

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	2938 B	Press
B.P. No.	2938 C	Mis.
Dated	14 - 10 -	195
		6874

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
14th October 1874.*

No. 348C. Read the following letter from Major W. CHRYSTIE, R.E., Officiating Under Secretary to the Chief Commissioner of Mysore, Irrigation Branch, to Colonel G. W. WALKER, R.E., Secretary to the Government of Madras, Public Works Department, dated Bangalore, 3rd October 1874, No. 555-2,666:—

I HAVE the honor, by order, to communicate the following particulars regarding the recent danger to the Palar terminal tanks of which your Government were warned by a telegram of the 19th instant.

2. The terminal tank across this river is the Ramasagur (which gives its name to the whole series), with a capacity at weir level of 9,000,000 cubic yards, and a waterspread of 5,800,000 square yards. The weirs are 570 feet in length, and the lowest part of the massive bund 10 feet above them. Orders were issued in July last by the Chief Commissioner to run this tank dry in January, to thoroughly examine the revetment and masonry works, and to make good all defects.

3. Above the Ramasagur is the Baitmungalum tank of 5,700,000 cubic yards, and a waterspread of 3,250,000 square yards. The bund is very strong, and its lowest part 8.01 above the waste weirs of 450 feet in length. A rough estimate, amounting to Rupees 25,000, has been prepared for the improvement and enlargement of this tank; but it has not yet received the approval of the Chief Commissioner, and in any case is not likely to be carried out until the dry season of 1875-76.

4. Above Baitmungalum, and also across the main drainage, is the Holali Jodi tank of 3,600,000 cubic yards capacity, 3,000,000 square yards waterspread, 450 feet waste weirs, and with a bund 8 feet at its lowest above full tank. The general condition of this tank was, however, so insecure that the Chief Commissioner, on the recommendation of the Officiating Superintending Engineer, ordered it to be breached in July, and the tank was accordingly drained by a cut in the kody 60 feet long and 9 feet deep. In the early part of September work was in progress at the tank on an estimate of Rupees 12,643, providing for general repairs and lengthening the waste weirs 75 feet.

5. Above Holali the valley of the Palar spreads out, its area being in round numbers 700 square miles, in which there are 1,250 tanks, several of them of the first magnitude.

6. The tanks in the Colar District were filled in the cyclone of 5th and 6th May, and since then the rains of the south-west monsoon have been unusually heavy, so that the bunds and escapes had already been severely tried, when a heavy storm passed over the district on the night of the 15th instant.

7. The Deputy Commissioner, Colar District, has reported the breach of seven tanks in this series, including the large chain terminal Hooloor tank, between the 15th and 18th September 1874.

8. On the 16th instant, the Assistant Engineer, Colar District, found a rising flood of 5.12 feet passing over the Baitmungalum waste weirs, and direct communication with the railway being cut off by the submergence of the road, he despatched an express, *via* Tempully, to the Deputy Commissioner, requesting that the Railway authorities might be warned of the unusual flood.

9. The above information reached the Chief Commissioner on the morning of the 18th, but as Baitmungalum and Ramasagur were known to be strong tanks and Holali was breached, he was advised that no further immediate action appeared necessary.
10. But on the morning of the 19th, a further report was received from the Assistant Engineer, to the effect that, notwithstanding the breach mentioned in paragraph 4, the flood had risen 6-21 feet over the Holali kodies, and although it had subsided 1 foot, yet that the tank was in imminent danger, the force of the water escaping by the east weir having torn down the revetment protecting the rear of the bund, which was being rapidly eroded.
11. At this time the waterspread of the Holali tank had increased to 4,500,000 square yards, and not less than 12,000,000 of cubic yards of water were ponded back in and above its waste weirs. Baitmungalum already contained 14,000,000, and it was evident that if Holali went the combined waters of the two tanks would breach Ramasagur, then retaining more than 20,000,000 of cubic yards.
12. The Chief Commissioner therefore at once directed that your Government, the Railway Agent, and the Revenue Officers of the Districts threatened by the flood should be warned, and his telegram of the 19th instant was despatched.
13. As there was still 5 feet of water over Holali weirs, nothing could be immediately done to save the tank, but meantime labor and materials were collected; work was commenced on the morning of the 19th, and the east weir was closed by 4 P. M. that day. On the 20th, the Chief Commissioner telegraphed that immediate danger was passed.
14. A tracing showing the east end of Holali bund, with section of the point attacked by the water, is attached, from which it will be seen how narrow has been the escape from what might have been a serious calamity.
15. I am also to append a statement, giving several particulars in a tabulated form, of the capacity of the tanks, waterspread, length of weirs, etc., at different levels, with copy of Assistant Engineer Lieutenant Kensington's last report on the subject.
16. In that report it is stated that the north-western waste weir (for a length of 200 feet) of the Ramasagur tank has suffered severe injury, and as the Palar will continue more or less in flood until the end of November this cannot be made good until next season. Should, however, this face wall fail, it would be the water of one tank only which would be released, and that far more gradually than would be the case if the bund were overtopped. Although, therefore, there is still some danger, it has ceased to be formidable under ordinary circumstances.
17. From paragraphs 2, 3, and 4 of this letter the Government of Madras will perceive that these terminal tanks have not been lost sight of, and that the extreme importance of maintaining them to full standard is recognized. Before the flood of the 16th and 17th instant, Ramasagur was a very exceptionally strong tank, and the great anxiety which its critical condition has lately caused proves that security in serial tanks can only be obtained by dealing with all the works of the series after thorough investigation of all the circumstances connected with each and all. In a series of the size of Ramasagur this must necessarily be a work of time.

