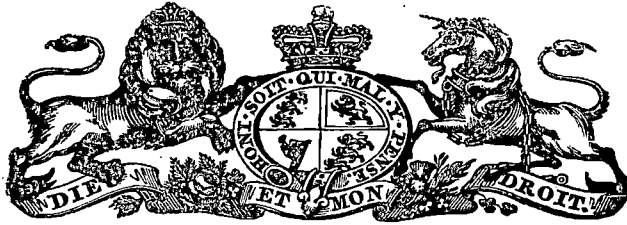


(No. 112.)



1881.

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T A S M A N I A.

LEGISLATIVE COUNCIL.

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**HOBART CORPORATION LOAN :**

**REPORT OF SELECT COMMITTEE.**

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Brought up by Mr. Chapman, and ordered by the Council to be printed,  
November 4, 1881.

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## SELECT COMMITTEE ON HOBART CORPORATION LOAN.

### R E P O R T.

THE Select Committee of the Legislative Council appointed to enquire into all matters and circumstances in reference to the raising of a "Loan for £150,000 by the Municipal Council of the City of Hobart" have the honor to report that—

Your Committee have made enquiry, and taken the Evidence of several Witnesses, and collected information from various sources in reference to the matters referred to them. The Evidence taken by your Committee, together with the several Reports and Returns relating to the subject, is attached hereto, and will be found to contain valuable information in reference to the several matters referred to them.

Your Committee find, from the Minutes of the Municipal Council in December, 1879, and January, 1880, produced before your Committee by the Town Clerk, that the Municipal Council resolved to apply to Parliament to get the existing Acts consolidated, and authority given to them for raising a Consolidated Loan for £150,000 in the London market, bearing interest at the rate of 5 per cent. per annum,—the Municipal Council having resolved that the Loan should be applicable for the following purposes; viz.—£100,000 for Water Works, £23,000 for the Town Hall, and £27,000 for Public Works,—the foregoing sums together making up the total amount of the proposed Loan for £150,000.

Your Committee find that the Act passed by Parliament, 43 Vict. No. 22, was in conformity with the wishes of the Municipal Council; viz.—£100,000 for the purposes of the Supply of Water to the City and Suburbs, £23,000 for the Town Hall, and £27,000 for the Sewerage and other improvements of the City. It appears, however, from various Papers placed before your Committee, that, in the Memorandum furnished by the late Mayor to the Members of the Legislature having charge of the Bills through Parliament, no reference was made to the appropriation of any portion of the Loan to other purposes than the completion of the Water Supply, and the Sewerage of the City,—the omission of all reference to other Public Works in that Memorandum leading all persons to conclude that the proceeds of the Loan were to be applied to the redemption of outstanding Loans, the completion of the Water Supply, and the expenditure of the remainder on the Sewerage of the City. The matter, however, appears to be cleared up by reference to the Minutes of the Municipal Council, the Act of Parliament in accordance therewith, and by the explanation made to your Committee by the late Mayor, Mr. Burgess. (See Evidence.)

Your Committee find that Debentures for £100,000, part of the authorised Loan for £150,000, were floated in the London market, on very satisfactory terms, during the month of July last year. Full particulars relating thereto will be found in the Papers attached.

Your Committee desire to call special attention to the Reports made by Messrs. Clarke and Gordon, Mr. C. H. Grant, C.E., and by Mr. Christopherson, late Director of the Hobart Water Works, in reference to the absolute necessity of enlarged reservoirs for storing up the winter rains for summer use. It appears, from the Reports and Evidence referred to, that the Municipal Council are not taking any steps to provide additional storage reservoirs, as recommended; and your Committee consider it their duty to call attention to the urgent necessity for immediate steps being taken by the proper authorities—viz., the Municipal Council of the City—for providing the additional storage reservoirs recommended, without further delay.

The Minutes of Proceedings are attached to this Report.

THOS. D. CHAPMAN, *Chairman.*

## MEMBERS.

MR. GELLIBRAND.  
MR. DODERY.  
MR. MACLANACHAN.  
MR. M'GREGOR.

MR. SMART.  
MR. CHAPMAN.  
MR. CROWTHER.

## DAYS OF MEETING.

August 12, 15, 16, 17, 18, 19, 31 ; November 4.

## WITNESSES EXAMINED.

Mr. Henry Wilkinson.  
Mr. W. H. Smith.

Mr. W. H. Burgess.

Mr. C. W. S. James.  
Mr. C. H. Grant.

## MINUTES OF PROCEEDINGS.

FRIDAY, AUGUST 12, 1881.

The Committee met at 12.10 P.M.

*Present.*—Mr. Gellibrand, Mr. Dodery, Mr. MacLanachan, Mr. M'Gregor, Mr. Smart, Mr. Chapman.

Mr. Chapman was appointed Chairman.

Mr. Chapman laid upon the Table the following Papers :—

1. Copy of Act, 43 Vict. No. 22.
2. Legislative Council Paper, No. 92, Session 1879, being printed copy of a letter from the Mayor of Hobart to Mr. Chapman, having reference to a proposed Corporation Loan Bill, and other Papers relating thereto. (Appendix A.)
3. Copy of *Mercury* newspaper of March 4, 1880, containing report of proceedings of Legislative Council on the second reading of the Hobart Town Corporation Loans Consolidation Bill. (Appendix B.)
4. Copy of *Mercury* newspaper of February 26, 1880, containing report of proceedings of the House of Assembly on the second reading of the Corporation Loans Bill. (Appendix C.)
5. Copy of *Mercury* newspaper of February 28, 1880, containing report of proceedings of the House of Assembly in Committee on Corporation Loans Bill. (Appendix D.)
6. Copy of *Mercury* newspaper of March 22, 1881, containing report of proceedings of Municipal Council in reference to the improvement of the Hobart Rivulet. (Appendix E.)
7. Copy of *Mercury* newspaper of April 12, 1881, containing report of proceedings of Municipal Council in reference to Public Works Scheme. (Appendix F.)
8. Copies of *Mercury* newspaper of April 14 and April 27, 1881, containing leading articles calling the attention of the public to the manner in which the Municipal Council proposed to expend the amount authorised by Parliament to be raised by Loan. (Appendix G.)
9. Copy of *Mercury* newspaper of April 26, 1881, containing protest of Alderman Belbin and Alderman Brownell. (Appendix H.)
10. Copy of *Mercury* newspaper of August 2, 1881, containing report of proceedings of Municipal Council in reference to new tar footpaths. (Appendix I.)
11. Copy of Mr. Christopherson's report on the Waterworks, dated March 3, 1879, read in Municipal Council, March 11, 1879. (Appendix K.)
12. Copy of Mr. Gordon's report on the Waterworks, dated February 1, 1881, read in Municipal Council, February 7, 1881. (Appendix L.)
13. Copy of Mr. Gordon's report on the Hobart Rivulet, dated February 1, 1881, read in Municipal Council, February 7, 1881. (Appendix M.)

*Ordered,* That the Town Clerk be summoned to attend the Committee at 11 o'clock on Monday next, and produce the Minutes of the Municipal Council having reference to the proposed scheme for supplying the City with water, the proposed expenditure for improvement of the sewerage and roads and footpaths of the City, chargeable against the proceeds from the moneys raised by Loans under 43 Vict. No. 22.

*Ordered,* That the City Surveyor be summoned to attend the Committee on Monday, at 2.30 P.M., and produce all surveys, plans, and estimates of the proposed expenditure for the construction and improvement of the Waterworks, and the reconstruction of the reservoir; also plans and estimates of the improvements for completing the sewerage of the City.

*Ordered,* That the City Accountant be summoned to attend the Committee at 11.30 A.M. on Monday.

The Committee adjourned until Monday, at 11 A.M.

## MONDAY, AUGUST 15, 1881.

The Committee met at 11 o'clock.

*Present.*—Mr. Gellibrand, Mr. Crowther, Mr. Maclanachan, Mr. Chapman, Mr. M'Gregor.  
Mr. Henry Wilkinson and Mr. W. H. Smith examined.

The Committee adjourn till 2:30 P.M.

The Committee met at 2:40 P.M.

*Present.*—Mr. Chapman, Mr. Gellibrand, Mr. M'Gregor, Mr. Maclanachan.  
Mr. C. W. S. James examined.

The Committee adjourned until to-morrow at 11 A.M.

## TUESDAY, AUGUST 16, 1881.

The Committee met at 11 o'clock.

*Present.*—Mr. Gellibrand, Mr. Maclanachan, Mr. M'Gregor, Mr. Chapman.

Mr. Chapman laid on the Table copy of a letter from the Mayor of Hobart to the Hon. W. R. Giblin, Colonial Treasurer, dated 29 January, 1880, also copies of two Resolutions passed by Municipal Council on the 22 December, 1879, and 26 January, 1880. (Appendix N.)

Mr. James' examination continued.

The Committee adjourned until to-morrow at 12 o'clock.

## WEDNESDAY, AUGUST 17, 1881.

The Committee met at 12 o'clock.

*Present.*—Mr. Chapman, Mr. Maclanachan, Mr. Gellibrand, Mr. Crowther.

The Committee adjourned until to-morrow at 12 o'clock.

## THURSDAY, AUGUST 18, 1881.

The Committee met at 12 o'clock.

*Present.*—Mr. Chapman, Mr. Maclanachan, Mr. Gellibrand, Mr. Crowther.

Mr. Grant examined.

The Committee adjourned until to-morrow at 12 o'clock.

## FRIDAY, AUGUST 19, 1881.

The Committee met at 12 o'clock.

*Present.*—Mr. Chapman, Mr. Maclanachan, Mr. Gellibrand, Mr. M'Gregor.

Mr. W. H. Burgess examined.

The Committee adjourned until Monday, at 12 o'clock.

## MONDAY, AUGUST 22, 1881.

*Present.*—Mr. Chapman and Mr. Gellibrand attended at 12 o'clock.

