,349	0	8,349	0
Dankotuwawa to Giriulla .....	22	22	—	—	7,190	0	7,190	0	7,190	0	7,190
Kurunegula to Giriulla .....	2	2	2	2	295	0	295	0	295	0	295
Kompassara .....	—	—	14.25	14.25	—	—	3,962	0	3,962	0	3,962
Malharagama to Polgahawela .....	—	—	22.25	22.25	10	10	7,555	0	7,555	0	7,555
Karamannila to Dummalasuriya .....	10	10	—	—	3,583	0	3,583	0	3,583	0	3,583
Kuliyapitiya to Hetipola .....	—	—	—	—	—	—	—	8	8	8	8
Total .....	29	78.78	190.16	140	437.94	622	0	19,327	0	81,444	0
ANURADHAPURA DISTRICT.		ANURADHAPURA DISTRICT.		ANURADHAPURA DISTRICT.		ANURADHAPURA DISTRICT.		ANURADHAPURA DISTRICT.		ANURADHAPURA DISTRICT.	
Anuradhapura to Siyambalagama .....	—	—	19	—	19	—	8,698	30	8,698	30	8,698
Approach roads to public buildings .....	—	—	—	26.25	—	81.81	—	81.81	—	81.81	—
Kala-oya to Galgodaheha .....	1.50	16.50	—	18	—	—	13,216	1	13,216	1	13,216
Galkulam through Anuradhapura to Rambewwa .....	8.25	5	—	13.25	—	1,347	86	7,826	14	7,826	14
Talawwa to Kekirawa .....	—	—	2.25	—	—	—	—	2,142	27	2,142	27
Approach road to railway station, Anuradhapura .....	—	—	2.25	—	—	969.54	—	969.54	—	969.54	—
Total .....	11.87	—	—	11.87	—	—	—	3,105	87	3,105	87
MININTALE DISTRICT.		MININTALE DISTRICT.		MININTALE DISTRICT.		MININTALE DISTRICT.		MININTALE DISTRICT.		MININTALE DISTRICT.	
Galkulam through Minintale to Rambewwa .....	22.60	—	22.60	—	3,499	99	—	3,499	99	3,499	99
Horawapotana tow rds. Vavunya .....	6.25	—	38.25	—	1,020	75	—	15,977	11	16,997	86
Kala-oya to Galgodaheha 50 to 55 miles .....	4.57	—	2.75	7.32	1,425	34	—	1,983	74	2,509	8
Mada wachchiloya to Yakkewwa .....	—	—	—	—	—	—	—	9	9	9	9
Mirisgona-oya to Galkandamadu 88 to 105 miles .....	—	—	17	—	—	—	8,730	89	—	8	8
Total .....	4,709.41	—	4,709.41	—	4,709.41	—	4,709.41	—	4,709.41	—	4,709.41
MARA DANKADAWELA DISTRICT.		MARA DANKADAWELA DISTRICT.		MARA DANKADAWELA DISTRICT.		MARA DANKADAWELA DISTRICT.		MARA DANKADAWELA DISTRICT.		MARA DANKADAWELA DISTRICT.	
Harabani-Topawewa road .....	27	—	28.22	9.50	27	37.72	—	12,102	32	4,073	88
Mirisgona-oya to Kitunutu .....	—	—	—	—	—	—	—	16.173	20	10	2

