

Public Works (1893) Department.

RAILWAY BRANCH.

G.O., No. 517-8R

DATED 11th March

[Despatch Abstract.]

Inspection report. — Orders on the — of the
Madras Railway for the half-year ended
31st December 1892.

Forwarding Copy of Proceedings on — of the
Madras Railway for half-year ended 31st
December 1892.

[illegible]

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

9. **Ballast.**—The line is fully ballasted throughout. The coating of the sand ballast with a thin layer of stone has been carried out on about 106 miles of the South-west line and is in progress between Madras and Arkónam, where over five miles have been covered, but on the North-west line beyond a trial quarter of a mile in each division nothing has been done. As a preventive to the rising of dust the stone

covering answers perfectly, but renders the upkeep of the road to its present high standard a matter of difficulty, and will probably necessitate the maintenance gangs being increased. Personally I consider the advantages of a clean road to far outweigh the drawbacks involved in obtaining it, and though the remedy is naturally unpopular with the Engineering Department, there need be no fear that the present staff will allow the road to run down.

10. *Fencing and level-crossings.*—The fencing is in fairly good condition; the aloe hedge is weak in many places and in others is too low yet to form an efficient barrier though it will improve by growth.

11. *Stations and Buildings—Munnal.*—A road goods room has been completed.

12. *Arcof.*—The removal of the present verandah of the station building and the substitution of a cantilever platform cover is still under consideration. There is no doubt that it would be a great improvement to the station. More extensive third-class waiting accommodation is said to be required.

13. *Kātpādi.*—A double bungalow for signallers is under construction and will be finished next month. Lightning-conductors are being fixed to the new station building on the island platform and to the goods shed. A double bungalow for engine-drivers has been built. The girders of the overbridge at the west end of the yard having damaged the centre pier (to which they were pinned) by expansion and contraction, roller bearings are being put in.

14. The west ashpit and water column have been shifted to the end of the passenger platform and the platform line is being relinked in.

15. The watering arrangements are now complete for the supply of the South Indian Railway as well as Madras Railway requirements. In order to guard against a failure of water in dry seasons, borings were carried to a considerable depth below the surface to tap sub-soil springs and a trench was carried from the well to the tank outside, below the level of the bottom of the latter. This trench does not draw any more water from the tank than formerly percolated into the well, but will be of value when the tank dries as it collects the sub-soil water. It is anticipated that complaints may be made that it drains the tank, but as explained this is not the case. The steam pump referred to in the last report has been erected and is ready for use.

16. Messrs. Best and Co. wish to have a petroleum tank erected here; the site chosen is on a spare piece of ground between a dead-end of the Madras Railway and a South Indian Railway siding and appears suitable.

17. *Virinjipuram.*—A verandah has been added outside the station-house, which will suffice for the extra waiting accommodation which was said to be required.

18. *Ulli.*—An extension of the platform has been carried out.

19. *Mailpati.*—A latrine for the subordinate staff has been provided.

20. *Kēlāndapatti.*—The land applied for has not yet been handed over.

21. *Jalārpēt junction.*—The flagging of the covered portion of the platform is completed. All the staff quarters are being provided with pandals of old rails roofed with Mangalore tiles. The double bungalow for married guards is well forward and roofed with a flat half-brick arch. The addition to the Assistant Traffic Manager's office is nearly finished, as also is the conversion of the old dispensary into a fireman's house. The brick pillars of a new carriage shed are built, but the woodwork for the roof has not yet arrived. A four-armed semaphore and signal cabin have been erected on the overbridge. Sanction has been given to a third line, goods godown and loading bank, and a lay-bye which will involve an extension of the footbridge. This is at present in abeyance until a settlement of the question of what land should be acquired has been arrived at.

22. The well at the 133rd mile, Bangalore branch, is being enlarged and the present open channel which conducts the water to the station is to be replaced by a 6" pipe. A steam pumping engine will be erected at the well.

23. Proposals have been put forward for alterations and additions to the station-house and also for the construction of 20 houses for native firemen.

24. The estimated value of the two plots of land which it was proposed to acquire for possible extensions and for sanitary reasons to prevent squatting having proved

very high, the Railway authorities are inclined to confine their application to the strip necessary for the proposed 3rd line south of the main line. The acquisition of the remainder, which would probably come under C class, might stand over.

25. *Patchur.*—An oil and store room has been added.

26. *Mūlānūr.*—An oil and store room and a latrine for natives have been completed.

27. *Gudupulli.*—Houses have been built for the stationmaster and his assistant and huts for pointmen. A lay-bye has been completed and a level-crossing with a cart road through the station compound has been made at the south end of the platform. This station gets but little traffic at present, its chief use being as a crossing station.

28. *Kāmasamudram.*—A station-master's house is finished.

