

Government of the Punjab,

PUBLIC WORKS DEPARTMENT.

E-10

1904-05

ADMINISTRATION REPORT

OF THE

BUILDINGS AND ROADS BRANCH

FOR THE YEAR

1904-1905.



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ADMINISTRATION REPORT

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**PUBLIC WORKS DEPARTMENT,
PUNJAB,
BUILDINGS AND ROADS BRANCH.**

TOTAL EXPENDITURE.

The total outlay of the year amounted to Rs. 59,05,105, which was made up as follows:—

	Rs.
Imperial Military Works	1,74,855
Imperial Civil Works	9,23,796
Provincial Works	41,04,460
Incorporated Local	1,93,710
Contributions (including local loans)	5,08,284
	59,05,105

These figures exclude a sum of Rs. 2,79,822 expended by Civil Officers on account of compensation for the acquisition of land for the Kalka-Simla and Southern Punjab Railways, and also all expenditure on Municipal works, the audit of which passed over to the Examiner of Local Funds Accounts, from the 1st April 1904.

ADMINISTRATIVE CHANGES.

2. The work in the Lahore division became so heavy, owing to the large number of sanitary and other works which are being carried out by Government for the Municipality, that it became necessary to open a second Executive division to deal mainly with these Municipal schemes and also to relieve the original division of some of the ordinary work. This arrangement came into force from the 15th December 1904.

3. A new sub-division was found necessary at Campbellpur, the headquarters of the new Attock district, to construct the numerous civil buildings required. An additional sub-division was formed at Rohtak to relieve the Hissar sub-division of the charge of that district, the charge of the two being too scattered for one Sub-divisional Officer. The Kasauli sub-division was abolished as the special works for which it was formed were completed, and the Kulu sub-division was temporarily closed for the winter months, the staff being transferred for employment in the Simla division.

FAMINE RELIEF WORKS.

4. No relief works were required during the year and work was restricted to keeping the Famine programmes up to date and preparing new schemes. Projects for providing work for 350,000 labourers for six months have now been brought on the programmes.

IMPERIAL MILITARY WORKS.

5. The total outlay on works was Rs. 91,394, and Rs. 49,977 on repairs.

The Remount Depot at Mona in the Jhelum Canal Colony was taken over from the Military Works Services and an expenditure of Rs. 82,641 was incurred in the construction of various new buildings.

At Sargoda, in the same colony, quarters were built for the Commandant of the 53rd Camel Corps.

At the Baracow encamping ground on the Rawalpindi-Murree road, the sinking of a second well for the use of troops on the march was commenced.

At the request of the Military Department of the Government of India, it was decided that all the Imperial stallion stables in the Province should be taken over by the Punjab Government for maintenance and the transfer was put in hand.

IMPERIAL CIVIL WORKS.

6. The total outlay on works was Rs. 6,41,051, and on repairs Rs. 1,66,748.

The new General Post Office at Lahore was completed, and also the combined Post and Telegraph Office at Sargoda. The residence and office for the Telegraph Sub-Divisional Officer at Lyallpur was nearly completed.

At Simla the new Imperial Civil Secretariat was practically ready for occupation, together with the necessary out-offices. Alterations and additions were also made to the old Civil Secretariat and to the Foreign Office.

It was decided to rebuild and raise the main tower of Viceregal Lodge, and the work, including the provision of some new water tanks for fire protection, was put in hand.

At Snowdon, the residence of His Excellency the Commander-in-Chief, additions and alterations on a very large scale were sanctioned and put in hand. They comprise the addition of a new double storied wing containing a library, a conservatory and four bedrooms—also the extension of the ballroom, with a new staircase leading to the residential portion of the building. These alterations necessitated the partial dismantling of the old building and the raising and renewal of all the existing roofs. An electric light installation was also in hand. The new dining room commenced in the previous year was completed.

Minor works in progress were certain improvements to Windcliff and Peterhoff; fire prevention arrangements for various buildings; the construction of an oil engine and dynamo house on the west of North View; and the improvement of the sewage and sullage drains of the European clerks' cottages at Kaithu.

The Retreat and Knockdrin estates were purchased for Rs. 90,090 and Rs. 60,000, respectively, and certain necessary alterations to the properties were carried out.

PROVINCIAL AND INCORPORATED LOCAL CIVIL WORKS.

7. The total outlay was :—

	<i>New Works.</i>	<i>Repairs.</i>
	Rs.	Rs.
Provincial	20,56,071	12,45,257
Incorporated Local	1,91,128	...
Total	22,47,199	12,45,257

The outlay on repairs was over the average, but with the large increase of public buildings all over the Province this is only natural.

Provision was made for repairs, Incorporated Local, in the Civil estimates and the expenditure was audited by the Accountant General, Punjab, and is therefore not shown in the above table.

CIVIL BUILDINGS.

8. *Land Revenue.*—The office for the Colonization Officer, Jhelum Canal Colony, at Sargoda was completed, and extra accommodation was provided for the District Offices at Dharmasala, Muzaffargarh and Montgomery.

The new combined tahsil and thana at Hissar was in progress, as also five court rooms with treasury office and bar room at Karnal; three court rooms at Gurgaon; additions to the new English and treasury offices at Muzaffargarh, provision of iron record racks in the Deputy Commissioner's Court at Hoshiarpur; tahsil and subsidiary buildings of the District Court and Police office at Mianwali; tahsil and treasury at Campbellpur, and the Deputy Commissioner's Court at Shahpur. A house was purchased at Multan for the Commissioner's office and necessary improvements to it were put in hand.