No. 4.—Return of Roads—*continued.*

Name of Road.	Length in Miles			Cost of Maintenance during 1904.			Width of Track in Feet.			Average Cost per Mile.			Traffic Average Number of Carts per Diem over portions.		
	Gravelled.	Natural.	Total.	Gravelled.	Natural.	Total.	Gravelled.	Natural.	Total.	Gravelled.	Natural.	Total.	Metalled.	Track.	Metalled.
Mirisgani-oya to Galkandamadu 46½ to 76 miles	—	29·50	—	29·50	—	17,248 65	—	—	10	—	—	—	15	—	—
Kekirawa-Galawela road	17·20	—	17·20	—	2,816 21	—	2,816 21	—	16	—	—	—	3	—	—
Maradankalawela-Habarana road	15·61	—	15·60	—	2,333 49	—	3,339 49	—	16	—	—	—	2	—	—
Talawwa-Kekirawa road	10	—	10	—	1,648 46	—	1,648 46	—	16	—	—	—	1	—	—
Keikawewa-Ianawalpola road ...	4·25	—	—	—	1,963 42	—	1,963 42	—	10	—	—	—	2	—	—
Sigiriya road ...	5·25	—	—	—	382·35	—	382·35	—	—	—	72·82	—	—	—	—
<b>Total</b> ...	<b>52·5</b>	<b>128·9</b>	<b>117·47</b>	<b>71·50</b>	<b>322·31</b>	<b>382·35</b>	<b>24,958 61</b>	<b>56,370 25</b>	<b>34,350 74</b>	<b>116,061 95</b>	<b>—</b>	<b>—</b>	<b>72·82</b>	<b>194 85</b>	<b>479 90</b>
<b>CEYLON PROVINCE OF UVA.</b>															
<b>BADULLA DISTRICT.</b>															
Badulla to Taldena	—	—	—	10·50	—	—	—	—	—	—	—	—	9	—	—
Badulla to Haputale	—	—	—	25·75	—	25·75	—	—	24,002 25	—	—	—	12	—	—
Dikwella to Badulla	5·25	—	5·25	—	1,025 14	—	3,226 63	—	4,250 77	6	—	—	9	—	—
Dikwella to Hakgala	20·25	—	20·25	—	—	—	6,525 77	—	6,525 77	—	—	—	12	—	—
Kumbalwela to Passara	11	—	11	—	—	—	7,697 55½	—	7,697 55½	—	—	—	9	—	—
Lower Badulla road	15	—	15	—	750 0	—	—	—	750 0	6	—	—	50	—	—
Naula-Spring Valley road	7·60	—	7·60	—	—	—	4,499 99	—	4,499 99	—	—	—	9	—	—
Railway station roads	1·18	—	1·18	—	—	—	179 55	—	179 55	—	—	—	9	—	—
Umaoya-Uda-Pussellawa road	9	—	9	—	559 75	—	—	—	559 75	6	—	—	10	—	—
Approach road to public buildings	2	—	2	—	649 75	—	649 75	—	649 75	10	—	—	10	—	—
Bandarawela to Windy Corner	6	—	6	—	—	—	3,437 0	—	3,437 0	—	—	—	10	—	—
Roehampton to Diyatalla wa ...	1·80	2	1·80	2	3·80	—	392 56	—	946 78	—	—	—	218 927 11	—	—
<i>Branch Road.</i>	—	—	—	2	—	—	—	—	1,000 0	—	—	—	10	—	—
Windy Corner to Liyangahawela	—	—	—	2	—	—	—	—	1,000 0	—	—	—	500 0	—	—
<b>PASSARA DISTRICT.</b>															
Badulla to boundary of Eastern Province	—	—	—	49·50	—	49·50	—	—	—	—	—	—	12	—	—
Bibile to Medegama	—	—	—	10	—	10	—	—	—	—	—	—	12	—	—
Bibile to Alutnuwara	—	—	—	11	—	11	—	—	—	—	—	—	12	—	—
Kumbalwela-Passara road	—	—	—	8·25	—	8·25	—	—	—	—	—	—	12	—	—
Passara-Madulsima road	—	—	—	11·25	—	11·25	—	—	—	—	—	—	10	—	—
Forest Hill to Dunedin factory	—	—	—	3·25	—	3·25	—	—	—	—	—	—	10	—	—
Passara-Muppane road to 9th mile	9	—	9	1,000 0	—	1,000 0	—	—	—	—	—	—	6	—	—
	9	—	9	1,000 0	—	1,000 0	—	—	—	—	—	—	11·11	—	—

Branch Road.

Passara to Madulsima road, 11½ to 15½ miles  
posts ... ... ...

## KOSLANDA DISTRICT.

HApurale to Halpe	...	...
Batagoda, deviation	...	...
HeLdummulla to Wellawaya	...	...
HeLdummulla-Horton Plains road	...	...
HeLdummulla and Nann-oya bridle road to Pattipola	...	...
Ohiya to junction of Horton Plains road	...	...
Wellawaya to Tammalwila	...	...
Wellawaya to Monaragala and towards Pottuvil	...	...
PaSSara-Muppane road, 9th mile to Muppane	...	...
Muppane bazaar road	...	...

PROVINCE OF SABABAGAMUWA.	
Branch Road.	
coslanda bazaar to Poonagala factory (Govt moiety) ...	...
	Total ...

BATNAPURA DISTRICT.