18. Since September 1872, an Assistant Engineer, with a full staff of surveyors and subordinates, has been employed in this valley, and up to date the estimates for five sub-series, containing 142 tanks, have received sanction, and the work upon them, which is to cost Rupees 1,18,712, is in active progress.

19. The Officiating Superintending Engineer considers that the estimates for 140 more tanks should be submitted before the end of the current year, and that annually the staff at present employed could submit the project for, and carry out the improvements to, 200 tanks.

20. But the Government of India having recently strengthened the establishment of the Irrigation Department in this Province, the Chief Commissioner will be able to form the Ramasagur series into a separate division, which should be able to complete the work to 350 tanks per annum, at which rate the whole series should be completed by the end of the year 1877-78.

21. In conclusion, I am to state that all the Mysore tanks above the Madras Railway, both in the Ramasagur and other series, will be brought to a standard of safety as rapidly as the means at the Chief Commissioner's disposal will permit.

Assistant Engineer's Report on Holali, Baitmungalum, and Ramasagur Tanks in connection with flood of 16th September 1874.

On the night of the 15th September heavy rain fell throughout the Colar District. If the accounts received from the Amildars are to be relied upon, it will be seen (*vide* statement No. 2 attached to this report) that the average rainfall registered in the Palar river basin above the Ramasagur tank for the 14th and 15th may be put down as 5-70 inches.

2. On the morning of the 16th, receiving information that a very unusual flood had come down the river, I proceeded to the eastern weir of Baitmungalum tank and found 5-12 feet of water discharging over it. The height of water was 1-12 above a B. M. reduced level 54-00, which was the level water rose to on 15th October 1873.

3. The road below the tank on both sides of the bridge was flooded for a length of about 200 yards and communication with Baitmungalum stopped at 11 A. M., the flood was still rising.

4. On my return to camp at Mittoor at 2 P. M., there was a report awaiting me from the Sub-Overseer in charge of Holali tank, informing that there was a heavy flood over the weirs of the tank which he considered to be in a dangerous state, and that the flood was still rising.

5. On examining the plans of the Holali tank, and finding that the bund was only 8 feet above weir in places, I considered it was very necessary to warn the Railway authorities regarding the dangerous condition of the terminal tanks on the Palar.

I accordingly sent an express to the Deputy Commissioner, with a request that he would do so, as there was no communication with the Railway Station *via* Baitmungalum.

6. Early in the morning of the 17th I hastened to Holali tank, and found the flood had subsided 1 foot. The tank might then have been said to be out of danger but for the following circumstances: the water in discharging at full flood level over the eastern weir had worked round the rear slope of the bund, carried away some stone revetment which protected the slope at this place, and was rapidly eating away the bund.

7. There was still more than 5 feet discharging over the weir, and nothing that I could think of could be done until the flood subsided.

8. On the 19th morning I again proceeded to the tank, and to my delight found the flood had gone down one yard, but at the same time more than three-fourths of the bund had been washed away by the discharge of the weir during the night, and the tank looked as if it would breach at any moment.