Residences for Local Governments.—A permanent electric light installation with requisite engine house, etc., was provided for Government House, Lahore, and a teak wood ceiling and dado were put up in the ante-room. At Barnes Court, Simla, new cloak and retiring rooms and some extra out-offices were constructed. Some necessary sanitary works were in progress.

Monuments and Antiquities.—In the Delhi Fort the restoration of the Sawan building was completed, and repairs were carried out to the marble work of the Akab Hammam and to the marble chujjas of the Diwan-i-khas, several portions of which had fallen, or were in a cracked and dangerous state. Of the two new black marble elephants to be constructed at the Delhi gate of the Fort, one was nearly completed. Some repairs were also done to the Shah Burj. The garden in front of the Diwan-i-khas was rearranged to show the building to better advantage, a large portion of the area being excavated to a depth of 15 to 18 inches to lay bare the carved marble base of the building. In the adjoining Hayat Bakhsh garden considerable work was done in excavating and laying bare the old water channels and tanks which had been buried after the Mutiny, when a large number of buildings in the Fort were dismantled and the debris spread over the whole area.

Work was carried out at the tombs of Humayun, Isa Khan and Safdar Jung, both in repairs to the buildings and in laying out and improving the grounds attached to them. The Jumaal Khana Mosque and Chowsath Khamba at Nizam-ud-din, about 5 miles from Delhi, were also repaired and restored. The restoration of the tomb of Mahomed Tuglaq Shah at Tuglaqabad was partially carried out.

At Lahore the restoration of the front wall of Jahangir's tomb at Shahdara was completed, and also special repairs to the Badshahi Mosque. In the Lahore Fort the restoration of the Choti Khwabgah, lately used as a church, was nearly finished and special steps were under consideration to preserve the ornamental ceiling of the Shish Mahal. This ceiling was made in the time of the Emperor Shah Jahan and the roof timbers are now unfortunately beginning to rot.

Museums.—A sum of Rs. 13,000 was expended by the Curator in the supply of new fittings for the public museum at Lahore against the sanctioned estimate of Rs. 22,427.

Educational.—There has been great activity during the year in pushing on with Educational buildings all over the Province. At Lahore a new Normal School was built, together with a boarding house for the combined use of the students of this and of the Central Model School who number 176. Some additions and alterations were also made to the Central Training College, and furniture was provided for the new science room attached to it. An installation of gas was nearly completed. The new buildings for these three important institutions are now completed. They are lofty and commodious structures of oriental design and good architectural effect, and the whole estate with its playgrounds, having been neatly walled in, is a great improvement to the civil station. At the Government College, accommodation for students was increased by building an upper storey to the existing boarding house and by enlarging the dining rooms and kitchen.

Some additions and alterations to the Railway Technical School were carried out and also to the office of the Director of Public Instruction, Punjab.

At Rawalpindi, an office was built for the local Inspector of Schools and furniture provided for this and for the Normal School. A playground and well were made for the latter institution.

A new Normal and Model School was built at Delhi; and an office for the Inspector of Schools and an un-enclosed boarding house were commenced. The Municipal Board School, an old building which was the Residency of the Governor General's Agent previous to the Mutiny, was entirely reroofed and repaired, and an enclosed boarding house was begun to replace the old one which had to be dismantled to make room for the new Normal School.

Improvements and additions were made to the Normal School at Jullundur and to the Bishop Cotton School at Simla.

At Sargoda, the Middle School, with boarding house, was in progress and the Primary School at Bhalwal was nearly completed.

Ecclesiastical.—The only work carried out under this head was the extension of the cemetery at Lahore.

Law and Justice.—At the Chief Court, Lahore, some extra accommodation was provided for the bar and staff.

A new Sessions house was built at Campbellpur, a Munsiff's Court at Pasrur and additions were made to the District Judge's Court at Hoshiarpur.

A new Sessions house at Karnal, additions and alterations to the District Court at Shahpur and the Small Cause Courts at Lahore and Amritsar were commenced.

New District Courts were put in hand at Campbellpur, Gujranwala and Dharmasala and a Munsiff's Court at Khangah-Dogran.

Jails.—New quarters for officials were completed at Gujranwala and various improvements were carried out at other jails, such as increasing lateral ventilation in certain buildings in the Sialkot, Jhang and Rohtak Jails; providing cubicles in barracks of habitual prisoners in the District Jails at Lahore, Ferozapore, Delhi and Rawalpindi and in barrack No. 12 of the Central Jail, Lahore.

At Delhi the Municipal water system was extended to supply the jail.

The new District Jail at Mianwali was nearly completed, as was also the new cellular barrack for 72 prisoners at the District Jail, Lahore. The extension of the Central Jail, Multan, was in progress, and also the construction of the new District Jail at Lyallpur. The provision of iron grated doors to the solitary cells at Shahpur and of cubicles in the Central Jail, Montgomery, was in hand.

Police.—A first class Police station with treasury strong room was built at Sargoda and a Police station at Punihana.

New Police stations were started at Campbellpur, Kamar Mashani, Bangi Khel, Midh, Choti, Indaura and Jaurian.

New Police lines, including a hospital, were completed at Mianwali, and those at Campbellpur were in progress. A combined thana and treasury at Bhalwal; the reconstruction of the Police rest-house at Kharianwala; additions and alterations to the Police station at Vaneki; and heavy repairs to the Police station at Dina were in progress.

Medical.—At Lahore a property was bought for the residence of the House Surgeon of the ophthalmic ward of the Mayo Hospital; and at the Veterinary College, Lecture rooms and a Pharmacy were begun, and a dog hospital partly completed. A new chemical laboratory was built for the Medical College, and a fine double storied boarding house for students of this College, a long delayed but most necessary work, was nearly completed.