Mr. W. H. Burgess and Mr. W. H. Smith attended by order of the Committee.

No quorum.

## WEDNESDAY, AUGUST 31, 1881.

The Committee met at 11.30 A.M.

*Present.*—Mr. Chapman, Mr. Dodery, Mr. Maclanachan, Mr. Gellibrand, Mr. Crowther.

Mr. W. H. Smith attended the Committee and produced the following Returns:—

1. Return of Hobart Corporation Debentures, issued under Act 43 Vict. No. 22, by the Bank of New South Wales, for a 5 per cent. Loan of £100,000, subscribed for by Public Tender in London on the 21st July, 1880. (Appendix O.)
2. Return showing cost of Pipes, Bends, &c., per *Edith Lorne*, from Middlesborough, according to specifications prepared by Director of Water Works when Tenders were invited from this and the neighbouring Colonies. (Appendix P.)
3. Return showing the Receipts and Expenditure on account of the Hobart Corporation Debenture Fund from 22nd October, 1880, to 17th August, 1881. (Appendix Q.)

Mr. W. H. Burgess's examination continued.

The Committee adjourned.

## FRIDAY, NOVEMBER 4, 1881.

The Committee met at 3 o'clock.

*Present.*—Mr. Chapman, Mr. Gellibrand, Mr. M'Gregor, Mr. Smart, Mr. Crowther.

Mr. Chapman laid upon the Table the following papers:—

1. Statement of Mr. Christopherson, dated 29th March, 1879, furnished to the Waterworks Committee in continuation of his Report of 11th March, 1879. (Appendix R.)
2. Correspondence, &c., relative to the floating the proposed Loan for £150,000 in London. (Appendix S.)

The Chairman submitted a draft Report, which was read and adopted.

The Committee adjourned *sinè die*.

## EVIDENCE.

MONDAY, AUGUST 15, 1881.

MR. HENRY WILKINSON, *examined.*

1. *By Mr. Chapman.*—Your name is Henry Wilkinson, and you are City Clerk of the City of Hobart? Yes.

2. Can you produce the Minutes of Proceedings of the Municipal Council having reference to supplying the City of Hobart with water? I can.

(Produces Minute Book, and at the request of the Chairman, reads the following extracts therefrom):—

"December 22nd, 1879.—Report from the Waterworks Committee, recommending the Municipal Council to apply to Parliament to get the existing Acts consolidated, and a Loan for £100,000 for Waterworks placed in the London market, at 5 per cent. interest, being £10,000 in excess of the amounts previously authorised by Parliament. That Report was adopted on the same day, and confirmed by the Council on the 29th December, 1879. January 16, 1880.—At a Special Meeting of the whole Council, it was resolved that the sum of £23,000 borrowed on the security of the Municipal Rates for the building of the Town Hall, and a further sum of £27,000 to be also borrowed on the security of the Municipal Rates for Public Works, be included with the sum of £100,000 mentioned in the Resolution of the 22nd ultimo, in one consolidated sum of £150,000, and be dealt with simultaneously and in like manner as if this had been part of that Resolution."

The foregoing Report of the Committee was submitted to the Council and approved on 26th January, and after mature consideration confirmed by the Council on February 9th. At the meeting of January 26th, 1880, the Council agree to apply to the Government to guarantee the interest on the whole of the loan, and the Finance Committee were authorised to have a Bill prepared, and to deal with the whole question. On 29th January, 1880, the Mayor wrote to the Hon. the Colonial Treasurer, requesting him to submit the proposed measures to the Government (*vide* letter in Appendix M. dated 29th January, 1880). On March 24th, 1880, after the Act had been passed at a special meeting of the Committee of the Council, it was unanimously resolved that £100,000 be raised for 50 years, minimum price to be fixed at par, in London, to bear interest at 5 per cent. The foregoing resolution having been put into a legal form by the Standing Counsel for the Corporation, was submitted and adopted by the whole Council on April 5th, and confirmed. At a special meeting, held on April 12th for that purpose, Debentures for the £100,000 were then issued, dated May 1st, 1880, bearing interest half-yearly from that date, signed by the Mayor, Town Clerk, and City Accountant, and the interest guaranteed by the Administrator of the Government and Colonial Secretary, in accordance with the Act. The Debentures were placed in the hands of the Manager of the Commercial Bank, Hobart, on 11th May, 1880, to be forwarded to London to be placed on the London market.

3. Have you any further correspondence bearing on this subject to bring before the Committee? No.

4. Were the arrangements for preparing the Bill carried on through you? No.

MR. W. H. SMITH, *examined.*

5. *By Mr. Chapman.*—Your name is William Henry Smith, and you are Accountant to the Municipal Council of Hobart? Yes.

6. Can you furnish the Committee with an account current showing the gross proceeds of the sale of Debentures (issued under Act 43 Vict. No. 22) in London, particulars of all charges thereon, and the net proceeds at the Bank at Hobart, with the date when the proceeds became available in Hobart? I can. (*Vide* Return in Appendix N.)

7. Can you furnish the Committee with details of the half-yearly payments of interest on these Debentures up to the present time? Yes. (*Vide* Return in Appendix P.)

MR. C. W. S. JAMES, *examined.*

8. *By Mr. Chapman.*—Your name is Charles Wordsworth Scantlebury James, and you are City Surveyor and Director of Water Works to the Corporation of the City of Hobart? I am.

9. Calling your attention to the proposed scheme of Water Works in Paper No. 92 of the Legislative Council, Session 1879, estimated to cost £30,000, can you inform the Committee what progress has been made in carrying out that scheme? The scheme and estimates were made before I took office, but I am carrying them out in detail under plans prepared by myself, but in general principle in accordance with the original scheme.

10. What progress has been made as to the reconstruction of the present storage reservoir? Nothing has been done to the storage reservoir, with the exception of obtaining a supply of iron pipes to connect the present reservoir with the proposed new main from the Falls to the distributing reservoir near the *Marquis of Hastings Inn*.

11. What steps have been taken for laying down these pipes? None.

12. Have any plans been prepared for laying them down during the present year? No completed plans.

13. Have you received instructions to prepare plans for laying down the pipes at an early date? I am expecting to receive instructions from the Municipal Council almost immediately.

14. Can you say when those plans are likely to be ready for calling for tenders for carting and laying the pipes down? There is nothing to prevent tenders being called for within a month from this date for carting the pipes and laying them down where required, unless at present unforeseen obstacles arise. I am not aware what course the Corporation will adopt with regard to laying the pipes, but I shall recommend that the jointing and laying in position be done by the Corporation employes.

15. Do you think the pipes will be laid down in position in time to give the citizens the benefit of the extra supply of water during the coming summer,—say within six months from this date? It would be possible to do so if special energetic measures were adopted at once.

16. If you were provided with the necessary additional assistance, could the whole of the piping be completed within six months? Yes; provided sufficient labour could be obtained. The only delay I fear will be preliminary work of obtaining right of entry on private lands.

17. Do you think to complete the work in six months the cost would be considerably increased? Yes; probably from 5 to 10 per cent.

18. What is your estimate for the work? No detailed estimate for the laying of this piping has yet been prepared, as provision for that was included in the original estimate for £30,000. Roughly estimating the cost of laying down the whole of the pipes that have arrived, viz., about 1157 tons, I think the probable cost will be about £5000, which sum will include new masonry, walls, and culverts.

19. Can you point out to the Committee what works are in course of construction in reference to the extra supply of water? Yes: the masonry aqueduct is now being extended from Hall's Saddle to the Bower.

20. *By Mr. Gellibrand.*—When will it be completed? The contractor is under an engagement, under penalties, to complete it by October 1st.

21. *By Mr. Chapman.*—Do you think the contractor is likely to have the work completed within the contract time? I can only express my hope that he will; but I should not like to take the responsibility of guaranteeing that he would.

22. When these pipes are laid down, do you feel every confidence in having an ample supply of water in the reservoir near the *Marquis of Hastings*? Yes; and I shall be in a better position to keep a constant supply on the City reticulation. I may say that it is absolutely necessary that several of the old mains within the City should be taken up and replaced with new, or, if desirable, cleaned out, before a satisfactory supply can be given to the citizens.

23. The cleansing of these pipes would probably occupy some months? Yes; probably twelve.

24. Can you give the Committee any idea of the probable cost? Yes, roughly: £1200 or £1300 would enable me to do what is required.

25. Have you made any report to the Municipal Council with regard to the reconstruction of the present storage reservoir, which was estimated in the scheme submitted to Parliament to cost £7000? I have not.

26. Have you been asked to do so by the Municipal Council? Not officially.

27. Then, as far as you are aware, you do not know whether the Corporation intend to carry out the reconstruction of the present storage reservoir? I am not officially aware of the intention of the Municipal Council in this matter.

28. Calling your attention to Mr. Gordon's report—Have you been called upon to examine and report on the site suggested by him about 300 yards lower down the creek, where the sandstone appears on both banks? I have not.

29. Have you been called upon to make any examination, as suggested by Mr. Gordon, of a site at the head of the present reservoir for the construction of a new one? I have not.

30. Then, as far as you are aware, the Corporation do not contemplate the erection of any additional storage reservoirs? As far as I am aware, they do not.

31. Then, in the event of a dry season, there is every probability of the supply of water being inadequate to the wants of the City? Judging from my experience of last summer, which was, I understand, exceptionally dry, I think the citizens would be fairly supplied with water provided every precaution were taken to prevent waste.

32. Without the erection of storage reservoirs, as recommended by Mr. Gordon, those persons having gardens within the city or suburbs could not rely on a supply of water for watering their gardens during the summer months? They could not, as the present supply is only adequate for domestic use. All water used for irrigation should be supplied on the same terms as that supplied to manufactories.

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TUESDAY, AUGUST 16, 1881.

MR. JAMES' Examination continued.