Bulutota-Eraporwana road	...	...
Ariysswell-Batnapura road	...	from Pussella to
Batnapura	...	...
Morawaka-Rakwana road	...	...
Madamppe towards Hambantota	...	...
Namhappana road	...	...
Pelmadulla to Gilgarron	...	...
Batnapura to Halpe	...	...
Riverside road, Ratnapura	...	...
Road to District Judge's quarters, Ratnapura	...	...
Roads in Government premises, Ratnapura	...	...
Bakwana-Bulutota road	...	...
Ellerawana-Pinnawala road	...	...

Branch Roads.
Retnapura-Halwela ferry road
Balangoda-Chetnole road
" "

## AVISAWELLA DISTRICT.

Avisawella-Ratnapura road, from Avisawella to	
Pussella	***
Avisawella towards Ginigathena	***
Ferry approaches at Ruanwella and Karawa-	
nela	***
Karawanella to Glenalla	***
Ruanwella to boundary of Province	***
Sitawaka to ferry approaches	***

No. 4.—Return of Roads—*continued.*

Name of Road	Length in Miles.		Cost of Maintenance during 1904.						Width of Track in Feet.		Average Cost per Mile.		Traffic Average Number of Carta per Diem over portions.
	Metalled.	Gravelled.	Natural.	Metalled.	Gravelled.	Natural.	Metalled.	Gravelled.	Natural.	Metalled.	Gravelled.	Natural.	
PROVINCE OF SABARAGAMUWA— <i>contd.</i>													
AVISAWELLA DISTRICT— <i>contd.</i>													
Polatagama to Ardross	3.18	—	3.18	—	—	—	2,642.41	—	2,642.41	—	—	—	—
Maintenance of the road from Yatiyantota bazaar to railway station, Yatiyantota	4.8	—	4.8	—	—	—	415.22	—	415.22	—	—	—	99
<i>Branch Roads.</i>													
Dehiowita to Algoda ferry	1.50	—	1.50	—	—	—	899.59	—	899.59	—	—	—	20
Glenalla-Havilland road	3.50	—	3.50	—	—	—	1,808.96	—	1,808.96	—	—	—	18
Road from Parakaduwa bazaar to Hemmingford estate	1.88	—	1.88	—	—	—	849.89	—	849.89	—	—	—	13
Yatiyantota to Polatagama	3	—	3	—	—	—	4,899.69	—	4,899.69	—	—	—	45
<i>KEGALLA DISTRICT.</i>													
Amblepussa to Alawwa	5	—	5	—	—	—	497.73	—	497.73	—	—	—	9
Dolosbage to Rambukkana	19.50	19.50	—	—	—	—	13,527.53	—	13,527.53	—	—	—	45
Kandy road, 34th milepost to Kadugannawa	28	28	—	—	—	—	12,092.59	—	12,092.59	—	—	—	62
Kegalla to Polkawewela	7.25	7.25	—	—	—	—	3,496.84	—	3,496.84	—	—	—	85
Kegalla to Bulathkohpitiya	14	16.25	—	—	1,213.75	—	7,722.74	—	8,936.49	—	—	—	35
Roads in Government premises, Kegalla	1.50	—	1.50	—	377.84	—	—	—	810.8	—	—	—	5
Kinadeniya road	3.25	3.25	—	—	—	—	899.88	—	899.88	—	—	—	29
<i>Branch Road.</i>													
Gevilipitiya to Hatgampola	—	—	—	—	—	—	787.79	—	787.79	—	—	—	7
<b>Total</b>	<b>17</b>	<b>44,661</b>	<b>198,888</b>	<b>73,65</b>	<b>334,192,097</b>	<b>40</b>	<b>11,746</b>	<b>28</b>	<b>133,208</b>	<b>173,812,2737</b>	<b>185,579</b>	<b>22</b>	<b>—</b>
													<b>123,37</b>
													<b>26301,669,79,523</b>
													<b>11</b>

No. 5.—Bridges constructed at the Government Factory during 1904.

No. 6.—Statement of the Expenditure of the Government Factory for 1904.