9. The day previous I had ordered some labor and materials to be in readiness to fill in the breach as soon as communication could be established with the bund; however, on the morning of

*Proceedings of the Madras Government, Public Works Department,
14th October 1874.*

the 19th, I at once saw that the only chance of saving the tank was to close the waste weir entirely, and I am glad to be able to report that I succeeded in doing so by about 4 P.M.

10. At 9 A.M., just after commencing work, such a large piece of the bund fell in that I called all my work people away, expecting the bund to go; seeing, however, that it was still holding we pushed on rapidly with the bunding up the weir.

By the time it was half bunded up, the discharge had so diminished that no more earth fell away from the breach. I experienced some difficulty in closing the last six yards or so, as the depth of water at this point was 4 feet, and the current so strong that only very large boulders would withstand it.

11. By 4 P.M. the work was completed, and the tank out of all immediate danger. Instructions were left with the Sub-Overseer to raise this bund to 7 feet above weir level in case of another flood coming, and so prevent any water getting at the breach. This work has been since executed; also three-fourths of the breach is now filled in.

12. Statement No. 1 gives all information in connection with the three terminal tanks and the flood, and needs no further comment.

13. If the plan of the eastern weir submitted herewith be examined, it will be seen what a narrow escape the tank had of breaching, and I estimate the damage would not have been less than Rupees 5,000 had it gone.

14. About three-fourths of the apron of the north-western weir of the Ramasagar tank has been washed away entirely, the body wall only is standing, similar to the now breached portion of the western weir of the Holali tank. As far as I can at present ascertain, the depth of the hole below the body wall is much greater, not less than 12 feet.

CAMP, MITTOOR,
25th September 1874.

(Signed) C. H. M. KENSINGTON, Lieutenant, R.E.,
Assistant Engineer, Colar Tank District.

*TANK DIVISION, COLAR TANK DISTRICT.
Statement No. 1.*

Information required.	Holali Tank.	Baitmungalum Tank.	Ramasagar Tank.	Remarks.
(1.) Length of weir at reduced level 50.00 yards ...	150 yards.	150 yards.	190 yards.	This denotes the effective length approximately. N. B. R. L. of weir = 50.00
(2.) Length of weir at flood level, 16th Sept. 1874...	170 "	210 do.	230 do.	
(3.) Reduced level of lowest part of bund during flood of 16th September 1874...	53.01	58.01	About 60.00	
(4.) Area of waterspread at 50.00 square yards ...	58.21	55.70	About 54.50	Maximum level about 6 P.M.
(5.) Capacity of tank at 50.00 cubic yards ...	8,000,000 sq. yds.	8,250,000 sq. yds.	8,800,000 sq. yds.	Excluding water in river between the tanks. * Approximate. Grand total for the 3 tanks, say 50,000,000 cubic yards.
(6.) Do. flood level ...	5,000,000 do.	6,200,000 do.	10,300,000 do.	
(7.) Length of Holali tank weirs to be increased ...	8,600,000 cub. yds.	5,700,000 cub. yds.	9,000,000 cub. yds.	
	12,000,000	14,750,000	21,000,000	
	About 25 yards.			

MITTOOR,
25th September 1874.

(Signed) C. H. M. KENSINGTON, Lieutenant, R.E.,
Assistant Engineer, Colar Tank District.

ORDER THEREON, 14th October 1874, No. 2,938-B.

RAILWAY, No. 48A.

His Excellency the Governor in Council has received this communication from the Government of Mysore, explanatory of the Chief Commissioner's telegrams of the 19th and 20th ultimo, with

*Proceedings of the Madras Government, Public Works Department,
14th October 1874.*

a high appreciation of the manner in which the danger along the lower valley of the Palar has been realized by the Officers of that Government, and of the skill and energy with which all possible precautions were taken to avert it and its possible consequences, as well as of the scientific measures which are being adopted effectually to secure the country from similar danger in future. His best thanks are due to the Chief Commissioner for the prompt action taken in communicating the fact of the existence of danger, which was as promptly promulgated for the information of all authorities in the districts menaced.

2. Communicated to the Chief Engineer for Irrigation, the Consulting Engineer for Railways, and the Revenue Department.

(Here enter, No. 2,938C, dated 14th October 1874.)

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation
.. Consulting Engineer for Railways.
.. Revenue Department.

Exd. S. T. Austin.
Spare Copies

PUBLIC WORKS DEPARTMENT,
OOTACAMUND, 14th October 1874.

No. 348E.

No. 2,938-C.