29. *Kōlār Road.*—An extension of a lay-bye has been completed. Alterations and additions will be required to the station-house for the junction of the branch line to the Kolar gold mines, and an estimate has been submitted. The Traffic Department wish to have the road on the east of the station-house and goods shed metalled, but its condition is not so bad as to warrant the expense. It will, however, be levelled and improved. The question of the junction of the branch line is still unsettled, but it will probably be a double line one and not single as proposed by the Mysore Government.

30. *Malur.*—An extension of the through siding is completed.

31. *Krishnarājapuram.*—The waiting shed has been re-roofed with Mangalore tiling. The room at the end of it is to be used as a booking office instead of the separate building which has served hitherto.

32. *Bangalore Cantonment.*—In order to lighten the station building the louvres which formerly existed only in short lengths near the ends have been made continuous and the under side of the corrugated iron roof has been whitened. The improvement in the lighting is considerable and nothing further seems to be required. The sides of the engine-shed have been paved and the floors of the ashpits raised to conform to standard dimensions. The water-supply is still a difficulty, the new 20-foot well giving but little water, and washing out has to be done at Jalārpēt.

33. *Bangalore City.*—Alterations and additions to the Sandalkoti buildings have been commenced to provide quarters for subordinates, and a latrine will be built on the opposite side of the road. The new goods shed office is up to floor level. The approval of the Board of Directors of the Southern Mahratta Railway is still awaited to the plans of the proposed alterations and improvements to the station. Other works proposed are a carriage examiner's bungalow, thirty houses for subordinate staff, and a carriage shed. The Southern Mahratta Railway authorities still refuse to give up the land and buildings required on the south side of the yard, and until this is done it is doubtful if further works can be undertaken.

34. The Southern Mahratta Railway wish to have the low bank between their lines and the Madras Railway raised to form a long transshipping loading bank to meet rushes of grain traffic. This appears to be a desirable improvement.

35. *Tirupatūr.*—An extension of the lay-bye and loading bank has been carried out.

36. *Kallāvi.*—The through siding is completed and a small house for a native subordinate has been built.

37. *Mallāpuram.*—It is proposed to enlarge the well here, the water in which has fallen very low.

38. *Kadiampatti.*—A loading bank has been completed.

39. *Thinnapatti.*—A booking office has been finished. The goods traffic is said to suffer for want of a feeder road.

40. *Salem.*—A house has been built for the engineman in charge of the steam pump at mile 204/2. The steam pump, which was moved from the station, works six hours a day, and the supply of water is good. The suction pipe ends in a well 10 feet deep immediately underneath the engine, and this well is connected by a pipe with a 6-foot brick well 12 feet deep in the tank bed. Salem station, to which the water is carried in pipes, is now entirely dependent for its water on this supply.

41. Some additions have been made to the stationmaster's house. The floor of the verandah outside the old goods shed has been raised to 2 feet above the road level for convenience in unloading carts. A suitable site has been selected for a petroleum tank for Messrs. Best and Co. at the west end of the yard.

42. *Sankaridrug*.—A good supply of water is at present obtained from a new 20 feet well at mile 230/5.

43. A small plot of land formerly in possession of the Railway authorities but relinquished by them is said to be again required for stacking wood for locomotive purposes. The land would be rented to the contractor and being waste would probably cost little.

44. *Erode*.—The foundations of a 30-ton weigh-bridge at the east end of the engine-shed are finished. A running guards' bungalow has been built. The Traffic Department have asked for a through siding in front of the passenger platform to deal with occasional rushes of traffic.

45. *Vijayanangalam*.—The new goods shed and loading bank are nearly finished. A small trial well is to be sunk to provide drinking water for the staff.

46. *Kulipalaiyam*.—This trial station is 5 miles from the main road, and petitions have been presented by the villagers for a feeder road, which appears to be needed.

47. *Mangalam*.—Extra land has lately been acquired for the construction of a house for the assistant stationmaster.

48. *Sútur*.—A small plot of additional land has been acquired on the south side.

49. *Singánallúr*.—Extra land has been taken up to prevent buildings being erected.

50. *Pódanúr Junction*.—A guards' bungalow is nearly completed, also an office for the Assistant Traffic Manager. Further alterations and additions to the main line sidings have been carried out, but the whole scheme will not be completed till next year. A bungalow for the Sergeant Instructor of Volunteers is being built by Government. A third line is said to be required for the Nilgiri branch.

51. *Coimbatore*.—An extension of the goods shed has been carried out and a goods office and loading bank have been completed.

52. *Mettupálaiyam*.—An estimate for the alterations and additions in connection with the junction of the Nilgiri Railway has been sanctioned, and the new main line and siding of the Madras Railway on the east side of the station have been staked out.

53. *Olarakode*.—The alterations in the sidings at the east end of the yard have been carried out. A signallers' bungalow is nearly finished. The old goods shed is being removed to Pálghat.

54. *Pálghat*.—The diversion of the road west of the yard is nearly ready but is not yet metalled. This, when completed, will dispense with the level-crossing at the north end of the station. The approach road to the temporary goods shed is to be improved. The foundations for the permanent goods shed which is being brought from Olavakode have been excavated. A short approach-road will probably be required eventually. The siding leading to this shed has been extended and a lay-bye and 30-ton weigh-bridge have been commenced. Nothing has been done to the temporary thatched station building and goods shed, except that in the latter corrugated iron sheets have been suspended over the track to prevent sparks from the engine lodging in the roof.