33. *By Mr. Chapman.*—Have you prepared plans and estimates of the probable cost of clearing the lower end of the Hobart Rivulet, where the silt has accumulated, from Campbell-street down to the river, and for paving the bed of the creek from Campbell-street as far up as Barrack or Molle-street? I have prepared plans for the lower portion, Section No. 1, that is, from Macquarie-street Bridge to the Derwent, with an estimate of their cost. Those plans have been adopted by the Council, and tenders have been called for and the works are now in progress.

34. Can you give the Committee the tenders sent in for this work? Tenders were accepted for supplying material and labour; about half the cost is in masonry and the remainder in timber. The plans and specifications for that section were approved of by Mr. Gordon, the consulting engineer. Section No. 2 extends from Macquarie-street to Argyle-street, and includes new diversion at Park-street, excavating bed of creek, building retaining walls, constructing masonry inverts in centre with concrete banks, connection of existing drains, covering over portion of Park-street Creek and re-erecting a foot bridge; also new bridge at Campbell-street.

35. Are the plans for these works completed? The plans are in progress, and some of them partially completed. I expect shortly to call for tenders for the work. Section No. 2A includes proposed construction of storm channel, between Argyle-street and Campbell-street, for the purpose of relieving the creek of high flood water, extending from opposite St. Peter's Hall in Collins-street, thence along Market-street and Dunne-street, and discharging into the Fisherman's Dock, including excavation, masonry weir, retaining walls, and timber covering. Section No. 3, from the bridge in Argyle-street to the bridge in Murray-street, includes construction of masonry invert in centre of creek, and pitching the sides and making connections with existing drains. Section No. 4, from Murray-street Bridge to Molle-street, includes construction of masonry invert in centre of creek, and pitching the sides and making connection with existing drains; also a new bridge at Barrack-street. Total estimated cost of works on the creek, £17,607.

36. What is the whole distance from Molle-street to Macquarie-street bridge, exclusive of the storm water channel? About 1760 yards.

37. What is the distance from Macquarie-street bridge to the Derwent? 363 yards.

38. What is the length of the storm-water channel? 300 yards.

39. Are there any other sewerage works under the consideration of the Corporation from the sum of £27,000 mentioned in Paper No. 92, Legislative Council, Session 1879? None that I am aware of.

40. Have the flushing gates been provided for? No provision has yet been definitely made, but the allowance for contingencies in the above estimate would probably include their cost.

41. Have you had your attention drawn to any other sewerage works within the city? Not in an official manner.

42. Are you acquainted with the creek in Park-street? I am.

43. Do you think it right that that creek should be left uncovered, running as it does through an inhabited part of the city? I am of opinion that the creek in question, which is subject to flood-water, is best left uncovered excepting where crossing streets, but the margin of the creek should be kept confined either by walls or regularly trimmed banks, and the bed kept properly free from silt and accumulated filth. I give this opinion without reference to any system of sewerage throughout the city, to which my attention has not as yet been directed.

44. During the time you have held the office of City Surveyor has your attention been called to the necessity of cleansing that creek from the accumulated filth? No regular system of cleansing has been adopted, but repairs of damages caused by floods have been occasionally effected at a cost probably not exceeding £50 per annum.

45. Has your attention been directed to the state of a drain running across Parliament-street, the outlet of the drainage from Davey-street? I am aware of the existence of the drain in question, and when becoming a nuisance it is regularly cleansed.

46. Can you suggest any means of improving this without any considerable outlay? It would be desirable to convey the sewage through a culvert at the place in question.

47. Can you inform the Committee of any other places in the city where the sewerage could be improved without any large outlay? I am not prepared to furnish a list of the improvements of this nature required.

48. Calling your attention to the drain running through the old St. David's burial-ground, and the one running from Veteran's Row crossing Warwick and Brisbane-streets, can you suggest any means of improving the sewerage in those localities? Without having the information before me showing the contour of the city, I am unable to state what measures should be adopted to improve those channels, as they would be subservient to a complete system of sewerage for the city.

49. You are aware that Mr. Gordon suggested that a complete survey and levels of the streets and back premises should be made before any trustworthy estimate of the cost of carrying out a complete system of sewerage for the city can be relied on? I am.

50. Do you concur with his opinion? I do.

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THURSDAY, AUGUST 18, 1881.

MR. C. H. GRANT, *examined*.

51. *By Mr. Chapman*.—Your name is Charles Henry Grant, and you are a Civil and Hydraulic Engineer? I am.

52. You have read Mr. Gordon's report on the proposed scheme of water works for increasing the supply of water for the City of Hobart? I have, and had the pleasure of discussing the matter with him personally, and also with the late Mr. William Clark, C.E., who was engaged by the Hobart Corporation to report on the water supply.



53. It is a distinguishing feature in Messrs. Gordon and Clark's Reports on the proposed scheme that very largely increased storage accommodation from that now existing should be provided, to insure an ample supply of water during the summer months; do you concur in that opinion? I do so in every respect; but I must say that I think the Engineer who designed the water works, Mr. Gale, has been used very badly indeed in the defective dam not having been repaired immediately after the failure took place, since the neglect to restore it has exposed his design, in my opinion, to unmerited censure.

54. Calling your attention to the proposed expenditure for the reconstruction of the storage reservoir at an estimated cost of £7000, as submitted to Parliament when the Corporation applied for the recent loan; do you consider it absolutely necessary that the work should be forthwith carried out? I consider it absolutely indispensable, and can state that Messrs. Gordon, Clark, and Christopherson were unanimously of that opinion, and considered that increased storage accommodation should be provided, if all other matters were neglected. Common sense dictates that the very first winter after the failure of the dam it should have been repaired or reconstructed, without any other opinion than that of the Corporation Engineer. I may say that I think the dam could have been efficiently repaired at a much less cost than £7000.

55. We have it in evidence that the Corporation rely upon providing an ample supply of water for the city by bringing an increased supply from Hall's Saddle to the Bower, and new iron piping from the Bower to the Distributing Reservoir near the *Marquis of Hastings*; do you think it would be safe to rely upon that provision for a supply of water for the summer months? Most certainly not, and I cannot think how it can be seriously entertained. I have always discredited the amount of leakage that is stated to take place; but even allowing for it all to be prevented, the proportion of water obtained would not nearly represent the necessary supply during the dry season when assisted only by the present small reservoir, holding only about fifteen million gallons.

56. As the Corporation have not proceeded with the restoration of the old reservoir, do you think that steps should be taken to insist upon the reconstruction of the old reservoir, and the construction of a new reservoir at the head of the existing one, to ensure an adequate supply of water? I am strongly of that opinion; and that the money laid out in repairing the aqueducts to bring down a very problematical supply of water in the dry season would have been far better expended in constructing storage reservoirs to retain the water that is certain to be obtained in wet seasons, and the repairs of pipes from time to time should have been treated as maintenance. With an enormous expenditure on the aqueduct you cannot always be sure of getting water when most required; but when you have it stored it is always available.

57. What should you consider a necessary supply of water for the inhabitants of Hobart and the suburbs? The minimum supply at the present time should be 60 gallons per head, but looking at the vast increase that takes place in the consumption of water, almost year by year, I consider that any new works constructed should be capable of giving 100 gallons per head.

58. I understand by "new works" you mean ample storage accommodation? I do so; and such could be obtained under comparatively favourable circumstances.

59. Can you give the Committee any information as to the probable cost for providing adequate storage accommodation? I have only the published estimates of Mr. Christopherson, while Engineer of Water Works to the Corporation, which are doubtless reliable since he expected to have the carrying out of the work. He estimated that a new storage reservoir, capable of holding 80,000,000 gallons of water, could be constructed for £20,000, and that the removal and reconstruction of the present dam to make it hold 45,000,000 gallons of water would cost £7000; therefore the ample storage of 125,000,000 gallons of water can be obtained for £27,000, which, in my opinion, would have been a far better expenditure of money than the proposed scheme of works of the Corporation.

60. You reside a short distance from the Railway Station, on the hill at the back of the High School? I do.

61. Do you suffer any inconvenience there during the summer months from an indifferent supply of water? Extreme inconvenience during two or three months, when my neighbours and self can only get a very limited supply once a week, and then have to press the turncock hard to get it. He is always very courteous and obliging, but states he has great difficulty in giving myself and neighbours water, even at the rare intervals we get it, a bath being out of the question for months. I have a large cistern accommodation, but for many months cannot get it filled.

62. What is your experience with regard to the supply at the Railway Station? We have a very intermittent supply, which causes great annoyance and inconvenience, not only on account of the deficiency but also from the reduced pressure in the summer, and there have been times when we have been in hourly expectation of being entirely deprived of water for an indefinite period. I can only characterise it as a most unsatisfactory service in the autumn, although ample throughout the rest of the year.

FRIDAY, AUGUST 19, 1881.

MR. W. H. BURGESS, *examined*.

63. *By Mr. Chapman*.—Your name is William Henry Burgess, and you are one of the Members of the House of Assembly for the City? I am.

64. You were Mayor of this City during the years 1879 and 1880, and for several years an Alderman of the City, and are now an Alderman? Yes.

65. We have it in evidence that at a meeting of the Municipal Council on 26th January, 1880, the Finance Committee of the Council were authorised to have a Bill prepared to be submitted to Parliament for authority to raise a loan of £150,000, and to deal with the whole question: did you, as Chairman of that Committee, proceed to carry out the directions of the Council by having a Bill prepared? I did.

66. Whom did you instruct to prepare the Bill? The standing counsel to the Corporation.

67. Who is the standing counsel to the Corporation? The Hon. W. R. Giblin.

68. Was the Bill so prepared submitted to the Municipal Council before being submitted to the Legislature? No, I believe not; because the Finance Committee had full power to carry out the wishes of the Council in this matter.