FROM

COLONEL G. W. WALKER, R.E.,
*Secretary to the Government of Madras,
Public Works Department,*

TO

THE CHIEF COMMISSIONER OF MYSORE.

RAILWAY, No. 48B.

SIR,—I am directed to acknowledge receipt of your Officiating Under Secretary's letter, No. 555-2,666, dated 3rd

October 1874, and, in reply, to state that His Excellency the Governor in Council has received this communication from the Government of Mysore, explanatory of the telegrams of the 19th and 20th ultimo, with a high appreciation of the manner which the danger along the lower valley of the Palar has been realized by the Officers of that Government, and of the skill and energy with which precautions were taken to avert it and its possible consequences, as well as of the scientific measures which are being adopted effectually to secure the country from similar danger in future. His Excellency in Council has desired me to convey his best thanks to you for the prompt action taken in communicating the fact of the existence of danger, which was as promptly promulgated for the information of all authorities in the districts menaced.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

Exd. S. T. Austin.

Spare Copies

Class.

INDIAN TELEGRAPH.

To (Station)

Patacamund

From (Station)

Bangalore

No.

Words.

Time tendered for transmission.
(Madras time.)

OFFICIAL INSTRUCTIONS.—

354

9

Day.

H.

M.

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To (Person)

Borker

From (Person)

Chf Comm

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RECD. FROM.

(L. L.)

SENT TO

At H. M., on the

At H. M.

By

By

Date

TACAMOND 25-9-7

(P. 1) — Alipore Jail Press.

— Alipore Jail Press.

From Elwin. To Chf. Officer R.E.
 " Madras. " Patacamund
 Shant for telegram had heard

15-9-76
 With order
 P. 16. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

ASS.

SM

INDIAN TELEGRAPH.

O (Station)

Potacamund

FROM (Station)

Bangalore

No.

WORDS.

Time tendered for transmission.
(Madras time.)

OFFICIAL INSTRUCTIONS.—

272

18

20

12

10

Clear line

To (Person)

Madras Works.

From (Person)

Chf Commr

Clear

line

Flora

subsided

Immediate

danger

over

Caution

measures

13

14

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23

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24

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RECD. FROM _____ (L. L.)

SENT TO _____ (L. L.)

AT _____ H. _____ M., on the _____

AT _____ H. _____ M., on the _____

BY _____

BY _____

Date *POTACAMOND 20-8-7*

Indefinite

(P. 1) — Alipore Jail Press.

*From Eluvu To Chf Commr R.E.
" Madras " Potacamund*

Shout to for telegram had heard

Record

Ordered that the following
 telegram be sent.
 Immediate danger order
 has been issued.
 Collectivist
 at Chingit.
 at Chingit.
 because that the
 and warning given.
 to A. C. Gamm
 Bangalore.
 signed R. M. H.

Class.		INDIAN TELEGRAPH.				Local No.	
To (Station)		From (Station)				Official Instructions.	
Dattamund		Madras					
No.	Words.	Time tendered for transmission.					
5-5-5	40	Day.	H.	M.			
		19	16	50			
To (Person)		From (Person)					
Col Walker R. E.		Eluvu					
1	Thinks	2	for	3	telegram		
4	had	5	heard	6	direct		
7	from	8	Chief	9	Commissioner		
10	have	11	suspended	12	the		
13	summit	14	if	15	night		
16	train	17	on	18	the		
19	south	20	west-	21	line		
22	between	23	circum	24	and		
25	Jallaput	26	and	27	on		
28	Bangalore	29	branch	30	will		
31	this	32	anticipates	33	danger		
34	is	35	passed	36			
RECD. FROM		SENT TO		(L. L.)			
AT H. M. on the		AT H. M. on the					
BY		BY		Maffion Telegraph Master.			
Date		Date		19-9-7-			

From Eluvu To Col Walker R. E.
 " Madras " Dattamund
 Thant Co for telegram had heard

Class.

INDIAN TELEGRAPH.

To (Station)

Ootacamund

From (Station)

Bangalore

No.

Words.

Time tendered for transmission.
(Madras time.)

OFFICIAL INSTRUCTIONS.—

246

27

Day.

H.

M.

19

12

33

Clear the line

To (Person)

Master. Thanks.

From (Person)

Ch. Comr.

Clear the line - Thrice

p. a. l. o. r

million

Reported

hundred feet

officials

along

terminal

series -

Cubic

massing

dumper -

and

valley -

Cambridge

Fifty

Yard

high

Wain

village

Copy forwarded to

Collector North Arcot District

District Collector -

Cuddalore for forwarding

Agent Commissioner - Madras

RECD. FROM

(L. L.)