A new dispensary at Bhalwal was made, also considerable alterations to that at Mianwali

Miscellaneous.—Civil rest-houses were built at Kila Didar Singh, Mianwali, Dhrema, Sujampur-Tirah and Patoki, and the District Board rest-house at Luddan was purchased. A new Public Works rest-house was built at Sargoda, the existing one being converted into a residence for the Executive Engineer. A combined dak bungalow and rest-house at Bhalwal was in progress. A good deal was done during the year towards building residences for officials in new stations or in places where accommodation was not obtainable privately. Houses were built for the District Judge and Civil Surgeon at Mianwali, for the Divisional Judge at Ambala City, for the Executive Engineer at Sargoda, and for the Settlement Officer at Gurgaon. The Divisional Judge's house in Ambala cantonment will be enlarged and converted into a Circuit house. Private houses were purchased by Government for the use of the Civil Surgeon, Gujranwala, and for the Deputy Commissioner, Rohtak. Arrangements were also made for purchasing and improving a house in Multan to serve as a residence for the Commissioner. A parsonage was begun at Campbellpur for the Chaplain, and the conversion of the old Small Cause Court at Lahore into a residence for two Professors of the Government College, Lahore, was put in hand. The residences being built for the Deputy Commissioner, District Superintendent of Police and Public Works Sub-Divisional Officer at Campbellpur, and the Civil

Surgeon at Sargoda were nearly completed. Offices were built for the Settlement Officer at Gurgaon, for the Civil Surgeon at Mianwali, for the Executive Engineer of the Shahpur Division at Sargoda and for the Public Works Sub-Divisional Officer in Kulu. The building purchased for offices of the Superintending and Executive Engineers at Lahore was suitably altered. Materials were collected for the office of the Commissioner and Superintendent, Delhi Division, at Delhi. At Karnal certain buildings belonging to the Remount Department were taken over and adapted for the accommodation of the Settlement Officer and his staff.

Land was taken up at Mianwali at a cost of Rs. 46,107 for the construction of civil buildings.

To give effect to the policy of the Government of India that the chief source of supply for imported materials and machinery should be through the Director General of Stores, the Provincial Stock Depôt was moved to Sher Shah junction, and a siding from the North Western Railway was put in and the necessary storage godowns were in course of construction.

LOCAL INCORPORATED.

9. The District Board office at Amritsar was completed and the dispensaries at Gojra and Toba Tek Singh in progress.

COMMUNICATIONS.

10. The Provincial outlay amounted to Rs. 4,47,864 on original works and Rs. 8,99,088 on repairs. The figures for the three preceding years were:—

		Works.		Repairs.
		Rs.		Rs.
1901-02	...	2,70,341	...	8,20,947
1902-03	...	3,69,085	...	8,24,282
1903-04	...	3,98,246	...	9,04,872

The increased expenditure on new roads is being maintained, but the wants of the Province in this connection are very heavy.

The following table shows the total mileage and cost of maintenance of metalled and unmetalled roads, both Provincial and District, outside of Municipal boundaries, during the year.

CLASS OF ROAD.	METALLED.				UNMETALLED.			
	Provincial.		District.		Provincial.		District.	
Maintained by	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.
Total mileage ...	1,246	159	267	425	1,307	358	140	18,916
Cost of maintenance ..	5,37,315	19,798	96,465	1,96,985	68,330	5,582	5,151	1,29,585
Rate per mile ...	431	124	361	321	52	15	37	7

In the Chenab Canal Colony good progress was made with the various feeder roads which were in hand last year, notwithstanding great difficulties in getting labour (due to plague) and in getting railway transport for metal, due to the heavy export of grain to Karachi. Six miles out of 12 on the Sangla-Shahkot road were completed and opened to traffic, and the remainder of the road was very nearly completed. The other 3 roads, *viz.*, from Chiniot to Pauliani, Lyallpur to Rodukoru and Khanuana to Satiani, which aggregate 40 miles, were nearly ready to be opened. Part of the expenditure on these roads (Rs. 1,67,232) was charged to Incorporated Local funds. Of the section of the Lahore-Sheikhupura-Pindi Bhattian Provincial road from Sukheki to Pindi-Bhattian one out of 14 miles was completed.

In the Jhelum Colony an extensive programme of metalled roads is under consideration. Under the head of Miscellaneous Public Improvements,

roads were constructed in the civil station, bazar and market at Sargoda, and certain metalled and unmetalled roads were completed at Bhalwal. At Campbellpur, station roads were in hand as well as tree planting to form avenues.

In Kangra, $8\frac{1}{2}$ miles of the Palampur-Bajjnath road, where the soil was heavy clay and slippery, were metalled. The Awa Khud bridge on this road was finished. It was decided to make a new cart road to the Dharmsala Bazar—that used for tongas being cruelly steep. The length will be $8\frac{1}{2}$ miles and the cost Rs. 75,377. The work was started after the rains.

The improvement of the roads in Mandi, commenced late in 1901-02, was completed. In Ferozepore district the metalling of the portion of the Bagapura-Kot Kapura road in British territory was completed, as was also the raising and bridging of the Muktsar-Malaut road. The metalling of $4\frac{3}{4}$ miles of the Talvandi Bhai Zira road, which were left unmetalled when the remainder of the road was made, in order to save cost, was put in hand as a Contribution Work. Of the Sirhind-Rupar road, the two sections aggregating $9\frac{1}{2}$ miles, Sirhind-Morinda and Morinda-Kurali, were completed, and the third section, Kurali-Rupar, $10\frac{1}{2}$ miles, was in progress and nearly completed. Out of $24\frac{1}{2}$ miles of the Barara Sadhaura-Kala Amb road, $6\frac{1}{2}$ were metalled.