55. *Mankarai*.—A new station building has been erected. The home signal has been put up and is working.

56. *Shoranur*.—A third line has been added. Three huts are still standing on a piece of land which was acquired by the railway nine months ago in order to get rid of them. It is said that the compensation has not yet been paid and the huts cannot therefore be removed. The case is being inquired into.

57. *Pattámbi*.—A loading bank has been completed and a crane transferred here from Kanyikód.

58. *Edakkolam*.—A new station building is approaching completion.

59. *Tirúr*.—A suitable site has been selected for a petroleum tank for Messrs. Best and Co.

60. *Parpanangádi*.—The lay-bye has been removed to a site opposite the station building and lengthened. A goods shed and loading bank have been finished.

61. *Ferok*.—A third line is being added and two additional godowns for merchants are in progress. A road goods room has been built.

62. *Kullai*.—A short siding has been laid into Brown and Co.'s timber depôt.

63. *Calicut*.—Some additions have been made to three guards' bungalows.

North-West Line.—The station-house, platforms and railway premises generally are in perfect repair and in their invariably neat condition. The careful attention to sanitation and the clearance of prickly-pear and undergrowth makes the station compounds on the Madras Railway models of cleanliness and neatness.

64. *Connur*.—At Connur the relief siding is finished and the proposed sorting sidings are at present in abeyance.

65. *Avadi*.—The extension of the platform at Avadi is completed.

66. *Arkónam*.—At Arkónam the additions to and the alterations of the signallers' bungalow are in progress. The resident guards' house is finished except in respect to woodwork, fittings, and fencing. It is proposed to shift the latrines on the platform further south, and to erect a temporary tank at the east end of the North-west line platform. This latter work appears much required. The whole of the staff bungalows except one permanent-way inspector's house have now been provided with pandals.

67. *Manur*.—The new platform at Manur is in course of construction, not being as yet to full width.

68. *Nagari*.—The godown is ready for the roof.

69. *Vepagunta*.—The work of constructing a platform and lay-bye is reported to be delayed owing to the non-transfer of the required land.

70. *Rénigunta*.—The extension of the engine-shed is completed, a double guards' bungalow is up to basement level, a block of four bungalows for European and Eurasian firemen is built to the top of the window frames, and the walls of six houses for subordinate staff are built to roof level.

71. *Rájampet*.—The extension of the through siding and platform is finished, and six houses for subordinate staff are up to roof level.

72. *Nandalúr*.—The extension of the platform is completed, and four houses for subordinate staff are in an advanced state.

73. *Vontimitta*.—One house for subordinate staff is up to door-frame level.

74. *Siddhavattam*.—The extension of the platform and through siding is finished.

75. *Cuddapah*.—Six huts for scavengers have been built, and six houses for subordinate staff are in progress, being up to door-frame level.

76. *Krishndpuram*.—The through siding is finished.

77. *Gangayapalli*.—The new station-house is up to wall-plate height. This building is in high bank and is carried on horizontal rails supported at platform level on masonry pillars.

78. *Kamalápuram*.—The station-house is being altered to provide larger third-class waiting accommodation.

79. *Yerraguntla*.—The extension of the third-class waiting room and the construction of nine houses for pointsmen are finished.

80. *Tadpatri*.—It is proposed to construct a tank for the storage of petroleum in bulk. The site selected at the dead end of the goods shed siding is suitable and should be approved.

81. *Pennér*.—The station-master's house was completed in August last.

82. *Gooty*.—The double bungalows for family guards and engine drivers, the eight houses for native firemen and the prosecuting inspector's office are finished. The land in connection with the military rest-house is reported as not yet handed over, the delay in connection with the transfer of this land was brought to notice in the two previous inspection reports. The construction of an institute is under consideration.

83. *Guntakal*.—A loading bank and goods godown and a road from the east end of the goods godown to the Company's boundary have been completed. The proposal to build quarters for two native signallers is at present in abeyance.

84. *Molagaralli*.—A platform and police hut have been completed and a temporary shed has been erected over the wooden structures which do duty for a station-house.

85. *Ráichúr*.—A transshipping shed is just finished and an open shed over the loading bank is practically completed. The new coal siding is being laid, but the much required extension of the through siding has not yet been commenced. The engine turntable is only 40 feet in diameter, and as the Great Indian Peninsula Railway engines have an extreme axle distance of 43 feet, it is difficult to turn them and much delay is in consequence caused. It would be well, I think, to put in a 45-foot turntable.

86. *Central Station*.—A steam pump has been erected at the Central station. The proposal to build a joint dispensary and apothecary's quarters has not yet been approved.