Month.	Check Roll.	Fuel.	Government Store Vouchers.	Piecework Vouchers.	Materials pur- chased Vouchers.		Total.
					Rs.	c.	
January	... 16,000 21	1,318 29	15,337 17	14,374 16	19,078 39		66,108 22
February	... 14,051 32	1,476 88	15,548 17	10,129 27	17,047 6		58,252 70
March	... 14,367 86	1,441 6	44,840 17	13,973 8	22,764 70		97,386 87
April	... 11,641 19	1,237 92	39,839 32	13,946 91	12,144 8		78,859 42
May	... 13,922 60	802 63	27,322 45	12,552 27	10,954 76		65,554 71
June	... 13,599 33	1,813 0	32,570 9	9,834 18	8,677 56		66,494 16
July	... 13,876 54	1,258 8	47,578 52	10,671 97	22,310 60		98,695 71
August	... 14,999 82	1,074 12	30,611 61	9,910 31	6,980 81		63,576 67
September	... 14,272 55	971 12	20,782 58	11,704 67	7,894 38		55,625 30
October	... 14,475 4	1,426 39	28,552 35	9,967 6	11,032 51		65,453 35
November	... 13,619 57	1,084 48	61,615 52	13,306 12	11,772 22		101,397 91
December	... 3,378 67	—	—	1,801 90	101 0		5,281 57
Total	... 158,204 70	13,903 97	364,647 95	132,171 90	160,758 7		819,636 59

No. 7.—Classification of Factory Expenditure, 1898 to 1904, inclusive.

Year.	Bridges.	Buildings.	Customs Improvements.	Departmental Charges.	Irrigation.	Other Departments.	Railway Castings.	Water Works.	Plague Precautions.	Camps for Pri- soners of War.	Royal Visit.	Electrical.	Transport Funds.	Total.		
1898 ...	145,103 17	21,606 81	99,521 90	48,332 27	5,272 37	18,615 20	10,162 17	16,831 32	42,960 54	—	—	—	—	—	408,405 75	
1899 ...	225,822 24	44,545 2	183,680 46	53,369 24	6,881 28	27,567 47	13,801 66	6,440 44	60,948 73	—	—	—	—	—	620,056 59	
1900 ...	240,665 70	34,148 0	68,603 35	52,437 69	4,333 73	16,583 90	20,492 87	2,275 43	2,298 0	391,802 84	—	—	—	—	—	833,641 51
1901 ...	286,964 12	75,845 12	193,378 94	51,323 76	3,659 99	25,668 90	27,750 32	1,586 64	32,040 1	90,359 17	6,333 38	—	18,491 86	1,722 85	794,910 35	
1902 ...	228,558 49	1,02,223 84	249,770 3	65,099 80	2,089 48	14,835 96	24,657 17	9,364 70	13,502 84	5,924 35	—	—	32,124 16	5,309 76	741,241 37	
1903 ...	196,468 13	279,510 92	157,999 50	76,067 37	1,483 67	46,066 33	17,710 67	4,805 54	—	—	—	—	—	—	790,546 5	
1904 ...	187,068 51	333,013 51	99,192 7	95,685 29	—	37,420 25	18,557 49	12,135 65	—	—	—	—	30,599 33	6,014 49	819,686 59	

No. 8.—Statement of Supply and Consumption of Water during 1904.

Month.	Total Supply for the Month.	Total Consumption for the Month.			Daily Consumption.		Rainfall in Inches.	
		Unmetered.	Metered.	Total.	Maximum.	Minimum.	Labugama.	Colombo.
January	100,656,788	71,766,515	19,356,940	91,123,455	3,191,345	2,679,062	9.34	5.74
February	96,618,34	73,821,838	18,261,980	92,083,818	3,395,794	2,792,964	2.63	2.05
March	107,713,603	83,337,788	18,175,830	101,513,618	3,589,725	2,924,034	5.51	6.34
April	106,754,400	74,222,121	18,630,280	92,852,401	3,582,914	2,574,022	9.51	5.44
May	108,200,338	75,004,210	16,540,770	91,522,720	3,349,734	2,469,684	30.19	9.27
June	105,906,816	78,450,114	17,087,820	95,537,934	3,081,138	2,624,298	21.96	9.51
July	110,312,880	74,358,388	16,850,590	91,208,978	3,238,476	2,479,379	15.04	8.94
August	110,312,880	77,708,769	18,208,950	95,917,719	3,357,406	2,619,910	2.05	.36
September	106,754,400	70,853,992	17,769,820	88,623,752	3,365,439	2,402,222	15.07	1.77
October	110,312,880	75,060,468	19,087,960	94,148,428	3,374,228	2,421,683	25.24	21.73
November	106,754,400	74,333,958	19,637,030	93,970,988	3,538,668	2,716,468	3.60	3.39
December	110,312,880	74,442,391	18,387,520	94,829,911	3,383,685	2,668,900	5.28	2.12
Total	1,280,610,612	905,360,492	217,995,490	1,223,333,722	—	—	145.42	76.66

No. 9.—Monthly Return of Water supplied by Meter in each of the Nine Wards of the City during the Year 1904.