In Gurgaon district the metalling of the Sohna-Palwal road, 17 miles, was put in hand, and in this, and the adjoining Delhi district, metalled approach roads were made to the stations on the new Delhi-Agra Chord Railway. The Chunian-Changa Manga road in the Lahore district was completed and some progress was made on the Pattoki-Halla road, 10 miles, but was considerably short of expectations, owing to the prevalence of plague in the villages along the road. The superstructure of several timber bridges on the Grand Trunk road was renewed.

In Lahore itself, improvements to the Upper Mall were put in hand, the intention being to widen the metal, which is quite insufficient for the traffic, and to improve the arrangements for disposal of the storm drainage. The roads in front of the Museum and the new University Hall were entirely realigned.

In the Gurdaspur district, the Pathankot-Sujaapur road, three miles in length, was metalled.

LOCAL INCORPORATED.

The District Board of Ludhiana completed the metalling of the Samrala-Khanna road.

ACCOMMODATION FOR TRAVELLERS.

11. A new dining room with retiring room was built at Mehrauli in the Delhi district, in connection with the existing dak bungalow, which was quite inadequate for the needs of the large number of visitors to the Kutab.

The new serai at Mianwali and additions to the dak bungalow at Shahpur were also completed.

BOAT BRIDGES AND FERRIES.

12. Provincial boat bridges were maintained over the Jhelum at Khushab; the Ravi at Shadara; and the Indus at Dera Ghazi Khan. During the hot weather the North Western Railway as usual worked a steam ferry service at Dera Ghazi Khan supplemented by the Koreshi boat ferry.

District Boards maintained boat bridges and ferries over the Jumna at Nurjhan, Rajghat, Sanauli and Khojkipur, and over the Beas at Gopipur.

MISCELLANEOUS PUBLIC IMPROVEMENTS.

13. The expenditure was as follows:—

		Works.	Repairs.
		Rs.	Rs.
Imperial Civil Contribution	...	49,673	...
Provincial	...	3,44,056	62,759
Municipal and Local Loans	...	3,76,697	4,343
Private subscriptions	...	6,284	552
Total	...	7,76,710	67,654

The new civil station at Sargoda, which will probably be the headquarters of the Shahpur district, was laid out with roads, public gardens and residential and other sites, and some of the more important roads were metalled. Planting of trees in the gardens and as avenues along the roads was put in hand. Shops were built in some of the bazars.

At Toba Tek Singh and Bhalwal, metalling of the main streets was carried out and shops were built in the Grain Market in Bhalwal. Land was taken up at convenient centres along the new Jech Doab Railway for markets for the sale of local produce.

Land was taken up for the civil station and bazar at Campbellpur and a number of metalled roads there were put in hand.

WATER SUPPLY.

14. The Amritsar water works were completed and were opened by Sir Charles Rivaz on the 17th November 1904. The outlay amounted to Rs. 9,55,373, exclusive of all departmental charges, Rs. 65,000, which were remitted.

The present supply is $1\frac{1}{4}$ million gallons a day, which allows about 8 gallons a head for the existing population in the city, civil lines and cantonments, estimated at 160,000 persons. The works can be extended to supply $1\frac{3}{4}$ million gallons, or 10 gallons a head, for a population of 175,000. The supply is drawn from 40 domed masonry wells, 12 feet diameter, pitched 124 feet apart, sunk into a stratum of coarse sand, 65 to 70 feet below ground level. There are three engines, any two of which are capable of lifting 1,750,000 gallons in 16 hours. The water is forced through duplicate rising mains, 15" diameter, into four steel tanks, each holding 100,000 gallons. The pipe distribution system totals 31 miles, and has 250 standposts with a complete system of Deacon's waste water meters.

The Sargoda water works, estimated to cost Rs. 1,22,266, were started in November 1904. The population to be supplied is about 5,000, and provision has been made to give 100,000 gallons a day which has also to include the flushing of street drains and the supply to the civil station. The water will be drawn from the Jhelum Canal and will be filtered before distribution.

At Mianwali, where the water supply is drawn from deep wells worked for the most part by Persian wheels drawn by bullocks, American aermotors have been tried with a moderate amount of success. The wind is so fickle and so light that it is doubtful whether it is worth while installing such machines in the Punjab.

The water supply for the new marts of Gojra and Toba Tek Singh in the Chenab colony were completed.

A small scheme for an improved water supply to the civil station of Dharmsala was very nearly completed.

A project for a combined water supply to the cantonment and civil lines at Campbellpur, to be worked by water power from the Harro river, was made out, but had to be abandoned, as the Military authorities would not join in it, and wells for the District Court, Police Lines and bazar were put in hand instead.

The supply from the head works wells of the Ambala city water supply has been steadily failing for years, owing probably to the exhaustion of the saturated strata of the subsoil due to deficient monsoon rainfall. Accordingly five new wells, 10 feet in diameter and 55 feet deep, pitched 110 feet apart, were sunk. In addition to this, one of the twenty original wells was sunk a further 18 feet into a stratum of very coarse sand as an experimental measure. This resulted in such an improvement of yield, that a proposal was submitted for the further sinking of more wells of the original series. This was sanctioned and the work was put in hand.