69. I find by the records of Parliament that the Bill so prepared was submitted to Parliament, and read a first time on 13th February, and read a second time on 25th February: did you give any special instructions to Mr. Giblin, the standing counsel to the Corporation, who as an independent Member took charge of this bill, to bring the same under the notice of Parliament prior to the second reading of the Bill? For the purpose of drawing the Bill the only instructions given to Mr. Giblin were the two Resolutions passed by the Municipal Council in December, 1879, and January, 1880, which were for the purpose of consolidating all the existing loans for Waterworks and the Town Hall, and of enabling the Corporation to borrow a further sum of £37,000, £10,000 of which was for water, and the other £27,000 for public works.

70. Calling your attention to the speech made by the Hon. W. R. Giblin, when moving the second reading of the Bill in the House of Assembly on February 25, 1880, when that gentleman is reported to have spoken to the following effect:—"The purposes of the Bill were to consolidate the outstanding loans, and to borrow an additional sum for public works, the whole loan to be guaranteed by Government. They had been advised by eminent engineers that for an expenditure of £25,000 they could double the water supply of the city, besides having a new main, stone aqueduct, and iron piping. They also contemplated improving the rivulet by cleaning out the silt from the foot of Campbell-street to the mouth of the creek, and also to pave it as far as Molle-street, and by the use of flood-gates cleanse it from impurities from time to time:" also, calling your attention to the speech made by Mr. Giblin on the Bill, when in Committee, on February 27, 1880, when he is reported to have spoken as follows:—"The purposes for which the additional loan was required he had already explained to the House, was for a new storage reservoir, a second main, a new stone aqueduct, and iron piping to replace the brick, recommended by the Member for South Hobart when he was in the Municipal Council, and which did not turn out a success,"—those views seem to be specific as to the intentions of the Municipal Council as to the works they intended carrying out: did you furnish Mr. Giblin with written or verbal instructions? I furnished Mr. Giblin with verbal instructions.

71. Were the views put before Parliament in accordance with the verbal instructions you gave him? I believe they were, with the exception of the reference to the new storage reservoir, which was not contemplated by the Municipal Council at that time. Being present in the House of Assembly at the time, I believe Mr. Giblin was misreported, and that his remarks had reference to the reconstruction of the old reservoir. I am confirmed in this by Legislative Council Paper, No. 92, Session 1879. (Appendix A.)

72. The Bill having passed the House of Assembly, you requested me to take charge of it, and endeavour to pass it through the Legislative Council? I did; when you consented, and asked me to address you in writing, and set forth the views of the Municipal Council with reference to the proposed expenditure.

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### WEDNESDAY, AUGUST 31, 1881.

#### MR. W. H. SMITH'S *examination continued.*

73. *By Mr. Chapman.*—Can you furnish the Committee with copies of the correspondence between the late Mayor, Mr. Burgess, and the Colonial Treasurer, with reference to the payment of the interest guaranteed by the Government payable in London? I had printed copies prepared by the direction of the late Mayor, and if the Committee desire it can produce them.

74. Are you aware of any correspondence between the late Mayor and the Manager of the Commercial Bank respecting the negotiation of the loan and the remitting of the whole of the proceeds to Hobart? I am not aware of any.

75. With reference to the amount of £7578 15s. charged to the Debenture Fund Account, I presume that is simply a temporary advance from the Loan Account to the Corporation Fund, and will be adjusted at the end of the year by being placed to the Water Account and the Municipal Account? Yes; and the interest derived from part of the invested funds will be also withdrawn from the Loan Account.

76. There appears to be a net profit amounting to £2755 11s. 5d. arising from the sale of Debentures in London: have you received any instructions from the Corporation how to deal with this item? Yes; the Corporation resolved to appropriate the net profit towards the payment of the first half year's interest on the loan, which had to be remitted to London in advance.

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#### MR. W. H. BURGESS' *Examination continued.*

77. *By Mr. Chapman.*—Can you furnish the Committee with a copy of any correspondence between yourself and the Manager of the Commercial Bank respecting the negotiation of the loan in London, and the remitting of the whole of the proceeds to the Colony? I might be able to do so, but question whether it would be desirable to make public the whole of the documents.

78. Can you give the Committee a copy of the letter of arrangement between the Corporation and the Manager of the Commercial Bank with reference to floating the loan in London and the remitting of the whole of the proceeds to the Commercial Bank, Hobart? I will furnish a copy of the whole of the letters that have been printed with reference to the loan. (Appendix S.)

79. It has occurred to some Members of the Committee that it would have been desirable for the Corporation to have retained about £20,000 of the proceeds of the loan at their credit with their bankers in London to defray the cost of iron pipes and for the payment of the first year's interest, and thus save the exchange on bringing the money out and sending it back to London,—can you give any explanation why this was not done? I can. In the first place, no exchange whatever was charged for bringing the money from London to Hobart. In the second place, with reference to the cost of the pipes—some £10,000—it was decided to call for tenders in the colonies for the purchase of the pipes; consequently that amount would have been required in Hobart. After tenders had been received, however, it was considered that the price was too high, and I was directed by the Municipal Council to place myself in communication with English houses, which resulted in the pipes being landed in Hobart at a saving of about £2605, including the sum of £76 exchange on remittance. In the third place, as far as retaining any further funds in London for the payment of interest, as the Corporation had made arrangements to obtain the money from England free of exchange, and the bank had agreed to allow interest on it for 12 months at the rate of 4 per cent., it was considered more advantageous to bring the money to the Colony.

80. The Director of Waterworks, when examined, stated that he had received no official instructions to proceed with the works for the reconstruction of the present storage reservoir, estimated, in the proposed scheme of waterworks submitted to Parliament in accordance with your letter in Paper No. 92, Legislative Council, Session 1879, to cost £7000: can you inform the Committee what are the reasons for the Corporation not proceeding with this work, which is represented by Messrs. Clark and Gordon, and the late Director of Waterworks, Mr. Christopherson, as urgently necessary for keeping up the supply of water during the summer months? It must be patent to any one who knows anything about the works (and in this all the Engineers have agreed) that before the reconstruction of the present embankment could be undertaken, it would be absolutely necessary to secure and protect all the existing sources of supply.

#### APPENDIX A.

*LEGISLATIVE Council Paper No. 92, Session 1879. Laid upon the Table by Mr. Chapman, and ordered by the Council to be printed, March 3, 1880.*

*Town Hall, 3rd March, 1880.*

SIR,

"THE Bill to enable the Municipal Council of the City of Hobart Town to consolidate certain Loans; and for that purpose, and for the purpose of improving the said City, to borrow any sums of money not exceeding £150,000."

On behalf of the Municipal Council I have the honor to request that, on the occasion of the above Bill coming before the Legislative Council, you will kindly take charge of the same through its various stages, when I hope it will receive your valuable support.

I have, &c.

W. H. BURGESS, *Mayor of the City of Hobart Town.*

*The Hon. THOS. D. CHAPMAN.*

A duplicate and corrected copy of "Proposed method, and reasons for expenditure of £57,000, &c." accompanies this.

#### *PROPOSED method of, and reasons for, expenditure of Loan of extra £57,000 asked for by the Hobart Town Corporation under the provisions of the Bill now before the Legislature.*

The Council purpose expending the above-named sum of £57,000, by applying £30,000 to the completion of their present Water Scheme, and the balance, £27,000, for the sewerage of the City.

The detail of the expenditure on Water Works cannot be placed before you in a clearer manner than by the perusal of the following extracts from various Reports which have been approved of by the Council, and confirmed by that most eminent Hydraulic Engineer, Mr. William Clark, C.E.

The cost of the removal and reconstruction of the present dam is estimated at £7000. Mr. Clark, in alluding to the 4½ miles of stoneware pipes and wooden troughing now in existence, states:—"From what I saw of the wooden troughing, and bearing in mind the time it has been in use, it will be advisable now to consider the entire reconstruction of the aqueduct, the masonry portion excepted; Mr. Christopherson informs me that he proposes to replace the wooden troughing with stone, and the stoneware pipe, which is a source of trouble, with iron pipes;" and further, Mr. Clark says that "the present aqueduct having been in use for so long a period will (except in particular spots, bridges, &c.) afford a reliable site for the masonry construction; the exceptional cases will require rubble walling, for which the material is everywhere present; and the bridges, which are at present of timber, should now be constructed of masonry in a most permanent form."

Mr. Clark also agrees with me as to the absolute necessity for laying a second 10-inch main between the main storage reservoir and the *Marquis of Hastings*. The following is an extract, bearing upon the subject, from that gentleman's report:—"Below the valve-house at the reservoir to the *Marquis of Hastings* reservoir, a distance of 1 mile 79 chains, with a fall of 90 feet, a 10-inch pipe is at present laid: this is insufficient to bring down the full quantity—two million gallons per day. For this purpose I would recommend that an additional 10-inch pipe be laid between the places, which will be amply sufficient, and in the event of repairs, &c. being required to one of the pipes the other one would be available; without this convenience, it would be desirable also to enlarge the service reservoir at the *Marquis of Hastings*."

On account of the very bad condition of the existing timber troughing, a commencement should be made, at as early a date as possible, to complete the masonry aqueduct. This portion of the work is estimated to cost £3500.

The stoneware pipes should be taken up and replaced with cast-iron pipes, at an estimated cost of £10,166.

The Council are particularly desirous that the work mentioned in the last three paragraphs should be proceeded with without delay, as, owing to the failing condition of the troughing and pipes, not less than 17½ per cent. of the present supply is lost to the City, as will be seen by the following extract from Report:—

"I found the following to be the quantity of water actually entering the conduit at the under-mentioned points;  
viz.—

At St. Crispin's Well the water entered the stoneware pipes at the rate of.....	310,277 gallons per 24 hours	
At the 2nd Gully along the line .....	246,205	ditto
At the 3rd Gully along the line .....	84,815	ditto
At Long Creek .....	140,500	ditto
At Fork Creek, into wooden troughing .....	337,950	ditto
At Brown's River, into wooden troughing.....	130,759	ditto
	<hr/>	
Total quantity of water entering the stoneware pipes, and troughing.....	1,250,506	ditto
	<hr/>	

The total quantity of water actually discharged into the upper valve-house was at the rate of 1,032,400 gallons every 24 hours, thus showing a loss of 218,106 gallons. Nearly the whole of this great loss of water is due to the imperfect condition of the earthenware pipes, and also to the rotten state of the timber troughing."