87. *Perambúr Works and Perambúr*.—Four sheds have been put up at the west end of the carriage-shed at Perambúr Works, and the extension of the drawing office and the paving with portland cement and the provision of sky-lights in five bays of the carriage shed have been finished. The Assistant Locomotive Superintendent's bungalow, which was sanctioned in September 1891, has not yet been commenced in consequence of difficulties that have arisen in respect to acquiring the required land.

88. *Watering arrangements*.—Considerable anxiety is felt as to the water-supply on the Bangalore branch, and 3rd division, south-west line, owing to the failure of the monsoons during the last three years, and every possible precaution is being taken against emergencies. On the Bangalore branch there are now three permanent pumping arrangements outside station limits. The 12-feet iron cylinder in the bed of the Kadgodi river at mile 204 on the same branch gives a good supply.

89. On the North-west line there is at present plenty of water in the wells at watering stations, and in the Northern divisions the supply is more abundant than it has been for many years past. At *Ráichúr*, the old locomotive well is being greatly enlarged to form the permanent source of water. The work promises to be a decided success, a copious supply having been tapped.

90. *Station machinery*.—Distant signals have now been erected at all stations and are in working order at most of them. The remainder are waiting for wire from England.

91. Mr. Stoney's "point indicator," a signal showing by day and night for which road the points are set, has been fitted to two points in *Pódanúr* junction yard and works most efficiently.

92. *Schools*.—These are very satisfactory; the attendance during the year 1892 averaged 297 daily.

93. *Rolling stock*.—Both the locomotive and rolling stock is maintained to a high standard of efficiency. Provision has been made in the budget for the introduction of Pintch's system of carriage lighting, and when the installation is complete, the comfort of passengers will be much increased.

94. *General Remarks*.—The remarks made on the subject of the traffic at the last half-yearly inspection are again applicable, many of the goods sheds being empty.

The railway in every department continues to be thoroughly well managed and the high reputation of the line to be fully maintained. When the two drawbacks of a dirty road and bad lighting are removed, the Madras Railway will be second to none in India.

(Signed) A. D. G. SHELLEY, Capt., R.E.,
Dy. Consulting Engineer for Railways, Madras.

MADRAS,
20th February 1893.

(Signed) R. E. TOMLIN, Lieut., R.E.,
Attached to Office of Consig. Engr. for Railways.

APPENDIX

MADRAS RAILWAY.

STATEMENT showing rails in line and renewals for the half-year ending 31st December 1892.

Length of divisions.				Balance length of iron rails in main line including sidings of each sort by weight in rails.			Renewals including rails from sidings for four half-years.			
				Steel rails, 75 lb.	Flat bottom rails.		June 1891.	December 1891.	June 1892.	December 1892.
Divisions.	Main line.	Sidings.	Total.							
First Division, South-west line	176-0177	25-3666	211-3843	112-6874	4600	35-1866	1,466	1,576	1,523	978
do.	126-3763	21-8612	168-2375	49-9216	..	36-2493	806	977	1,064	1,106
do.	121-3700	11-6890	132-9590	42-3600	..	50-3110	628	1,237	666	474
do.	139-6850	21-0812	160-6662	41-4240	..	88-3390	972	426	1,213	894
do.	187-9381	19-1693	187-1074	67-2714	1-9202	2-9450	1,467	1,995	2,223	1,146
do.	140-3652	19-2926	159-6567	26-7203	2-3727	7-802	272	699	932	292
Total ..	861-6313	128-3499	1009-9812	340-1876	6-4709	213-7781	6,606	6,808	7,499	4,639

11TH MARCH 1893, No. 517 R., PUBLIC WORKS.

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

Railway.

Read the following paper :—

Report on the inspection of the Madras Railway for the half-year ended 31st December 1892.

No. 130.

Endorsement by the Consulting Engineer for Railways, dated Madras, 4th March 1893.

Submitted for the information of Government.

2. It is requested that 35 copies of the report, together with a similar number of copies of the orders of Government passed thereon, may be forwarded to the Government of India.

ORDER—dated 11th March 1893, No. 517 R., Public Works.

The report of inspection of the Madras Railway will be communicated to the Agent and Manager with the following observations.

2. *Para. 9.*—The attention of the Agent should be drawn to the orders passed on para. 13 of the report for the previous half-year—para. 3 of G.O., No. 2178 R., dated 8th September 1892. The Government desires that the South-west line and the Arkónam branch in particular, which is the dustiest piece of road and that on which the speed is greatest, should be completed as soon as possible. The submission of the estimates promised in July last for the more expensive portion of the scheme should be expedited.

3. *Para. 20.*—The delay appears to be due to the non-completion of the diversion of the feeder road by the Madras Railway Company.

4. *Paras. 39 and 46.*—The attention of the Local and Municipal Department will be invited to the subject of providing feeder roads.

5. *Para. 82.*—The Revenue Department will be asked to expedite the transfer of that portion of the land which has not yet been handed over.

3. Para. 85.—The Agent and Manager, Madras Railway, should be asked to report on the subject of the turntable.

7. A copy of these Proceedings will be forwarded for the information of the Government of India.

[Here enter No. 518 R., Public Works, dated 11th March 1893.]