The river Indus at Dera Ghazi Khan for the past year under review has been flowing in two main channels of nearly equal volume; the larger one taking a more easterly direction with a greater velocity, and the

smaller showing a tendency to erode the bank to the north of cantonments, and impinge on to the nose of the stone bund. It was consequently necessary to strengthen the stone bund at a cost of Rs. 10,233, and as further danger was apprehended, a reserve of 70,000 cubic feet of stone was collected. The main stream, however, continued to flow in the more easterly channel, probably forced over by the brushwood groyne, constructed by the Irrigation Branch, which held and was most effective, and all danger appeared to be at an end with the close of the flood season, the only suspicious element in the situation being the steady erosion that has taken place on the bank to the north of cantonments.

DRAINAGE WORKS.

15. New drainage works were in progress at Amritsar, Ambala, Ferozepore, Sargoda and Muktsar, and extensions of existing systems were started in Lyallpur, Lahore and Delhi.

At Amritsar, the clearance of the storm water channels round the town and the reconstruction of intramural drains of the Bhagtan gate area were in hand and were nearly completed. Estimates were prepared for the drainage of, and water supply to, the Victoria Jubilee Hospital, and the latter work was put in hand.

At Lahore, owing to changes of Municipal Engineers, very little progress was made by the Municipality in carrying out the several sanitary schemes which it has in hand. The remodelling of the city intercepting drain was, however, nearly completed, very little remaining to be done at the end of the year. Many urgent improvements await the provision of funds, and must be carried out before the sanitary needs of the city and civil station have been met.

At Delhi, drainage works estimated to cost Rs. 1,46,030 were put in hand. Surface drains of the Chandni Chowk area were completed up to the full allotment available, and underground sewers were constructed in the Lalkuan and Chouri Bazar areas. The Ajmere gate outfall was completed. An estimate for the drainage of the Delhi suburbs was submitted to the Sanitary Board. At Ambala an estimate for the intramural drainage of the city amounting to Rs. 39,297 was sanctioned. The drainage and paving of the worst streets of the city were put in hand, and about half the work was finished at the close of the year.

At Sargoda, a project amounting to Rs. 71,522 was sanctioned for carrying away and disposing of the sullage and surface street drainage of the native town. Work was put in hand and was well advanced at the close of the year.

The drainage schemes of Toba Tek Singh and Gojra in the Chenab Colony were completed.

CONTRIBUTION WORKS.

16. The Victoria Jubilee Hospital at Amritsar was completed at a cost of $1\frac{1}{2}$ lakhs of rupees, and was opened by His Honour the Lieutenant Governor on 17th November 1904. This hospital has been designed to accommodate 104 patients in three wards, *viz.*, one general of 64 beds, one separate ward for 24 males and one for 16 females. A proper system of water supply was being laid on. At Lahore, the new infectious disease hospital was carried up to roof level. A new Hall for the Punjab University, of very striking oriental design, with interior dimensions of 150 feet by 60 feet, to be used for convocation meetings and for examinations, was begun and was built nearly up to the level of the first floor.

Extensive alterations were in progress at the Middle School buildings at Lyallpur and the new boarding house attached to them.

At Lahore, work was started on a platform and pedestal to carry the statue of the late Queen Victoria. This is to be surmounted by a domed canopy carried on pillars, the whole rising to a height of 50 feet and being built entirely of white marble.

SIMLA IMPROVEMENTS, OLD SCHEME.

17. Three out of the five open septic tanks for sewage disposal were completed and the remaining two nearly so. The septic tanks in use worked

well and the experimental sewage filters at Lalpani and Kasumpti gave good results. The two subsidiary steam pumping installations in the Cherot nullah, designed to supplement the supply in abnormally dry years by 70,000 gallons, were completed, but were not worked as the supply from other sources was ample.

In order to give an improved fire service and a better distribution of water to Boileaugunj, it was found necessary to substitute a new main of a larger diameter and this work was in progress. A new mule road from Sanjauli to Kaithu was two-thirds finished. This road runs below the North Mall and is designed to relieve it of the considerable traffic of mules and coolies which causes much inconvenience.

SIMLA IMPROVEMENTS, NEW SCHEME.

18. The work of improving the road from Sanjauli to Mashobra into a good driving road was in progress and nearly complete. In connection with this, the old Sanjauli tunnel was in process of being enlarged to give a roadway of 18 feet, with a height of 16 feet. This work was much delayed by dangerous slips of rock from above the roof arching, which necessitated extreme caution in order to avoid accidents.

A tunnel was also in course of construction under the Ridge, near the Town Hall, to allow the coolie and mule traffic along the new Sanjauli road to pass direct into the main bazar, without having to cross over the Ridge. This tunnel, which will be 440 feet long, 10 feet wide and 12 feet high, was commenced in February 1905. Like the Sanjauli tunnel it promises to be a tedious and somewhat dangerous work owing to the treacherous nature of the strata to be pierced.

WORKS OF PUBLIC UTILITY-GOVERNMENT GRANTS.

19. The following grants were made from a reserve of two lakhs placed at the disposal of His Honour the Lieutenant-Governor.

	Rs.	Rs.
Central Museum, Lahore :—		
Marble pavement and fountain ...	12,000	
Sale room	2,500	
	—	14,500
Improving drainage of Annandale, Simla ...	...	5,000
Young Women's Christian Association, Simla ...	...	10,000
Maintenance of Walker Hospital, Simla ...	...	6,000
Infectious disease hospital for Europeans and Eurasians, Simla ... ..	...	11,700
Enlarging Victoria Memorial Hospital, Ludhiana ...	...	25,000
New " " " " Jullundur ...	...	11,289
Permanent commemoration of the Darbar site at Delhi		50,000
		<hr/>
	Total	1,33,489
		<hr/>

20. Several miscellaneous works were carried out by private individuals aggregating Rs. 1,13,877, the most important being a Musaffir Khana and baoli built at Multan by Bhai Kuman Dass at a cost of Rs. 15,000; a serai outside Leiah in the Mianwali district built by Lala Harjas Rai for Rs. 16,000; and a large tank at Sagru in the Rawalpindi district built by Ganda Mal, Gyan Chand and Tek Raj and costing Rs. 42,951.