AT

H.

M., on the

BY

SENT TO

(L. L.)

AT

H.

M., on the

BY

OOTACAMOND 19-9-74

(P. 1) - Alipore Jail Press.

Telegraph Master.

From Elwin To Col. Walker R.E.
" Madras " Ootacamund

Shant for telegram had heard

direct from Chief Commissioner
Have suspended the running of night
trains on the South West line between
Arconum and Jollapett and on Banga-
lore branch until the anticipated
danger is passed.

No 4.

20 Sept.

From Chief Commr. to Madras & Co
Bangalore Calicut
Clear line. Flood subsided. Im-
mediate danger over caution necessary.

No 5.

20 Sept.

Immediate danger over flood
having subsided.

To. Coll. & Arcon

do Chingleput

To. Coll. & Arcon

do Chingleput.

b. Messages thankfully ac-
knowledgeed and warnings given

To. Ch. Commr

Bangalore

25 September.

From Ch. Commr. to Govt
Bangalore Calicut

7. No further danger from
Palar tank.

6421A
P. B. 17/10

Assistant Engineer's report on Holat,
Palamungalam and Ramasaya banks
in connection with flood of 16th September 1873.

1. On the night of the 15th September heavy
rain fell throughout the Polar District. Of the
accounts received from the Amildars are to be
relied upon, it will be seen (vide statement No. 2
attached to this report) that the average rainfall
registered in the Polar District basin above the
Ramasaya Bank for the 14th and 15th May, be-
came down to 8.70 inches.

2. On the morning of the 16th, receiving
information that a very unusual flood had
come down the river, I proceeded to the Eastern
bank of Palamungalam bank and found 5.12
feet of water discharging over it. The height of
water was 1.12 above a B.M. reduced back to 5.00,
which was the level water rose to on 15th
October 1873.

3. The road below the bank on both
sides of the bridge was flooded for a length
of about 200 yds, and communication with
Palamungalam stopped at 11 A.M. the
flood was still rising.

4. On my return to camp at Britton at 2 P.M. there was a report awaiting me from the sub-
Cursar in Charge of Molali Bank informing
that there was a heavy heavy flood over the
weirs of the bank which he considered to be
in a dangerous state, and that the flood was
still rising.

5. On examining the plans of the Molali
bank and finding that the bund was only 8 feet
above weir in places, I considered it was con-
siderably to warn the Railway authorities
regarding the dangerous condition of the terminal
banks on the Palor.

I accordingly sent a message to the Deputy
Commissioner, with a request that he would
do so, as there was no communication with
the Railway Station via Belamangalam.

6. Early in the morning of the 17th I hastened
to Molali Bank and found the flood had
subsided 1 foot. The bank might then have
been said to be out of danger, but for the
following circumstances, the water in
discharging at full flood leaped over the Eastern
weir had worked round the rear slope of
the bund carried away some stone masonry
which protected the slope at this place, and
was rapidly eating away the bund.

7. There was still more than 5 feet dis-
charging over the weir, and nothing that I
could think of could be done until the flood
subsided.

8. On the 19th morning I again proceeded
to the bank and to my delight found the flood
had gone down 10 feet, but at the same time
more than $\frac{3}{4}$ of the bund had been washed
away by the discharge of the weir during the night,
and the bank looked as if it would breach at
any moment.

9. The day previous I had ordered some
labour and ordered them to be in readiness to fill
in the breach as soon as communication could
be established with the bund, however on the
morning of the 19th I at once saw that the only
chance of saving the bank was to close the waste
weir entirely, and I am glad to be able to report
that I succeeded in doing so by about 4 P.M.
10. At 9 A.M. just after commencing work,
such a large piece of the bund fell in that
I called all my work people away expecting
the bund to go, seeing however that it was still
holding we pushed on rapidly with the
bundling up the weir.

By the time it was half bundled up,
the discharge had so diminished that no

more earth fell away from the breach. I experienced some difficulty in closing the last 6 yards or so, as the depth of water at this point was 4 feet and the current so strong that only very large boulders would withstand it.

11. By 4 P.M. the work was completed, and the bank out of all immediate danger. Inundations were left with the Lake Overseer to raise this bund to 7 feet above weir level in case of another flood coming, and so prevent any water getting at the breach. This work has been since executed, also $\frac{1}{4}$ of the breach is now filled in.