The Health Officer of Hobart Town, Dr. E. S. Hall, in several of his Reports has attributed the improvement in health to the improved Water Supply which ensued after the new works were completed, in 1861, more especially regarding death from Diarrhoea and Dysentery. Previously, deaths from these diseases had been much greater in proportion to population in Hobart Town than in the country districts, but since that the case has been reversed. Again, Dr. Hall, in his Climate and Vital Statistics of Tasmania, 1872, pages 23 and 24, writes as follows:—"Next to pure air, nothing promotes the health of a community more than an abundant supply of pure water. Hobart Sanitary Statistics, as well as those of Launceston, have furnished undoubted proofs of this from the improvement of the quantity and quality of the water supply for some years past. Bowel complaints in the four years 1857, '8, '9, 60, caused 206 deaths in the Hobart Town Registration District, or a yearly average of 51½. In the four years 1868, '69, '70, and '71, they have caused only 146 deaths, or annual average of 36½. There has been, I believe, much the same proportionate diminution of deaths from bowel complaints in Launceston since the improved water supply came into operation there. The rural districts, however, have not enjoyed a similar lessening of the death rate from these diseases." "I have already referred to the small number of deaths from bowel complaints in Hobart, which, I believe, to be mainly consequent on the improved water supply."

#### PROPOSED Scheme of Works, and Estimate thereof:—

	£	s.	d.
The reconstruction of the present storage reservoir .....	7000	0	0
The laying of an additional 10-inch main between the storage reservoir and the Marquis of Hastings.....	4160	0	0
The completion of masonry aqueduct in lieu of the present wooden troughing, which has decayed .....	3500	0	0
The taking up of the stoneware pipes laid between St. Crispin's Well and Fork Creek, a distance of 4½ miles, and relaying same with cast-iron pipes of the following dimensions, and at the following cost for each section, viz.:—			
From St. Crispin's Well towards Fork Creek, one mile of 8-inch cast-iron piping, at a cost of.....	2754	0	0
From thence 1½ miles 9-inch piping, at a cost of .....	3060	0	0
And to Fork Creek, 1½ miles of 10-inch piping, at a cost of .....	4352	0	0
Iron pipes from St. Crispin's Well to two Creeks .....	770	0	0
	<hr/>		
		10,936	0 0
Contingencies .....		4404	0 0
		<hr/>	
Total.....	£30,000	0	0
	<hr/>		

With the remaining £27,000 it is proposed to clear the lower end of the Hobart Town Rivulet, where the silt has accumulated, from Campbell-street down to the river, and to pave the bed of the Creek from Campbell-street as far up as Barrack or Molle-street. It is also proposed to erect one or two flushing-gates.

It would be impossible to attach too much importance to the necessity of the above work, as may be witnessed from the unfavourable remarks made by several Honorable Members of the Legislature during the present session, and by many visitors from the other colonies, as to the offensive state of the Creek, and its injurious effects on the health of the citizens. It must also be well known to Honorable Members that an influential deputation of citizens waited upon the Mayor, urging him to take immediate steps to remedy the evil.

With regard to the ability of the Corporation to pay the interest on the loan, it may be observed, that at the present time the sum of £5250 is paid annually for interest, as against £7600, which latter sum (including £100 for expense of remittance, &c.) will be required, thus making a difference of £2350 to be provided for; but it must be borne in mind that during the last three years there has been annually a surplus of rates of at least £1700 in the Water Account alone, which has been expended on the construction of permanent works. When the proposed Scheme of Works is completed, the above sum of £1700 will be available for the payment of interest, leaving only £650 to be provided for; and this sum, it is believed, will be fully met by the increased revenue which will be derived from the supply of water to a very large number of persons in the city and suburbs, whose applications both for domestic purposes and for garden taps have been hitherto refused owing to the insufficient quantity, and by the saving in the constant repairs which are now rendered necessary owing to the faulty condition of the works in their present state.

Town Hall, 1st March, 1880.

THE Waterworks Committee beg to submit the Report of Mr. William Clark, Civil Engineer, upon the improvement and maintaining the supply of Water in the City of Hobart Town, in accordance with the Resolution of the Council of the 11th instant.

W. H. BURGESS, *Mayor, Chairman.*  
18. 2. 78.

*Hobart Town, January 13th, 1878.*

GENTLEMEN,

IN conformity with your request that I should report on the measures which are proposed for improving and maintaining the supply of water to the City, I have the honor to inform you that, with the Director of Waterworks, Mr. Christopherson, on the 12th instant I inspected the present Reservoir on the Sandy Bay Rivulet, and the site where it is proposed to construct another dam for the purpose of storage.

The first dam was intended to form a Reservoir which would impound 40 million gallons. The proposed dam, if carried out, will, I am informed, impound double that quantity, by an embankment 700 feet in extreme length, and 63 feet high above the bed of the creek.

The present dam appears to have failed soon after the Reservoir was filled, attributable, in all probability, to the insufficient depth of the puddle trench. The laying of the outlet pipe under the deepest part of the embankment without protection, in the first instance, and the subsequent timbered tunnel through it, were, I conceive, both errors in construction likely to lead to failure.

The City now chiefly depends upon its supply of water from the streams flowing from the south and east sides of Mount Wellington. These streams are estimated by Mr. Christopherson to yield an aggregate quantity amounting to 800,000 gallons per day during the driest periods; and it is now proposed, with the aid of both Reservoirs, to arrange for a supply equal to two million gallons per day, or about double the present consumption.

The storage of 120 million gallons, with the daily flow of 800,000 gallons, will therefore be sufficient to give 100 days supply, at two million gallons per day, during the driest period, and will—in a climate where long droughts are unusual, and where the cost of constructing Reservoirs is considerable—I consider be sufficient, and probably will be all that is required for many years to come.

The quantity coming from the hills during storms is very large, and requires only storage area to give any quantity likely to be required in the future.

The construction of additional Reservoir when necessary is all that will be required; the source of supply may, I consider, be confidently relied upon.

The present Director of Waterworks, warned by the previous failure, is taking the proper means to secure the proposed work from failure by a careful examination of the site of the embankment. I find it to be composed, on both sides of the gully, of a very hard metamorphic rock; but the creek at an earlier period was deeper and wider than at present, and it has been partly filled with other deposits. A shaft has been sunk to a depth of 42 feet below the present level of the creek, and discovers what appears to be the bed-rock, similar to that which forms the sides of the valley. This is through a mixture of shale, or what is termed "mud-rock" (which it would be unsafe to trust as impervious), and it is partly through drift consisting of gritty material with pebbles. This is what I observed from the bottom of the shaft. The rock at the bottom will form a good foundation, and if found to be continuous the puddle wall of the dam may be commenced thereon with perfect safety. To prove this Mr. Christopherson intends to drive headings along its surface. Its continuity being thus proved, by taking off the fissured portion of the surface rock, and stopping it down to the depth required, a perfectly reliable work may be constructed; and I would advise that the site be adopted.

On the successful completion of the new dam it is proposed to remove the old one and to clear its site completely, when, after a preliminary examination, as in the present case, to ascertain the necessary depth of the puddle trench, it will be reconstructed. As to the propriety of this I quite concur; and I may here remark that the measures adopted by Mr. Christopherson appear to be well considered and judicious, and I should have confidence in his judgment and experience, and that he will successfully complete the work which, after due enquiry, he may recommend.

The drawings of the outlet works for the proposed reservoir I have seen; they are to be constructed in the solid rock, and appear to have been well and carefully considered. An additional inlet to the tower from the reservoir at a higher level, and a 'by-wash' valve for the lower one, not shown but probably intended, is the only addition which appears to me to be desirable.

I accompanied Mr. Christopherson over a considerable portion of the aqueduct channel which begins at the receiving-house near the present and proposed reservoir.

This channel is capable of carrying  $5\frac{1}{2}$  millions of gallons in 24 hours; it commences with  $\frac{1}{4}$  mile of open stone aqueduct, which is in good condition.

Proceeding upwards,  $2\frac{1}{4}$  miles of wooden troughs are laid, having a sectional area of 1 square foot; this has been in use 16 or 17 years, and from its upper end to St. Crispin's Well  $4\frac{1}{2}$  miles of 9-inch stoneware pipe were laid a few years since to increase the supply.

This aqueduct in its course receives the flow from six different streams, and on the 17th December, 1877, this flow in the aggregate was reported to be  $1\frac{1}{2}$  million gallons; but 1,032,000 only arrived at the receiving-house,—218,000 gallons being lost, or nearly  $\frac{1}{4}$ th of the entire quantity.

From what I saw of the wooden trough, and bearing in mind the time it has been in use, it will be advisable now to consider the entire reconstruction of the aqueduct, the masonry portion excepted. Mr. Christopherson informs me that he proposes to replace the wooden troughing with stone, and the stoneware pipe, which is a source of trouble, with iron pipes.

The country through which the wooden troughing is laid contains stone suitable for building the aqueduct, the only materials requiring cartage being sand and cement. A channel capable of carrying  $5\frac{1}{2}$  million gallons per day, it is estimated, may be constructed for a little under £3000 per mile; and a 9-inch iron pipe may be laid for something less than £2000 per mile in place of the present stoneware pipes.

The proposal is to cover the stone aqueduct with the 2-inch planking from the old wooden trough, and as this decays the future covering should be slate, stone, or whatever permanent material may be the most suitable or economic.

The present aqueduct having been in use for so long a period will (except in particular spots, bridges, &c.) afford a reliable site for the masonry construction; the exceptional cases will require rubble levelling, for which the material is everywhere present; and the bridges, which at present are of timber, should now be constructed of masonry in a more permanent form.