ASSISTANCE RENDERED TO LOCAL BODIES.

21. Projects aggregating Rs. 13,76,000 were either prepared entirely or scrutinized by the Public Works Department, and in several cases work was carried out by them. Many other works were inspected from time to time and advice given to the Local authorities by the Sanitary, Superintending and Executive Engineers.

CAPITAL COST OF BUILDINGS.

22. The table below gives the Capital cost and cost of maintenance of buildings for the year.

Class of Building.		Capital cost.	Cost of Maintenance.	Percentage.
		Rs.	Rs.	Rs.
IMPERIAL— (Excluding Viceregal buildings.)	Pucca	28,00,333	20,766	0.74
	Katcha Pucca	27,38,972	53,292	1.94
	Katcha	1,14,770	3,701	3.22
PROVINCIAL—	Pucca	35,03,334	68,989	0.81
	Katcha Pucca	108,40,294	1,20,804	1.11
	Katcha	22,30,900	32,197	1.44
PROVINCIAL— (For which Capital and Revenue Accounts are kept.)	Pucca	29,893	484	1.62
	Katcha Pucca	2,83,252	4,905	1.73
	Katcha	68,658	1,979	2.88

ESTABLISHMENT CHARGES.

23. The cost of establishment works out for the year as follows :—

Imperial Military	...	...	...	21.68	per cent.
„ Civil	...	...	...	14.81	„
Provincial „	...	...	...	22.34	„

PERSONAL.

24. The sanctioned cadre of officers is 41 and the actual strength was only 35, out of whom two officers were on leave and one on deputation. Mr. L. F. Robertson returned from leave and took over charge of the Rawalpindi division from Mr. Bagley, who proceeded on long leave. Captain Holme, R.E., returned from service in Somaliland and Captain A. A. Crookshank, R.E., was retransferred from the Military Department. The scale is clearly insufficient for the proper manning of the Divisional charges, and has to be largely supplemented by temporary engineers engaged in the open market, the number of whom was 13 this year against 11 in that preceding.

The names of the following officers are brought to notice for having done specially good work :—

Mr. Macdonald, Superintending Engineer.

Mr. Goument, Sanitary Engineer, for the successful progress he made on all sanitary projects, notably the Amritsar water works.

Mr. Montgomery for the energetic way he threw himself into the road work of the Chenab Canal Colony which was unusually troublesome and difficult.

E. DUCANE SMITHE,

LAHORE,

November 1905.

M. INST. C. E.

Secretary to Government, Punjab, P. W. D.
Buildings and Roads Branch.

STATEMENTS.

STATEMENT A.

Statement of Expenditure on Public Works during 1904-05.

Service Heads, 1	ORIGINAL WORKS.		REPAIRS.		TOTAL.	
	Grant. 2	Outlay. 3	Grant. 4	Outlay. 5	Grant. 6	Outlay. 7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
IMPERIAL.						
44.—MILITARY WORKS—						
Works	1,08,627	91,394	49,469	49,977	1,58,096	1,41,371
Establishment ... ..	...	...	...	...	35,275	30,638
Tools and Plant ... ..	...	...	...	...	2,374	2,000
Suspense ... ..	...	...	...	...	...	...
Barrack Department ... ..	...	...	...	...	850	800
Expenditure in England ... ..	...	...	...	...	...	...
Total Military Works	1,08,627	91,394	49,469	49,977	1,96,595	1,74,855
45.—CIVIL WORKS—						
Civil Buildings	6,69,727	5,91,378	1,75,700	1,66,748	8,45,427	7,58,138
Communications	20,000	...	...	...	20,000	...
Miscellaneous Public Im- provements	41,100	49,673	...	...	41,100	49,673
Establishment ... ..	...	...	...	...	1,46,177	1,19,888
Tools and Plant ... ..	...	...	...	...	9,799	6,898
Suspense ... ..	...	...	...	...	...	3,983
Expenditure in England ... ..	...	...	...	...	-48,615	-14,681
Total Civil Works	7,30,827	6,41,051	1,75,700	1,66,748	10,13,888	9,23,708
Total Imperial	8,39,454	7,32,445	2,25,169	2,16,725	12,10,483	10,98,563
PROVINCIAL.						
45.—CIVIL WORKS—						
Civil Buildings	13,90,762	12,64,151	2,74,912	2,83,410	16,65,674	15,47,563
Communications	4,61,604	4,47,864	8,96,088	8,99,088	13,57,692	13,46,658
Miscellaneous Public Im- provements	3,23,400	3,44,056	64,260	62,759	3,87,660	4,06,815
Establishment ... ..	...	...	...	...	7,42,000	7,37,698
Tools and Plant ... ..	...	...	...	...	35,739	40,890
Suspense ... ..	...	...	...	...	33,100	24,914
Total Provincial	21,75,766	20,56,071	12,35,260	12,45,257	42,21,865	41,04,460
Carried over	30,15,220	27,8,516	14,60,429	14,61,982	54,32,348	52,03,114

STATEMENT A.

Statement of Expenditure on Public Works during 1904-05—concluded.