12. Statement does give all information in connection with the three terminal banks and the flood, and needs no further comment.

13. If the plan of the Eastern weir submitted herewith be examined, it will be seen what a narrow escape the bank had of breaching, and I estimate the damage would not have been less than Rs. 5000 had it gone.

14. About $\frac{3}{4}$ of the apron of the North western weir of the Ramnagara bank has been washed away entirely, the body wall only is standing similar to the now breached portion of the western weir of the Melali bank. As far as I can at present ascertain, the depth

depth of the hole below the body wall is much greater, not less than 12 feet.

Camp Millar (D)
25th September 1914

Signed / C. H. Mc. H. Neingdon P.M.
Assistant Engineer
Malar Tank District

Copy

True Copy

W. B. Bhatia Majist. &
Offg. Under Secy to the Chief Commr of Bangalore
Vijayalakshmi

Bank Division

Statement No 1

John Bank Division

Information Required	Wholesale Costs	Reduction in Wholesale Costs	Domestic Costs	Domestic
(1) { Length of material reduced level 50.00 yards	150 yards	150 yards	190 yards	
(2) { Length of material level 16th 17th 18th 19th 20th	170 yards	210 yards	230 yards	This does not affect the length of the material.
(3) Reduced level of level part of land	58.01	58.01	60.00	N.B. R.L. of water = 50.00
(4) { Reduced level of water surface 100 ft 11 ft 12 ft 13 ft 14 ft 15 ft	56.21	55.70	64.50	Water surface level is 50.00
(5) { Area of water surface at 50.00 depth	2,000,000 sq yds	2,250,000 sq yds	2,800,000 sq yds	Containing water surface level
(6) { Quantity of bank at 50.00 depth	5,000,000 cu yds	6,000,000 cu yds	10,000,000 cu yds	Containing water surface level
(7) { Quantity of bank at 50.00 depth	2,000,000 cu yds	2,700,000 cu yds	3,000,000 cu yds	Containing water surface level
(8) { Quantity of bank at 50.00 depth	10,000,000 cu yds	14,750,000 cu yds	21,000,000 cu yds	Containing water surface level
(9) { Quantity of bank at 50.00 depth	10,000,000 cu yds	14,750,000 cu yds	21,000,000 cu yds	Containing water surface level

Bank Division

Statement No 1

John Bank Division

Office under way to the Bank of America and the Bank of the Republic

Mr. 64214/74
P.S. 7/14 Oct 7/74
L.B. N. 3486

Mysore Chief Commissioners Office
P.W. Department Bangalore
No 555
2646
Bangalore 3rd October 1874

From

The Offg. Secy. to the Chief Commr.
for the Government of the Territories
of His Highness the Maharaja of Mysore

To
The Secretary to the Government of Madras
Public Works Department

Sir,

I have the honor, by order, to communicate
the following particulars regarding the recent
danger to the Palat Terminal Tanks of which
your Government were warned by an telegram
of the 19th instant.

The terminal tanks across the river
is the Ramasagar (which gives its name to
the whole series) with a capacity at weir
level of 900,000 Cys. and a water spread
of 5,800,000 Sq. ft. The weirs are 570 feet in
length, and the lowest part of the massive
bund 10 ft. above them. Orders were issued
in July last by the Chief Commissioner to
run this tank dry in January, to thoroughly
examine the masonry and masonry work,
and to make good all defects.

M. 6421A/74
2/7/74

Pl. 7/11, Oct/74
In B. 1^o 348C

3. Above the Ramasagar is the Raimungalam Tank of 5,700,000 Cys. and a watershed of 2,25,000 Sq. Yds. The tank is very strong and its lowest part 8.01 above the waste weirs of 150 ft. in length. A rough Estimate amounting to Rs. 25,000 has been prepared for the improvement and enlargement of this Tank; but it has not yet received the approval of the Chief Commissioner and in any case is not likely to be carried out until in the dry season of 1875/76.

4. Above Raimungalam and also across the main drainage is the Holali Jodi Tank of 3,600,000 Cys. Capacity, 3,00,000 Sq. Yards watershed, 150 ft. waste weirs and with a bund 8 ft. at its lowest above full Tank. The general condition of this Tank was, however, so insecure that the Chief Commissioner, on the recommendation of the Offg. Superintending Engineer ordered it to be breached in July, and the Tank was accordingly drained by a cut in the bund 60 ft. long and 9 ft. deep. In the early part of September, work was in progress at the Tank on an Estimate of Rs. 12,000, providing for general repairs and lengthening the waste weirs to 75 ft.