Month.	Wards.								Total.
	Fort.	Pettah.	St. Sebastian.	St. Paul's.	Slave Island.	Kotahena.	New Bazaar.	Maradana.	
January	Gallons. 4,540,100	Gallons. 2,713,170	Gallons. 111,870	Gallons. 1,175,650	Gallons. 766,680	Gallons. 1,325,690	Gallons. 211,150	Gallons. 6,303,760	Gallons. 19,356,940
February	4,419,540	2,380,350	301,030	1,229,340	873,160	1,302,020	199,630	4,934,060	2,601,850
March	4,211,330	2,797,340	232,280	1,448,980	874,950	1,606,080	216,180	4,328,030	2,460,660
April	4,627,020	2,448,330	262,470	1,417,190	877,000	1,523,580	241,800	4,519,700	2,713,190
May	3,839,330	1,879,820	193,470	1,313,230	907,600	1,600,290	211,760	4,351,750	2,243,520
June	3,897,710	1,771,610	188,830	1,479,820	788,550	1,545,520	185,250	5,265,110	1,965,420
July	3,938,740	1,986,300	108,150	1,379,220	739,610	1,513,420	208,050	4,882,470	2,094,630
August	4,362,790	2,111,800	160,230	1,068,280	830,620	1,548,060	260,490	5,297,400	2,569,280
September	4,359,950	1,599,160	138,890	976,460	982,610	1,494,040	257,440	5,626,170	2,335,100
October	4,809,270	1,767,950	130,170	985,870	1,075,920	1,488,530	227,250	6,415,460	2,187,540
November	4,993,350	1,745,780	169,820	952,320	978,390	1,527,510	213,080	6,554,400	2,502,380
December	5,250,320	1,629,210	177,600	706,820	888,660	1,474,400	194,130	5,893,830	2,172,550
Total	53,249,450	24,830,820	2,204,810	14,124,180	10,583,750	17,949,140	2,626,210	64,372,140	28,054,990
									217,995,490

No. 10.—Monthly Analysis of Water during the Year 1904.

Month and Date.	Parts per 100,000.							Remarks.
	Total Solids.	Chlorine.	Free Ammonia.	Albumenoid Ammonia.	Nitrates and Nitrites.	Nitrates.	Oxygen Consuming Power.	
1904.								
January 1	5.20	0.63	0.0010	0.0043	Trace		0.015	This water is well suited for domestic purposes.
February 13	6.00	0.60	Trace	0.006	Nil			This is a pure water.
March 21	3.50	0.80	Nil	0.0080	Nil			This sample of water is very pure.
April 15	7.30	0.40	Nil	0.0060	Nil			This is a good potable water.
May 14	10.00	0.60	Nil	0.0070	Trace			I certify this water is free from pollution.
June 24	4.00	1.00	Trace	0.0040	0.04	Nil		I certify that this water is suited for domestic purposes.
July 19	10.00	0.80	Trace	0.0034	Trace			I certify that this water is pure.
August 30	3.00	0.80	Trace	0.0030	Trace			do.
	2.00	0.46	Trace	0.0050	Nil			do.
October 14	2.00	0.60	Nil	0.0090	Nil			I certify that this is a pure water.
November 17	2.00	0.50	Nil	0.0056	Nil			do.
December 21	2.00	0.40	Trace	0.0058	Nil			This is a pure water.

## No. 11.—Abstract of Provincial Engineers' Travelling for the Year 1904.

		Total Number of Days travelled.	Total Number of Miles travelled.	Average Mileage per Diem.	Number of Nights slept out.	Average Allowance drawn per Mile.	Total Number of Miles of Roads in Province.
Provincial Engineer, Western Province	...	156	3,763	24.12	113	.42	369.61
Do. Central Province	...	208	6,316	30	145	.30	665.94
Do. Northern Province	...	205	3,564	17.38	153	.48	519.58
Do. Southern Province	...	125	2,275	18.20	105	.68	320.36
Do. Eastern Province	...	169	3,019	17.86	148	.56	351.21
Do. North-Western Province	175	2,924	16.71	122	.53	437.94	
Do. North-Central Province...	209	2,868	13.72	119	.55	324.20	
Do. Province of Uva	...	187	3,202	17.12	165	.55	383.34
Do. Province of Sabaragamuwa	...	152	2,818	18.54	143	.56	334.19