Service Heads, 1	ORIGINAL WORKS.		REPAIRS.		TOTAL.	
	Grant. 2	Outlay. 3	Grant. 4	Outlay. 5	Grant. 6	Outlay. 7
Brought forward ...	Rs. 30,15,220	Rs. 27,88,516	Rs. 14,60,429	Rs. 14,61,982	Rs. 54,32,348	R 52,03,111
LOCAL FUNDS.						
Incorporated Local Funds	3,12,000	1,93,710
Excluded Local Funds
Contributions including Local Loans	8,26,008	5,08,284
Total Local Funds	11,38,008	7,01,994
GRAND TOTAL ...	30,15,220	27,88,516	14,60,429	14,61,982	65,70,356	59,05,105
Famine Relief Works Im- perial	Nil	...	...	...
40. Subsidized Railways.						
Southern Punjab Railway and Extensions	3,40,090	*2,77,306
Kalka-Simla Railway	8,000	2,516
Total	3,48,090	2,79,822
41. Miscellaneous Railway Ex- penditure.						
Ludhiana-Dhuri-Jakhal Railway	-16
Total	-16

* Includes Rs. 2,75,890 on account of Ludhiana-Ferozepur MeLeo. Guoj Railway.

STATEMENT B.

Statement of Imperial Roads in the Punjab not within Municipal boundaries maintained by the Public Works and Local Authorities, respectively, during 1904-05.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
1ST CIRCLE.							
Nil.							
2ND CIRCLE.							
Nil.							
3RD CIRCLE.							
Dera Ghazi Khan ...	D. G. Khan ...	23·34	52·58	...	94·75	23·34	147·33
	Mooltan ...	...	...	·68	...	68	...
TOTAL IMPERIAL ROADS.	...	23·34	52·58	·68	94·75	24·02	147·33

STATEMENT B.—continued.

Statement of Provincial Roads in the Punjab not within Municipal boundaries maintained by the Public Works and Local Authorities, respectively, during 1904-05.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
1ST CIRCLE.							
Rawalpindi ...	Rawalpindi ...	126·81	85·06	...	...	126·81	85·06
	Jhelum ...	33·02	35·53	...	...	33·02	35·53
	Attock ...	44·70	144·59	...	...	44·70	144·59
	Total...	204·53	265·18	...	...	204·53	265·18
Shahpur ...	Shahpur ...	31·76	...	6·80	25·70	38·56	25·70
	Mianwali ...	12·06	...	53·00	10·00	65·06	10·00
	Total ...	43·82	...	59·80	35·70	103·62	35·70
Lyalpur ...	Jhang ...	...	11·89	...	...	...	11·89
	Lyalpur ...	7·89	10·25	...	...	7·89	10·25
	Total ...	7·89	22·14	..	...	7·89	22·14
Gujranwala ...	Gujrat... ..	37·29	...	2·00	...	39·29	...
	Gujranwala ...	65·12	30·75	...	...	65·12	30·75
	Sialkot ...	22·44	...	1·75	29·00	24·19	29·00
	Total ...	124·85	30·75	3·75	29·00	128·60	59·75
Total 1st Circle		381·09	318·07	63·55	64·70	444·64	382·77
2ND CIRCLE.							
Delhi ...	Delhi ...	86·58	10·87	...	...	86·58	10·87
	Gurgaon ...	30·00	...	...	...	30·00	..
	Total ...	116·58	10·87	...	...	116·58	10·87
Carried over...		116·58	10·87	...	...	116·58	10·87
		381·09	318·07	63·55	64·70	444·64	382·77

STATEMENT B.—continued.

Statement of Provincial Roads in the Punjab, not within Municipal boundaries maintained by the Public Works and Local Authorities, respectively, during 1904-05.—continued.

Name.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
2ND CIRCLE—concl'd.	Brought forward	381·09	318·07	63·55	64·70	444·64	382·77
		116·58	10·87	...	...	116·58	10·87
Ferozepore ...	Hissar ...	3·23	...	15·00	83·65	18·23	83·65
	Rohtak ...	2·24	28·57	12·50	18·50	14·74	47·07
	Ferozepore ...	53·37	...	3·34	...	56·71	...
	Total ...	58·84	28·57	30·84	102·15	89·68	130·72
Umballa ...	Umballa ...	83·04	32·42	3·38	...	86·37	32·42
	Karnal ...	128·96	...	7·50	...	136·46	...
	Simla ...	11·00	27·00	...	..	11·00	27·00
	Total ...	223·00	59·42	10·83	...	233·83	59·42
Kangra ...	Kangra ...	64·62	343·00	..	9·25	64·62	352·25
	Gurdaspur ...	1·65	...	...	...	1·65	...
	Total ...	66·27	343·00	...	9·25	66·27	352·25
Simla ...	Simla ...	58·00	237·50	...	...	58·00	237·50
	Total ...	58·00	237·50	...	...	58·00	237·50
	Total, 2nd Circle	522·69	679·36	41·67	111·40	564·36	790·76
	Carried over ...	903·78	997·43	105·22	176·10	1,009·00	1,173·53

STATEMENT B.—continued.