(True Extract.)

(Signed) F. R. UPCOTT,
Joint Secy. to Govt., P.W.D.,
Railway Branch.

To the Consulting Engineer for Railways.
" Local and Municipal Department.
" Revenue Department.

ENDORSEMENT—dated 11th March 1893, No. 518 R., Public Works.

Forwarded.

(By Order.)

Joint Secy. to Govt., P.W.D.,
Railway Branch.

RAILWAY.

Gobt. of {1893} Madras.
PUBLIC WORKS.

Dated March, 11th.

Recd.

Encl.

G.O., 11th Mar. 1893, Nos. 517,
518 R.

MARCH

Inspection Report

Forwarding copy of Proceedings on —
of the Madras Railway for the half-year
ended 31st December 1892.

REPORT ON THE INSPECTION OF THE MADRAS RAILWAY FOR THE
HALF-YEAR ENDED 31st DECEMBER 1892.

The inspection of the South-west line was made by Lieutenant Tomlin, R.E., between the 16th and 21st January, both days inclusive, in company with the Chief Engineer and Resident Engineers of divisions.

The inspection of the North-west line and the length from Madras to Arkonam was commenced on 13th February, and, with the exception of Perambur shops and the Kayapuram branch, was completed on 17th February. The inspection was made by Captain Shelley, R.E., in company with the Chief Engineer and the Resident Engineers of the various divisions.

2. **Earthwork** is well maintained throughout. The Bangalore branch was breached during the south-west monsoon in August last at miles 164/12 and 166/3 for lengths of 100 and 150 yards respectively. The former is now fully restored; at the latter the three flat-topped openings (two of 4' 3" and one of 6') are being replaced by a 20-foot girder which is being put in without a diversion and without interruption to traffic. Speed is restricted to 5 miles an hour at present. The work will be finished before the end of February. On the North-west line, water is reported to have topped the cutting at mileage 211/10 and also to have soaked through the upper side. A small catch-water drain excavated above the cutting should amply protect it, and orders to this effect were issued by the Chief Engineer. Elsewhere the banks and cuttings are in perfect order.

3. **Bridges.**—The bridges inspected were in thoroughly good order.

4. **Thootha bridge, mile 373/15.**—The substitution of stronger girders has been carried out and the bridge was tested by the inspecting officer and opened for traffic. The new girders, which are similar to those of the Cauvery bridge, are laid on the northern (upstream) ends of the piers. The old girders, which are on the southern ends, have not yet been removed. The rail level of the new bridge is 3' 10½" higher than that of the old one and the approaches are on a rising grade of 1 in 200 at each end instead of level as formerly. The consolidation of the new approaches will probably be complete in about six weeks, by which time also the old girders will have been removed and the hand rail and plank footway on the south side fixed.

5. **Bridge at mile 395.**—This is to be strengthened by the insertion of screw pile piers in the centre of each span, thus doubling the number of spans and halving the length of each. A lay-bye is in progress. The dry stone flooring shows no sign of damage from the severe flood which recently passed over it.

6. **Bridge over the Kalpati river, mile 333, Palghat branch.**—The floor of the southern portion of the bridge is to be asphalted, the use of ordinary road metal having proved unsatisfactory.

7. **The Cheyár bridge, mile 136,** is being strengthened by duplicating the main girders, and three spans of extra girders are in position. The rivetting of the rolled beams and strengthening plates still remains to be done. It is hoped, if all goes well, that the work will be finished in four months.

8. **Permanent-way.**—The road is generally in its usual excellent condition. The rail joints of the old rails are much down at the joints and very perceptible under the passage of vehicles, but with the exception of roughness in places on the North-west line, notably in miles 21, 99 to 101, 144, 145, 203 and 207, the road is in first-class order throughout. The rails in line and renewals for the half year are shown in an appendix.

9. **Ballast.**—The line is fully ballasted throughout. The coating of the sand ballast with a thin layer of stone has been carried out on about 106 miles of the South-west line and is in progress between Madras and Arkonam, where over five miles have been covered, but on the North-west line beyond a trial quarter of a mile in each division nothing has been done. As a preventive to the rising of dust the stone

covering answers perfectly, but renders the upkeep of the road to its present high standard a matter of difficulty, and will probably necessitate the maintenance gangs being increased. Personally I consider the advantages of a clean road to far outweigh the drawbacks involved in obtaining it, and though the remedy is naturally unpopular with the Engineering Department, there need be no fear that the present staff will allow the road to run down.

10. **Fencing and level-crossings.**—The fencing is in fairly good condition; the aloe hedge is weak in many places and in others is too low yet to form an efficient barrier though it will improve by growth.

11. **Stations and Buildings—Munnal.**—A road goods room has been completed.

12. **Arcot.**—The removal of the present verandah of the station building and the substitution of a cantilever platform cover is still under consideration. There is no doubt that it would be a great improvement to the station. More extensive third-class waiting accommodation is said to be required.