5. Above Holali, the valley of the Polar spreads out, its area being in round numbers 700 square miles, in which there are 1250 Tanks

Tanks, several of them of the high magnitude. The Tanks in the Polar District were filled in the Cyclone of 5th and 6th May, and since then the rains of the South West monsoon have been unusually heavy so that the bunds and coas had already been severely tried when a heavy storm passed over the District on the night of the 15th instant.

7. The Deputy Commissioner Polar District has reported the breach of 7 Tanks in this series including the large Chain Terminal Wooloor Tank, between the 15th and 18th September/76.

8. On the 16th instant, the Assistant Engineer Polar District found a rising flood of 5.12 ft. passing over the Raimungalam waste weirs, and direct communication with the Railway being cut off by the subsidence of the road, he despatched an. Express, via Tempull, to the Deputy Commissioner, requesting that the Railway Authorities might be warned of this unusual flood.

9. The above information reached the Chief Commissioner on the morning of the 18th, but as Raimungalam and Ramasagar were known to be strong Tanks and Holali was breached, he was advised that no further immediate action appeared necessary.

10. But on the morning of the 19th, a further report was received from the Assistant Engineer to the effect that, notwithstanding the breach mentioned in para 4, the flood had risen 6.21 ft. over the Molali Weir, and although it had subsided one foot, yet that the Tank was in imminent danger, the force of the water escaping by the East weir having torn down the concrete masonry protecting the rear of the bund, which was being rapidly eroded.

11. At this time, the waterspread of the Molali Tank had increased to 4,500,000 sq. yards, and not less than 12,000,000 cu. yds. of water were ponded back in and above its waste weirs. Railmanga-lum already contained 14,000,000, and it was evident that if Molali went the combined waters of the two Tanks would breach Ramasagar then retaining more than 20,000,000 cu. yds.

12. The Chief Commissioner therefore at once directed that a joint Commission, the Railway Agent and the Revenue Officers of the District threatened by the flood should be sworn, and his Telegram of the 19th inst. was dispatched.

13. As there was still 5 ft. of water over Molali weir, nothing could be immediately done to save the Tank, but meantime labor & materials were

were collected; work was commenced on the morning of the 19th, and the East weir was closed by 4 P.M. that day. On the 20th, the Chief Commissioner telegraphed that immediate danger was passed.

14. A tracing showing the East end of Molali Bund with section of the point, attacked by the water is attached, from which it will be seen how narrow has been the escape from what might have been a serious calamity.

15. I am also to append a statement giving several particulars in a tabulated form of the capacity of the Tank, waterspread, length of weirs, &c. at different levels, with copy of Assistant Engineer Lieutenant Hensington's last report on the subject.

16. In that report, it is stated that the North Western waste weir (for a length of 200 ft.) of the Ramasagar Tank, has suffered more injury, and as the Palar will continue more or less in flood until the end of November, this cannot be made good until next season. Should however this face wall fail, it would be the water of one Tank only which would be released, and that far more gradually than would be the case if the bund were overtopped. Although therefore there is still some

some danger, it has ceased to be formidable under ordinary circumstances.

17. From Paras 2, 3 & 4 of this letter, the Government of Madras will perceive that these terminal Tanks have not ^{been} lost sight of, and that the extreme importance of maintaining them to full standard is recognized. Before the flood of the 16th and 17th instant, Ponnasagar was a very exceptionally strong Tank, and the great anxiety which its critical condition had lately caused proves that security in serial Tanks can only be obtained by dealing with all the works of the series after thorough investigation of all the circumstances connected with each and all. In a series of the size of Ponnasagar, this must necessarily be a work of time.

18. Since September 1872, an Assistant Engineer with a full staff of Surveyors and Subordinates has been employed in this valley, and up to date the Estimates for 5 sub-series containing 142 Tanks have received sanction and the work upon them, which is to cost Rs 1,18,712, is in active progress.

19. The Officiating Superintending Engineer considers that Estimates for 140 more Tanks should be submitted before the end of the current

current year, and that annually the staff at present employed could submit the Project for and carry out the improvements to 200 Tanks. But the Government of India having recently strengthened the Establishment of the Irrigation Department in this Province, the Chief Commissioner will be able to form the Ponnasagar series into a separate Division which should be able to complete works to 350 Tanks per annum, at which rate the whole series should be completed by the end of the year 1877/78.