Statement of Provincial Roads in the Punjab not within Municipal boundaries maintained by the Public Works and Local authorities, respectively, during 1904-05—concluded.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
	Brought forward	903·78	997·43	105·22	176·10	1,009·00	1,173·53
3RD CIRCLE.							
Lahore	Lahore	100·915	...	13·20	5·00	114·115	5·00
	Total	100·915	...	13·20	5·00	114·115	5·00
Jullundur	Amritsar	44·69	16·50	...	...	44·69	16·50
	Jullundur	62·23	...	10·00	...	72·23	...
	Gurdaspur	30·83	69·37	8·50	24·50	39·33	93·87
	Hoshiarpur	9·27	28·41	4·37	...	13·64	28·41
	Ludhiana	65·18	...	10·54	..	75·72	...
	Total	212·20	114·28	33·41	24·50	245·61	138·78
Dera Ghazi Khan	Dera Ghazi Khan	5·51	174·00	...	149·00	5·51	323·00
	Muzaffargarh	10·48	21·00	7·00	3·00	17·48	24·00
	Mooltan	13·21	...	...	...	13·21	...
	Montgomery	...	...	...	...	...	...
	Total	29·20	195·00	7·00	152·00	36·20	347·00
	Total, 3rd Circle	342·315	309·28	53·61	181·50	395·925	490·78
TOTAL PROVINCIAL ROADS		1,246·095	1,306·71	158·83	357·60	1,404·925	1,664·31

STATEMENT B.—continued.

Statement of District Roads in the Punjab not within Municipal boundaries maintained by the Public Works and Local Authorities, during 1904-05.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
1ST CIRCLE.							
Rawalpindi ...	Rawalpindi ...	...	...	7·00	803·00	7·00	803·00
	Jhelum ...	...	...	1·46	888·00	1·46	888·00
	Attock ...	...	...	·75	618·00	·75	618·00
	Total ...	...	...	9·21	2,309·00	9·21	2,309·00
Shahpur ...	Shahpur ...	...	...	7·00	792·50	7·00	792·50
	Mianwali ...	...	...	...	673·00	...	673·00
	Total ...	...	...	7·00	1,465·50	7·00	1,465·50
Lyallpur ...	Jhang ...	5·75	5·25	1·80	728·00	7·55	733·25
	Lyallpur ...	11·00	5·00	2·20	998·00	13·20	1,003·00
	Gujranwala ...	6·00	...	...	...	6·00	...
	Total ...	22·75	10·25	4·00	1,726·00	26·75	1,736·25
Gujranwala ...	Gujrat ...	7·74	...	3·00	611·00	10·74	611·00
	Gujranwala ...	...	...	19·25	1,269·12	19·25	1,269·12
	Sialkot ...	...	...	29·00	755·75	29·00	755·75
	Total ...	7·74	...	51·25	2,635·87	58·99	2,635·87
Total, 1st Circle.		30·49	10·25	71·46	8,136·37	101·95	8,146·62
Carried over ...		30·49	10·25	71·46	8,136·37	101·95	8,146·62

STATEMENT B—continued.

Statement of District Roads in the Punjab not within Municipal boundaries maintained by the Public Works and Local Authorities, respectively, during 1904-05—continued.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
2ND CIRCLE.	Brought forward	30.49	10.25	71.46	8,136.37	101.95	8,146.62
Delhi	Delhi	1.31	21.15	43.88	472.76	45.19	493.91
	Gurgaon	...	...	57.00	498.00	57.00	498.00
	Total	1.31	21.15	100.88	970.76	102.19	991.91
Ferozepore	Hissar	9.25	...	...	858.50	9.25	858.50
	Rohtak	61.16	...	...	559.00	61.16	559.00
	Ferozepore	33.08	8.75	0.83	839.00	33.91	847.75
	Total	103.49	8.75	0.83	2,256.50	104.32	2,265.25
Umballa	Umballa	25.25	25.25	18.14	328.69	43.39	353.94
	Karnal	...	66.90	9.72	617.62	9.72	684.52
	Total	25.25	92.15	27.86	946.31	53.11	1,038.46
Kangra	Kangra	...	...	...	710.00	...	710.00
	Total	...	...	...	710.00	...	710.00
Simla	Simla	...	...	...	17.00	...	17.00
	Total	...	...	...	17.00	...	17.00
	Total, 2nd Circle	130.05	122.05	129.57	4,900.57	259.62	5,022.62
	Carried over	160.54	132.30	201.03	13,036.94	361.57	13,169.24

STATEMENT B—concluded.

Statement of District Roads in the Punjab not within Municipal boundaries maintained by the Public Works and Local Authorities, respectively, during 1904-05.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
	Brought forward	160·44	132·30	201·03	18,036·94	361·57	13,169·24
3RD CIRCLE.							
Lahore	Lahore	8·90	...	10·55	796·25	19·45	796·25
	Total	8·90	...	10·55	796·25	19·45	796·25
Jullundur	Amritsar	26·74	8·13	17·75	311·87	44·49	320 00
	Jullundur	...	...	86·25	336·50	86·25	336·50
	Gurdaspur	8·72	...	16·56	505 24	25·28	505·24
	Ludhiana	58·97	...	48·74	194·26	107·71	194·26
	Hoshiarpur	...	...	11·80	708·50	11·80	708·50
	Total	94·43	8·13	181·10	2,056·37	275·53	2,064·50
Dera Ghazi Khan	D. G. Khan	...	...	0·16	210 00	0·16	210·00
	Muzaffargarh	...	...	8·65	547·35	8·65	547·35
	Mooltan	3·17	...	17·69	1,199·00	20·86	1,199 00
	Montgomery	...	...	6·00	1,070·00	6·00	1,070·00
	Total	3·17	...	32·50	3,026·35	35·67	3,026·35
	Total, 3rd Circle	106·50	8·13	224·15	5,878·97	330·65	5,887·10
TOTAL DISTRICT ROADS		266·94	140·43	425·18	18,915·91	692·22	19,056·34