13. **Kāḍḍi.**—A double bungalow for signallers is under construction and will be finished next month. Lightning-conductors are being fixed to the new station building on the island platform and to the goods shed. A double bungalow for engine-drivers has been built. The girders of the overbridge at the west end of the yard having damaged the centre pier (to which they were pinned) by expansion and contraction, roller bearings are being put in.

14. The west ashpit and water column have been shifted to the end of the passenger platform and the platform line is being relinked in.

15. The watering arrangements are now complete for the supply of the South Indian Railway as well as Madras Railway requirements. In order to guard against a failure of water in dry seasons, borings were carried to a considerable depth below the surface to tap sub-soil springs and a trench was carried from the well to the tank outside, below the level of the bottom of the latter. This trench does not draw any more water from the tank than formerly percolated into the well, but will be of value when the tank dries as it collects the sub-soil water. It is anticipated that complaints may be made that it drains the tank, but as explained this is not the case. The steam pump referred to in the last report has been erected and is ready for use.

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22. The well at the 133rd mile, Bangalore branch, is being enlarged and the present open channel which conducts the water to the station is to be replaced by a 6" pipe. A steam pumping engine will be erected at the well.

23. Proposals have been put forward for alterations and additions to the station-house and also for the construction of 20 houses for native firemen.

24. The estimated value of the two plots of land which it was proposed to acquire for possible extensions and for sanitary reasons to prevent squatting having proved

very high, the Railway authorities are inclined to confine their application to the strip necessary for the proposed 3rd line south of the main line. The acquisition of the remainder, which would probably come under C class, might stand over.

25. **Patchur.**—An oil and store room has been added.

26. **Mūḷānūr.**—An oil and store room and a latrine for natives have been completed.

27. **Gudupulli.**—Houses have been built for the stationmaster and his assistant and huts for pointsmen. A lay-bye has been completed and a level-crossing with a cart road through the station compound has been made at the south end of the platform. This station gets but little traffic at present, its chief use being as a crossing station.

28. **Kāmasamudram.**—A station-master's house is finished.

29. **Kōlār Road.**—An extension of a lay-bye has been completed. Alterations and additions will be required to the station-house for the junction of the branch line to the Kolar gold mines, and an estimate has been submitted. The Traffic Department wish to have the road on the east of the station-house and goods shed metalled, but its condition is not so bad as to warrant the expense. It will, however, be levelled and improved. The question of the junction of the branch line is still unsettled, but it will probably be a double line one and not single as proposed by the Mysore Government.

30. **Malur.**—An extension of the through siding is completed.

31. **Krishnarājapuram.**—The waiting shed has been re-roofed with Mangalore tiling. The room at the end of it is to be used as a booking office instead of the separate building which has served hitherto.

32. **Bangalore Cantonment.**—In order to lighten the station building the louvres which formerly existed only in short lengths near the ends have been made continuous and the under side of the corrugated iron roof has been whitened. The improvement in the lighting is considerable and nothing further seems to be required. The sides of the engine-shed have been paved and the floors of the ashpits raised to conform to standard dimensions. The water-supply is still a difficulty, the new 20-foot well giving but little water, and washing out has to be done at Jalārpēt.

33. **Bangalore City.**—Alterations and additions to the Sandalkoti buildings have been commenced to provide quarters for subordinates, and a latrine will be built on the opposite side of the road. The new goods-shed office is up to floor level. The approval of the Board of Directors of the Southern Mahratta Railway is still awaited to the plans of the proposed alterations and improvements to the station. Other works proposed are a carriage examiner's bungalow, thirty houses for subordinate staff, and a carriage shed. The Southern Mahratta Railway authorities still refuse to give up the land and buildings required on the south side of the yard, and until this is done it is doubtful if further works can be undertaken.

34. The Southern Mahratta Railway wish to have the low bank between their lines and the Madras Railway raised to form a long transshipping loading bank to meet rushes of grain traffic. This appears to be a desirable improvement.

35. **Tirupatūr.**—An extension of the lay-bye and loading bank has been carried out.

36. **Kullāvi.**—The through siding is completed and a small house for a native subordinate has been built.

37. **Mallāpuram.**—It is proposed to enlarge the well here, the water in which has fallen very low.

38. **Kadiampatti.**—A loading bank has been completed.

39. **Thāṇṇapatti.**—A booking office has been finished. The goods traffic is said to suffer for want of a feeder road.

40. **Salem.**—A house has been built for the engine man in charge of the steam pump at mile 204½. The steam pump, which was moved from the station, works six hours a day, and the supply of water is good. The suction pipe ends in a well 10 feet deep immediately underneath the engine, and this well is connected by a pipe with a 6-foot brick well 12 feet deep in the tank bed. Salem station, to which the water is carried in pipes, is now entirely dependent for its water on this supply.