Below the valve-house at the Reservoir to the *Marquis of Hastings* service Reservoir, a distance of 1 mile 70 chains, with a fall of 90 feet, a 10-inch pipe is at present laid. This is insufficient to bring down the full quantity—2 million gallons per day. For this purpose I would recommend that an additional 10-inch pipe be laid between the two places, which will be amply sufficient, and in the event of repairs being required to one of the pipes the other one would be available; without this convenience, it would be desirable also to enlarge the service Reservoir at *Marquis of Hastings*. It will also enable a supply to be given with greater pressure to portions of the city at a higher level than can be given from the Reservoir.

I have yet to notice the by-wash or waste weir from the Reservoir.

The area drained into the present and proposed Dam is 400 acres. No rain gauge appears to have been kept in the hills to assist the necessary calculation of the size of weir required. Mr. Constable Moore in charge of the Reservoir informed me that during 16 years the present bye-wash and channel has been able to take the whole of the storm water; it is about 20 feet wide and 5 feet deep. In the absence, therefore, of any other information, it would seem to be sufficient to allow the present bye-wash to continue. The channel is carried along the entire length of the present reservoir up to the site of the proposed dam, and will afford the means of discharging storm water when it is muddy, without disturbing the purity of the water in the lower reservoir.

The nature of the gathering ground, extending over 4000 acres reserved for the Water Supply, insures a considerable amount of purity and freedom from mud, &c. An arrangement should, however, be made to keep out branches of trees and rubbish of this character from the reservoir.

Your obedient Servant,

W. CLARK.

*To the Right Worshipful the Mayor and Aldermen of the City.*

### SUMMARY of due Dates of Corporation Mortgages.

ON WATER RATES.		
	£	
1 April, 1880.....	100	at 6 per cent.
8 April, 1880.....	400	6 per cent.
1 October, 1880.....	400	Ditto.
1 October, 1880.....	600	5 per cent.
1 April, 1883.....	500	Ditto.
1 April, 1883.....	600	6 per cent.
1 October, 1883.....	650	Ditto.
1 April, 1884.....	6400	Ditto.
1 October, 1884.....	3000	Ditto.
14 March, 1885.....	2000	Ditto.
1 April, 1885.....	3950	Ditto.
1 October, 1885.....	2275	Ditto.
1 April, 1886.....	1000	5 per cent.
1 October, 1886.....	3650	6 per cent.
1 April, 1887.....	500	5 per cent.
1 October, 1887.....	750	6 per cent.
1 October, 1887.....	250	5 per cent.
1 April, 1888.....	61	6 per cent.
1 April, 1888.....	6800	5 per cent.
1 October, 1888.....	3900	Ditto.
1 April, 1889.....	9300	Ditto.
1 October, 1889.....	2000	Ditto.
1 April, 1890.....	1300	Ditto.
1 July, 1890.....	1200	Ditto.
1 October, 1890.....	1000	Ditto.
1 April, 1891.....	900	Ditto.
1 October, 1891.....	1100	Ditto.
1 April, 1892.....	6700	Ditto.
1 October, 1892.....	4590	Ditto.
1 April, 1893.....	1570	Ditto.
1 October, 1893.....	2580	Ditto.
1 April, 1894.....	100	Ditto.
	<u>£70,126</u>	
	<u><u>£70,126</u></u>	
RECAPITULATION.		
	£45,890	at 5 per cent.
	24,236	6 per cent.
	<u>£70,126</u>	
	<u><u>£70,126</u></u>	
Available, £19,874.		

ON MUNICIPAL RATES.		
	£	
10 April, 1880.....	500	at 6 per cent.
24 April, 1880.....	100	Ditto.
19 June, 1880.....	600	Ditto.
31 July, 1880.....	200	Ditto.
18 September, 1880.....	100	Ditto.
1 October, 1880.....	100	Ditto.
1 April, 1881.....	100	Ditto.
1 October, 1882.....	2600	Ditto.
1 April, 1884.....	1000	Ditto.
1 April, 1885.....	300	Ditto.
1 October, 1886.....	500	5 per cent.
1 April, 1891.....	600	Ditto.
1 October, 1891.....	1700	Ditto.
1 April, 1892.....	7600	Ditto.
1 October, 1892.....	190	Ditto.
1 October, 1893.....	60	Ditto.
1 October, 1894.....	3250	Ditto.
	<u>£19,500</u>	
	<u><u>£19,500</u></u>	
RECAPITULATION.		
	£13,900	at 5 per cent.
	5600	6 per cent.
	<u>£19,500</u>	
	<u><u>£19,500</u></u>	
Available, £3500.		

W. H. SMITH, *Accountant.*  
20th January, 1880.

## APPENDIX B.

*PROCEEDINGS of Legislative Council on the Second reading of the Hobart Town Corporation Loans Consolidation Bill, as reported in the Mercury Newspaper of March 4, 1880.*

## HOBART TOWN CORPORATION LOANS CONSOLIDATION BILL.

Mr. CHAPMAN, in moving the second reading of this Bill, said he had been requested by the Mayor to take charge of the Bill and carry it through the House if possible. The Mayor had addressed him to day on the subject to that effect, and he would lay on the table the letter and a copy of the circular explaining the object of the Bill, together with Mr. Clark's report on the water supply of the city. There was sufficient information before the Council as to Mr. Clark's eminence as a hydraulic engineer, and the result of his report was to confirm the plans and estimates of Mr. Christopherson. This Bill would carry out those plans. The cost of repairing the wall of the dam would cost £7000; mains, iron piping, &c., £4500. Other items connected with the improvement of the water supply brought up the total to £30,000. Another object of the bill was to enable the Corporation to consolidate its loans, and money was, of course, required for that purpose. A considerable saving was estimated to be made by the consolidation. The revenue of the city has been ample to pay the interest on the water supply and leave a surplus of £1700, but that amount had last year been expended in stone troughing and other works. There was every reason therefore to believe that the loan could be embarked in without any additional taxation to the citizens. There was an ample supply of water on the mountain to supply the city for the next half century, unless the growth of the population was abnormal. The scheme was based on careful principles, and was calculated to benefit the city in its water supply. But not only would the city benefit in its water supply. The abominable nuisance of the creek would be removed. If it was desirable that Hobart Town should retain its pre-eminence as a sanitarium, that intolerable nuisance must be abated. The Corporation proposed to spend £27,000 in paving the creek, flushing it, and carrying away the refuse to the sea. The Bill was essentially municipal, although it was proposed that the Government should guarantee the interest, which he thought they were perfectly justified in doing. The Corporation had done good work in the city, and he thought Hobart Town now and forty years ago were quite different places, and they might anticipate that the loan would go off at par. If the loan was extended to 50 years, a sinking sum of three-quarters per cent. would be sufficient to redeem the debentures at maturity.

Dr. AGNEW supported the Bill. So important was the water supply, that Parliament would be fully justified in doing all in its power to perfect it. All that had been said about the creek by the hon. member for Buckingham he agreed with, and from every point of view he trusted the Bill would pass.

Mr. ROBERTSON said he should give the Bill his warmest support. The money asked for was absolutely necessary, and he believed it would be properly laid out and prove a great advantage to the city. The creek was a fearful eyesore and a disgrace to the city, and unless it was paved and cleansed it would breed diseases and keep strangers away from the city. He agreed entirely with the plans for improving the supply of water.

The COLONIAL SECRETARY said they appeared to be a happy family for once. Had this Bill been sent up by the Government, it would, he believed, have been ignominiously thrown out, and the hon. member for Buckingham would have made a far better speech against it than he had done in its favour. He had carefully examined Mr. Christopherson's plans for the water supply, and did not believe in them. In the construction of the existing reservoir there had been something radically wrong from beginning to end; and in many other ways the works were not a credit to engineering science. He had no wish to oppose the Bill, but great caution should be observed in expending it. As to the creek, why, was not the Act making it a common sewer, and the earth-closet system introduced? If that were done the city would be made perfectly healthy and sweet without having to go to the London money market for £27,000. The information before the Council was far too meagre—indeed, the only thing was a plan of the proposed improvements in the water supply, which ought to be sent to the Melbourne Exhibition as a curiosity. He was anxious that the Corporation should spend the money to the best advantage, and make the works really permanent.

Mr. AIKENHEAD said it was a pity the Colonial Secretary should feel so sore because some of his Bills had been rejected. This was quite different from the Government measures, especially from the Mersey and Deloraine Tramway. The Corporation were responsible for the money, and all they asked was that Government should strengthen their hands by guaranteeing the interest. He specially liked the Bill, because it would be worked by a local body, which would know how to expend the money advantageously.

After a few remarks from Mr. Chapman in reply, the question was put and passed.

The House then went into Committee to consider the Bill in detail. The Bill was reported without amendments, and the third reading made an order of the day for to-morrow.