21. In conclusion, I am to state that all the Mysore Tanks above the Madras Railway, both in the Ponnasagar and other series, will be brought to a standard of safety as rapidly as the means at the Chief Commissioner's disposal will permit.

I have the honor to be
Sir

Your most Obedient Servant.

W. B. Dwyer Majist. R. & C.

Offg. Under Secy to the Chief Commr.
of Mysore Irrigation Branch

P. S. Printed Copies of this letter will follow

Bangalore
3rd October 1872

Enc. 1 & 2

10:00



10:00

10:00

W. 1874 Dept.
Mysore Chief Commissioner's Office
No. 6421A

Public Works Department
From the
The Secretary to the Chief Commissioner
for the Government of the Territories
of His Highness the Maharajah of Mysore

The Secretary to the Government of India
Public Works Department
Calcutta

Dated Bangalore the 3rd October 1874
Despatched

Received 14 October 1874.

N^o 535
2666

Enclosures N^o 3.

Subject 1869

Report on the recent danger
to the Palur Terminal Banks

Press

N^o 2938B-2938C. 14.
-10-74.

Ch 3486

Printed

S.H.L.

Proceedings of the Madras Govt.

Read the following:-

From the off: Under Secy:
to the Chief Commissioner
for the Govt. of the Territories
of His Highness the Maharajah

of Mysore

G.O no. 2938B

(H. E. No. 555/2666 of 3rd Oct 1874)

14 October 1874.
His Excellency the
Governor in Council
has received this Report
from the Govt. of Mysore
explanatory of the
Chief Commissioner's
Telegram of the 19th and
20th ultimo, with a
high appreciation
of the manner in which
the danger along the
lower Valley of the Palur
has

Md
1874

1/10

has been realized by
the officers of that Govt.
and of the skill and energy
with which all possible
precautions were taken
to avert it and its
possible consequences;
as well as of the scien-
tific measures which
are being adopted effec-
tually to secure the
country from similar
danger in future. His
best thanks are due
to the Chief Commissioners
for the prompt action
taken in communi-
cating the fact of the
existence of danger,
which was as promptly

promulgated for the
information of all
authorities in the Dis-
tricts concerned.

Communicated to the
Chief Engineer for Irrig-
-gation, the Joint
Engineer for Railways,
and the Revenue Deptt.

G.M.W.

60
4

2. Ch. Eng. for Irrig. ✓
1. Com. for Ry. ✓
2. Rev. Deptt. ✓
S. Copies despatched 4/11/74.

846. R

To.

The Chief Commissioner
Myraore.

Sir 4 October 1874.

Letter no: 2938C of 14 I am directed to
acknowledge receipt
of your officiating Under
Secretary's letter No. $\frac{558}{2666}$
dated 3^d October 1874,
and in reply to state
that His Excellency the
Governor in Council
has received this com-
munication from
the Gov^t of Mysore
explaining of the
Telegrams of the 19th and
20th ultimo, with a high

3186-348C

Recd. Mysore

Car 6/10/74 Rd 14/10/74

appreciation of the man-
ner in which the danger
along the lower Valley
of the Palar has been
realized by the officers
of that Dist., and of the
skill and energy with
which precautions were
taken to avert it and
its possible consequences,
as well as of the scientific
measures which are
being adopted effectually
to secure the country from
similar danger in future.
His Excellency in Council
has desired me to convey
his best thanks to you
for the prompt action
taken in communi-
cating the fact of the ex-
istence of danger, which

was as promptly pro-
mulgated for the in-
formation of all au-
thorities in the districts
menaced.

L.M.W.

2/6

M.S. despatch 14/10/74 to the Chief Secy
S.C. " to Do 28/10/74

6421 A

Govt. of Madras.

PUBLIC WORKS.

To the Chief Engineer
to the Chief Commissioner of
Mysore

Dated

Recd.

Encl. 3

2938B

G. O. Madras No. 2938C.

Nos. 2186-31581318E

Floods along the Bangalore
Branch - Madras Ry

on the communication
from the Govt. of Mysore

Passing orders in
execution of the

telegram from the Chief

Commissioner of Mysore

regarding the danger to

the Bangalore Branch

of the Madras Ry by the

floods in

lower valleys of the

river -