41. Some additions have been made to the stationmaster's house. The floor of the verandah outside the old goods-shed has been raised to 2 feet above the road level for convenience in unloading carts. A suitable site has been selected for a petroleum tank for Messrs. Best and Co. at the west end of the yard.

42. *Sankaridrug*.—A good supply of water is at present obtained from a new 20 feet well at mile 230/5.

43. A small plot of land formerly in possession of the Railway authorities but relinquished by them is said to be again required for stacking wood for locomotive purposes. The land would be rented to the contractor and being waste would probably cost little.

44. *Erode*.—The foundations of a 30-ton weigh-bridge at the east end of the engine-shed are finished. A running guards' bungalow has been built. The Traffic Department have asked for a through siding in front of the passenger platform to deal with occasional rushes of traffic.

45. *Vijayamangalam*.—The new goods shed and loading bank are nearly finished. A small trial well is to be sunk to provide drinking water for the staff.

46. *Kulipalaiyam*.—This trial station is 5 miles from the main road, and petitions have been presented by the villagers for a feeder road, which appears to be needed.

47. *Manjalum*.—Extra land has lately been acquired for the construction of a house for the assistant stationmaster.

48. *Sulur*.—A small plot of additional land has been acquired on the south side.

49. *Singdallur*.—Extra land has been taken up to prevent buildings being erected.

50. *Podanur Junction*.—A guards' bungalow is nearly completed, also an office for the Assistant Traffic Manager. Further alterations and additions to the main line sidings have been carried out, but the whole scheme will not be completed till next year. A bungalow for the Sergeant Instructor of Volunteers is being built by Government. A third line is said to be required for the Nilgiri branch.

51. *Combatore*.—An extension of the goods-shed has been carried out and a goods office and loading bank have been completed.

52. *Mettupalaiyam*.—An estimate for the alterations and additions in connection with the junction of the Nilgiri Railway has been sanctioned, and the new main line and siding of the Madras Railway on the east side of the station have been staked out.

53. *Olavakode*.—The alterations in the sidings at the east end of the yard have been carried out. A signallers' bungalow is nearly finished. The old goods-shed is being removed to Palghat.

54. *Palghat*.—The diversion of the road west of the yard is nearly ready but is not yet metalled. This, when completed, will dispense with the level-crossing at the north end of the station. The approach road to the temporary goods shed is to be improved. The foundations for the permanent goods shed which is being brought from Olavakode have been excavated. A short approach-road will probably be required eventually. The siding leading to this shed has been extended and a lay-bye and 30-ton weigh-bridge have been commenced. Nothing has been done to the temporary thatched station building and goods shed, except that in the latter corrugated iron sheets have been suspended over the track to prevent sparks from the engine lodging in the roof.

55. *Mankarai*.—A new station building has been erected. The home signal has been put up and is working.

56. *Shoranur*.—A third line has been added. Three huts are still standing on a piece of land which was acquired by the railway nine months ago in order to get rid of them. It is said that the compensation has not yet been paid and the huts cannot therefore be removed. The case is being inquired into.

57. *Pattambi*.—A loading bank has been completed and a crane transferred here from Kanyikód.

58. *Edakkulam*.—A new station building is approaching completion.

59. *Tirur*.—A suitable site has been selected for a petroleum tank for Messrs. Best and Co.

60. *Parpanangadi*.—The lay-bye has been removed to a site opposite the station building and lengthened. A goods-shed and loading bank have been finished.

61. *Ferek*.—A third line is being added and two additional godowns for merchants are in progress. A road goods room has been built.

62. *Kullai*.—A short siding has been laid into Brown and Co.'s timber depot.

63. *Calicut*.—Some additions have been made to three guards' bungalows.

North-West Line.—The station-house, platforms and railway premises generally are in perfect repair and in their invariably neat condition. The careful attention to sanitation and the clearance of prickly-pear and undergrowth makes the station compounds on the Madras Railway models of cleanliness and neatness.

64. *Connur*.—At Connur the relief siding is finished and the proposed sorting sidings are at present in abeyance.

65. *Avadi*.—The extension of the platform at Avadi is completed.

66. *Arkonam*.—At Arkonam the additions to and the alterations of the signallers' bungalow are in progress. The resident guards' house is finished except in respect to woodwork, fittings, and fencing. It is proposed to shift the latrines on the platform further south, and to erect a temporary tank at the east end of the North-west line platform. This latter work appears much required. The whole of the staff bungalows except one permanent-way inspector's house have now been provided with pandals.

67. *Manur*.—The new platform at Manur is in course of construction, not being as yet to full width.

68. *Nagari*.—The godown is ready for the roof.

69. *Vepagunta*.—The work of constructing a platform and lay-bye is reported to be delayed owing to the non-transfer of the required land.

70. *Rénigunta*.—The extension of the engine-shed is completed, a double guards' bungalow is up to basement level, a block of four bungalows for European and Eurasian firemen is built to the top of the window frames, and the walls of six houses for subordinate staff are built to roof level.

71. *Rájampet*.—The extension of the through siding and platform is finished, and six houses for subordinate staff are up to roof level.