## APPENDIX C.

*PROCEEDINGS of the House of Assembly on the Second reading of the Corporation Loans Bill, as reported in the Mercury Newspaper of February 26, 1880.*

## CORPORATION LOANS BILL.

The COLONIAL TREASURER said this Bill was to enable the Hobart Town Corporation to consolidate their loans at the rate of 5 per cent., and to borrow a further sum, amounting in all to £150,000. The present indebtedness of the Corporation was as follows:—By the Act of 1860 the Corporation were authorised to borrow £50,000; three years later, under the same Act, £10,000 was authorised to be borrowed; four years after, a further sum of £5000; in 1872, £5000; and in 1877, £20,000; making in all £90,000, for the purpose of supplying Hobart Town and its suburbs with water. Those sums were borrowed on bonds, the interest upon them being guaranteed by the Government. Besides that sum the Corporation had been authorised to borrow at different times a sum of £23,000 for the purpose chiefly of building the Town Hall: making in all £113,000. On the sum of £23,000 the interest was not guaranteed by the Government. The Corporation had recently applied to the Government for permission to consolidate the loans, and for power to borrow an additional sum for public works, the interest on the whole loan to be guaranteed by the Government. The Corporation had also submitted their balance-sheet, and an account of the way in which they proposed to expend the additional money. They had been advised by eminent engineers that for an expenditure of £25,000 they could double the water supply of the city, besides having a new main, stone aqueducts, and iron piping. They also contemplated improving the rivulet by clearing out the silt from the foot of Campbell-street to the mouth of the creek, and also to pave it as far as Molle-street, and by the use of flood-gates cleanse it from impurities from time to time. The points with which the House would be principally concerned were, first, whether it would authorise the extension of the borrowing powers of the Corporation from £113,000 to £150,000, and secondly, whether the House would sanction the guarantee of the interest being given by the general Government to the loan which was thus sought to be raised. The Government recommended to Parliament the favourable consideration of the application of the Corporation, mainly on the ground that it appeared a most legitimate use of the credit of the Government to enable such a public body to raise money on as favourable terms as possible. It would do direct good to the Corporation, and indirect good to the Colony, by setting free money now locked up in the securities. Several municipalities in other colonies had adopted a similar course, and their loans had been readily floated in the London market. The rate of interest the Corporation proposed to offer was 5 per cent., and of course they could not expect to borrow on as favourable terms as the Government of the Colony could do. They were advised that they would have no difficulty in borrowing the money at that rate of interest, and provision was accordingly made in the Bill enabling them to do so. On account of the absence of the hon. members for South and Central Hobart he would only ask that the Bill be read a second time to-day, and would not consider it in Committee until to-morrow. If the Government guaranteed the loan, he thought the interest should be sent through the hands of the Government, so that the usual precautions might be taken for its punctual payment, so as to sustain the good name and credit of the Colony. To this the Corporation were perfectly willing. He moved the second reading of the Bill.



In answer to Mr. HENRY,

The COLONIAL TREASURER said that out of the £100,000 now owed by the Corporation only £9000 was guaranteed by the Government for payment of interest.

The Bill was read a second time, and the Committee fixed for next day.

#### APPENDIX D.

*PROCEEDINGS of the House of Assembly in Committee on the Corporation Loans Bill, as reported in the Mercury Newspaper of February 28, 1880.*

#### MUNICIPAL LOANS.

The House went into Committee on the Hobart Town Municipal Loans Bill.

Clause 1 was agreed to, and clause 2, "Interpretation," was postponed.

Clause 3. "Council may borrow."

Mr. BELBIN opposed the power being granted to the Council to go to the English market for the money. It was not stated what the sum was wanted for, and he did not think that such a Bill should be proceeded with at this period of the session. The additional shilling rate was objectionable, and the 21st clause allowed even beyond that. [The Colonial Treasurer: No.] The citizens were not prepared to pay this new loan tax, which would bring their rates up to 5s. 1d. in the £, one-fourth of the value of the property. It was not fair to press the Bill at this time. Some of the money was no doubt to be applied to the creek; but on what plan was the Corporation going to deal with it? They ought to announce before they came to ask to be allowed to get this money. All sorts of plans were before the Council, and the House ought to know which was to be selected. With regard to the Waterworks, were they simply going to perpetuate their old blunders, and how was the interest to be paid? All these things ought to be known before they were even asked to consider the Bill. He hoped the Colonial Treasurer would not further press the measure forward.

The COLONIAL TREASURER thought the hon. member misunderstood the purport of the Bill. Besides, he himself had supported the blunders to which he referred. The matter was pressed at the wish of the Corporation, believing that Parliament would see how urgent the matter was, especially the reference to the creek. There was no levying of a shilling rate, but the substitution of one (as security) for a part now already levied. The purposes for which the additional loan was required, he had already explained to the House, was for a new storage reservoir, a second main, a new stone aqueduct, and iron piping to replace the brick recommended by the member for South Hobart when he was in the Council, and which did not turn out a success. If the whole amount were borrowed, only three half-pence in the £ would have to be paid to pay the interest on the whole of the loans. The city ought to be the healthiest in the whole of the Australias, but it was not so now. So long as the Corporation was entrusted with the management of its own affairs he thought the House should deal fairly and generously with it. In the judgment of the Corporation this Bill was required of necessity, and it was therefore he, in his independent position as a private member, submitted it to the judgment of the House, by which of course he would have to abide.

Dr. CROWTHER supported the motion. He thought, however, the Council were not giving a sufficient source of water for supplying the city, especially in view of the prospect of the population becoming much increased. He advocated the pumping to high levels of sufficient salt water to thoroughly flush the creek. He expressed the opinion that the Council had the power to abate the nuisances abutting upon the creek, but they had not the will. Sewerage was not solid filth, and whilst the former was permitted the latter should not be allowed to be carried into the creek.

Mr. BRADDON pointed out that unless something be done to improve the sanitary condition of the city it would be found that the influx of visitors would cease. He was in favour of the water supply being improved; and that abomination, the Hobart Town Rivulet, being improved. (Hear, hear.)

Mr. LEWIS explained what had been done in former years relative to providing a supply of water for the city. There was not a sufficient quantity of water in the hills to supply the city during the summer. (Hear, hear.) He was of opinion that they should obtain their supply of water from New Norfolk, or some other place on the Derwent, and then they would be able to supply townships intervening.

Mr. RISHY opposed the borrowing of that large sum, but he would not say he was opposed to the whole of the scheme. It had already been stated that the Council had borrowing power to the extent of £20,000, and he thought they might do something with that sum before Parliament met again, when they might again ask for further power to borrow money. He was of opinion that it was simply wasting money to spend anything more on the old reservoir, which was in a thoroughly leaky state. He should vote against the Bill. He maintained that from first to last the waterworks had been carried out by incompetent officers, and hence the failures. He thought that the Council was not fit to have charge of the Waterworks, owing to the frequent changes which took place in the constitution of the Corporation. He thought that, considering the limited supply of water obtainable from Mount Wellington, it was a question of expediency as to whether the City Corporation should attempt to supply the suburbs, New Town and Sandy Bay, with water. He was confident that the paving of the creek would be found a difficult work to execute. At the present time he did not consider that the Council had proper persons about them to see to the construction of the works proposed. He thought it would be better if the scheme were withdrawn at present, and submitted again when Parliament re-assembled.

Mr. BALFE expressed his surprise at the amount of opposition to that measure which had been manifested by city members, who were the predecessors of some of the present aldermen. He considered that the Corporation represented the citizens, and were entitled to that Bill. He objected to the postponement of that measure, inasmuch as if it was postponed, it would be twelve months at least before that measure could be again brought before Parliament. He urged that past mistakes on the part of the Council would not justify Parliament in refusing to authorise the proposed expenditure. If they could not get their supply of water from Mount Wellington, where were they to get it from? New Norfolk and Hamilton had been suggested, but either of those schemes would be found to be impracticable, principally owing to the altitude of both of those places being insufficient. The proper way, after all, of obtaining a proper supply was by damming up the water that fell on Mount Wellington during the winter. The only available source of supply was on the mountain, therefore the water would have to be got from there. So far as the objection against supplying Sandy Bay was concerned, it should be remembered that the Corporation, by the erection of a reservoir, had diverted the water which had hitherto gone to Sandy Bay, and therefore were under an obligation to include Sandy Bay in the water scheme. As the citizens had confidence in the Council, the Parliament were under an obligation also to place their confidence in the Council. It would be found that in the event of the condition of the creek not being speedily improved city properties would materially depreciate in value. The demand of the City Council was a most reasonable one, and therefore he trusted the Bill would be allowed to pass.

Mr. LEWIS did not intend to oppose the Bill. It was quite right that water should be supplied to Sandy Bay. Water was carried out to ex-Alderman Barrett's place, at New Town, simply because that gentleman was a member of the Council, and got on the soft side of a then officer of the Council named Gale. (Laughter.)

The COLONIAL TREASURER said the expression of opinion given by some of the city members who were opposed to the measure were contrary to the professional representations made to the Council, and upon which that Bill was based. So far from the supply of water available at the mountain being insufficient for the city, it would, when the proposed scheme was carried into effect, be more than ample for the city and suburbs for the next two generations at least. The present aldermen should not be held responsible for the blunders of their predecessors.



Mr. HENRY thought that before the House was called upon to vote in that matter, the information which the Colonial Treasurer had in his possession should have been printed and placed in the hands of members, and that the scheme ought to have been submitted to the Government engineer for his opinion. He (Mr. Henry) should not oppose the measure, but should vote with the Government.

The ATTORNEY-GENERAL urged that it would be wrong to attempt to impose such conditions as some hon. members had indicated upon the City Council relative to the carrying out of the proposed scheme. He pointed to the necessity of some improvement being effected with regard to the water supply, and to something being done to improve the condition of the rivulet. He trusted that the question would be dealt with in a proper, fair, and liberal spirit, and that the measure would be passed into law.

The remaining clauses of the Bill, together with the schedules, were passed as printed, with the exception of the 24th clause, in which a slight verbal amendment was introduced. The amendment was agreed to, when the Bill was read a third time and passed.