72. *Nandalur*.—The extension of the platform is completed, and four houses for subordinate staff are in an advanced state.

73. *Vontimitta*.—One house for subordinate staff is up to door-frame level.

74. *Siddhavattam*.—The extension of the platform and through siding is finished.

75. *Cuddapah*.—Six huts for scavengers have been built, and six houses for subordinate staff are in progress, being up to door-frame level.

76. *Krishnapuram*.—The through siding is finished.

77. *Gangayapalli*.—The new station-house is up to wall-plate height. This building is in high bank and is carried on horizontal rails supported at platform level on masonry pillars.

78. *Kamalapuram*.—The station-house is being altered to provide larger third-class waiting accommodation.

79. *Yerraguntla*.—The extension of the third-class waiting room and the construction of nine houses for pointsmen are finished.

80. *Tadpatri*.—It is proposed to construct a tank for the storage of petroleum in bulk. The site selected at the dead end of the goods-shed siding is suitable and should be approved.

81. *Pennér*.—The station-master's house was completed in August last.

82. *Gooty*.—The double bungalows for family guards and engine drivers, the eight houses for native firemen and the prosecuting inspector's office are finished. The land in connection with the military rest-house is reported as not yet handed over, the delay in connection with the transfer of this land was brought to notice in the two previous inspection reports. The construction of an institute is under consideration.

Length of divisions.			Length laid with steel rails.		Balance length of iron rails in main line including of each sort by weight in rails.				Renewals including rails from sidings for four half-years.			
Divisions.	Main line.	Sidings.	Total.	Steel rails,	Flat bottom	65 lb.	76 lb.	84 lb.	June 1891.	December 1891.	June 1892.	December 1892.
				75 lb.	rails.							
First Division, South-west line	176-0177	85-3668	211-3843	113-5874	4609	36-1666	13-5556	48-9246	1,466	1,574	1,623	978
Second do.	136-3783	21-8612	158-2376	49-9216		86-2483	72-0677		806	977	1,054	1,106
Third do.	121-3700	11-6890	132-9590	42-2600	3100	80-21-0	39-6250	6400	628	1,237	656	474
Fourth do.	139-5850	21-0813	160-6663	41-4240	4980	84-3380	30-4053		972	428	1,213	896
First do.	167-9381	19-1693	187-1074	67-2734	18202	2-9450	118-9226	1-1653	1,467	1,966	2,232	1,466
Second do.	140-3442	19-2926	159-6367	26-7202	3-3727	7802	130-7466	-0-160	372	599	832	592
Total ..	861-6313	128-3499	1009-9812	340-1875	8-4709	213-7781	400-2196	60-3251	6,608	6,808	7,499	4,639

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

Endorsement from the
Consulting Engr for Ryos. } H.E. No. 130 of 4 March 1893.

ORDER—dated // March 1893, No. 517 R., Public Works.

The report of inspection of the Madras Railway will be communicated to the Agent and Manager with the following observations.

2. Para. 9.—The attention of the Agent should be drawn to the orders passed on para. 13 of the report for the previous half-year—para. 3 of G.O., No. 2178 R., dated 8th September 1892. The Government desires that the South-west line and the Arkónam branch in particular, which is the dustiest piece of road and that on which the speed is greatest, should be completed as soon as possible. The submission of the estimates promised in July last for the more expensive portion of the scheme should be expedited.

3. Para. 20.—The delay appears to be due to the ~~un~~completion of the diversion of the feeder road by the Madras Railway Company.

4. Paras. 39 and 46.—The attention of the Local and Municipal Department will be invited to the subject of providing feeder roads.

5. Para. 82.—The Revenue Department will be asked to expedite the transfer of that portion of the land which has not yet been handed over.

6. Para. 85.—The Agent and Manager, Madras Railway, should be asked to report on the subject of the turntable.

7. A copy of these Proceedings will be forwarded for the information of the Government of India.

[Here enter No. 518 R., Public Works, dated // March 1893.]

(True Extract.)

Major, R.E.,
Offg. Under-Secy. to Govt., P.W.D.,
Railway Branch.

To The Commr for Ryos
- Local & Municipal Dept
- Revenue Dept

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No. 514. 18 Rg 11. March
1893.

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W. CURRENT No. 1005

Form No. 1.

From

THE CONSULTING ENGINEER

FOR RAILWAYS,

Madras,

No. 130

Dated 4th } March 1892.

Received

No. of ENCLOSURES.

Subject.

Submitting report on the
inspection of the Madras
Railway for the half-year
ended 31st December 1892

EN^o 2095

1893 .

Public Works Department.

No. 577-8 R.

Dated 11th March 1893.

Despatched.

Received

12/11/93
15/3

SUBJECT.

Inspection Report

Orders on the
of the Madras Ry
for the half year
ended 31st Dec^r 1892

- 80 -

Forwarding copy of
Proceedings on
of the Madras Ry
for half year ended
31st Dec^r 1892.

J. C. 14/5

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