#### APPENDIX E.

*PROCEEDINGS of the Municipal Council in reference to the improvement of the Hobart Rivulet, as reported in the Mercury Newspaper of March 22, 1881.*

#### IMPROVEMENT OF THE RIVULET.

THE order of the day for the consideration of the report and plans of the Sewerage Committee, submitted on February 28, having been called on,

The following letter, which had been received from the City Surveyor, was read:—

"Having been instructed by you to draw up a report setting forth the reasons which induced your committee, on the 28th February last, to recommend that a certain portion of the work connected with the Hobart Rivulet improvement be at once commenced by the City Council, to wit, the construction of timber retaining walls and extension of the outlet of the rivulet from the lower side of Macquarie-street Bridge to the River Derwent, including the dredging of the same, I beg the honor to submit the following:—It will be outside my province in this instance to enter into any exhaustive report on the whole of the scheme for the rivulet improvement throughout the city, and therefore I will endeavour to deal with the matter as concisely as possible; but it will be necessary for me to give a brief outline of what the contemplated improvements to the rivulet consist of, in order that the Council may see more clearly that the recommendations of your committee were founded on a substantial basis. In the first instance, I may state, my instructions were to design certain improvements to the rivulet to prevent nuisance arising therefrom, and to devise means for preventing damage from future floods to the lower parts of the city. Such improvements, it was understood, should be designed so that they might, if necessary, be made to conform with some future scheme of drainage of the whole city. It was therefore necessary, in the first instance, to ascertain what relation the rivulet would bear to a complete system of drainage; and whether its entire length, from Molle-street downwards, when its condition was improved, would form part of such system. Very little information was available in any reliable form in the office to arrive at a speedy conclusion, and it was therefore only by careful observation, and from surveys subsequently made by myself, that I was enabled to state that the valley of the rivulet must of necessity form the principal line of drainage. Mr. Gordon in his report confirms this opinion; he states in his opening paragraph that the rivulet being the natural drainage line, the thalweg, any system of drainage and sewerage must be designed with reference to it. It has been supposed by some that a different outlet than that of the present course of the rivulet could be determined on for the sewerage, but on examination I find this to be impracticable with any ordinary measures, owing to the very low levels of that part of the city extending from the markets towards the river. The sewerage must, in this instance, be discharged at high-water mark, and any covered main sewer would possess by far too little fall to recommend its adoption. It is therefore proposed to discharge the sewage in the bed of the rivulet at the point reached by the Hobart Wood Market, the bottom of the rivulet being so prepared that any offensiveness will be entirely removed. From the above it may be seen that any works conducted on the lower portion of the rivulet from Macquarie-street to its mouth will be in connection with the scheme of city drainage, as it is not likely, I apprehend, that the course of the creek in this locality will be again altered. The present state of the mouth of the rivulet is most offensive. At low tide a very large area of silted matter, most deleterious to the health of the citizens, is exposed to the rays of the sun, and the effluvia constantly arising is blown back direct on the city by the sea breezes. To prevent or modify this evil it is therefore proposed to limit the width of the rivulet to 40 ft., by erecting timber retaining walls on each side, extending from Macquarie-street to a point off Wise's old wharf, in moderately deep water, the discharge of the rivulet being directed into a sea-water current, setting from the Rifle butts' point towards Battery Point, the plans of which have already been laid before the Council. The space between the walls is to be kept dredged to below low-water mark, more especially in the centre, which will prevent any exposure of the bed of the creek, as at present. The timber walls (piles sheeted) will be filled in at the back, and a large area of land will be reclaimed thereby. There is no necessity to delay the works as far as the dredge is concerned. A dredging machine will be procurable, I understand, quite as soon as it will be necessary to use it, and the driving of the piles need not be delayed on account of its absence. It is desirable, though not absolutely necessary in this instance, that the pile-driving and dredging should go on simultaneously; but as some weeks must elapse before any piles can be driven, even if the contract were let immediately, further time will therefore be gained for procuring the use of the dredge, and under these circumstances I think that tenders might be called for the works at once. The above improvements, though forming a part of the drainage scheme of the city, yet stand independently, and can be carried on without reference to any other portion of the scheme; and whilst such works are in progress, the other and more elaborate improvements, from Macquarie-street upwards, can be got ready for contract."

Alderman SEABROOK moved the adoption of the Report submitted by the Committee, who recommended that the improvement of the Hobart Rivulet at its outlet, in accordance with the plans prepared by the City Surveyor, and approved by Mr. Gordon, be proceeded with at once, and that tenders be called for the work.

The motion was seconded by Alderman GREGORY, and supported by Alderman MAHER.

Alderman BROWNELL was afraid that the silt removed from the bed of the rivulet would be washed back again.

Alderman PIKE expressed a similar fear.

Alderman BURGESS supported the adoption of the Report, relying entirely upon the advice of the professional gentleman whom they had employed to report upon the proposal.

Alderman ESPIE took a similar view.

Alderman GREGORY supported the motion, and disclaimed having in any way shaped the scheme before the Council, for the preparation of which Mr. James was entitled to all the credit.

Alderman BELBIN disapproved of the scheme, and considered that it would result in an utter waste of money.

Alderman BROWNELL elicited from Alderman Seabrook that no estimate had been made of the probable cost of the work.

Alderman SEABROOK urged that provision would be made to prevent the silt being washed back again. He deprecated the condemnation of plans by those who were not prepared to recommend a better scheme.

Alderman BROWNELL commented upon the absence of any estimate of the cost of the work, which he considered to be illegal; and also alluded to the desirability of steps being taken with a view to defining the mouth of the rivulet.

The motion was agreed to.

#### THE CORPORATION LOAN.

Alderman BROWNELL gave notice that he would move at the next meeting—"That the resolution passed by this Council on February 28, appropriating an alleged surplus of premium towards payment of the first half-year's interest on Corporation Loan, be rescinded, the statement contained in the said resolution not being consistent with fact."

## APPENDIX F.

*PROCEEDINGS of Municipal Council in reference to Public Works Scheme, as reported in the Mercury Newspaper of April 12, 1881.*

## SCHEME OF WORKS.

THE Council went into Committee to consider the scheme of works for the year, and after a desultory discussion on points which, it was stated, would afterwards form the subjects of special reports as each item was agreed to, the scheme was adopted in its entirety.

The following special report was also adopted :—

The Public Works Committee report that they have had under consideration the advisableness of adopting some improvement on the present system of watering the streets of the city. It has been the custom hitherto to obtain salt water during the dry months of the year, by filling the carts with a hand pump at the Constitution Dock, which entails a considerable expense in manual labour, as well as a great loss of time in filling the water carts, and the travelling of the same to and fro from the localities where the street watering is most needed. The committee, therefore, are of opinion that a great saving of time and labour might be effected in the future, if the salt water could be supplied by means of a pumping engine, to a more central part of the city than hitherto, and they recommend that an engine be fixed in the Seymour yard, and a 4-in. iron main be laid therefrom along Dunn-street, Market Place, up Collins-street, and then along Murray-street to the bridge over the rivulet, where a tank or water crane is proposed to be erected for filling the water carts. All surplus and overflow water would be utilised in flushing the bed of the rivulet, which would be a decided boon.

The pumping engine which the Committee recommend to be obtained is one of Tangye's "special" steam pumps, with colonial boiler complete, and the total cost, including iron main, freight, cartage, and laying, is estimated at £427 9s. 8d., which sum they recommend to be voted out of that portion of the new loan to be devoted to the improvement of the city.

A special report was brought up, with the schedule of tar concrete paths, which the Public Works Committee recommended should be constructed out of the loan, at a cost of £2900, a further sum of £400 being now added. Aldermen BROWNELL and BELBIN spoke strongly against the proposal to use the loan in this way, and eventually the report was adopted, those aldermen dissenting.

The Council resuming, the proceedings in Committee were confirmed.

## APPENDIX G.

*COPY of Leading Articles in Mercury Newspaper of April 14 and April 27, 1881, calling the attention of the Public to the manner in which the Municipal Council proposed to expend the Amount authorised by Parliament to be raised by Loan.*

At the City Council meeting held on Monday last, a step was taken that demands that the citizens should at once take action, and by timely yet temperate expression of opinion, avert a crisis that may be disastrous to the city. The straining of an Act of Parliament by appropriating to one purpose money obtained for an altogether different destination, is too dangerous an exercise of power to be tamely submitted to \* \* even when the purpose is one which commends itself to general approval. \* \* Are the citizens prepared to commit to the present members or those who may succeed them the power to divert the large sum of £57,000, borrowed for water supply and sewage purposes, to all or any purposes not originally contemplated? Especially, considering how grossly the Council has sinned in the matter of footpaths, are the citizens prepared to smooth the way of the Council to an unlimited expenditure in the same direction? Hitherto some restraint has been placed on the action of the Council by the limitation imposed by the annual amount of rates available. But now, if the Council is not made to feel a proper sense of responsibility, and its expenditure confined within the statutory limits, the whole £57,000 remaining under the Loans Act, after paying existing Debentures, is in danger of being misappropriated to other purposes than those on the faith of which the Government guaranteed the interest of the recent loan.

The introduction of a wrong on the part of the City Council should be stopped at the outset. The Council should not be allowed to form a precedent which is calculated to enable it to divert from the defined purpose that sum the interest of which the citizens are content to pay on getting increased water supply and sewage advantages, but which mispent would necessitate another loan and greater annual burdens. \* \* \* As we read in the report in last Tuesday's *Mercury*, "A special report was brought up, with the schedule of tar concrete paths which the Public Works Committee recommended should be constructed out of the loan at a cost of £2900, a further sum of £400 being now added. Aldermen BROWNELL and BELBIN spoke strongly against the proposal to use the loan in this way; and eventually the report was adopted, those Aldermen dissenting." \* \* \* We abstain from raising objections on the vagueness of the information given. Whether it is proposed to take a portion of the £2900 out of the loan, or the £400 represents the misappropriation, is only a matter of detail. The wrong principle stands the same. As a rule not a penny should be expended on street improvements or footpaths, except out of current revenue. The duty is imposed on the Council of keeping these in proper repair, and they are entrusted with an annual revenue for the purpose. Once add to the city debt for footpaths to the houses of Aldermen, or even in the busy and frequented parts of the city, on what principle not extend the same to the whole city, every owner of property being equally liable for the debt and interest on it? But the graver issue raised by Aldermen BELBIN and BROWNELL remains. The Act enabling the City Corporation to borrow money no doubt stated in its title that it was for the consolidation of certain loans, and "for the purpose of improving the said City," but the preamble in which also were introduced the words "for the purpose of improving the said City," evidently contemplated only Water and Town Hall purposes. The loans in each Water Act are recited; and after providing for paying off these and the Town Hall loan, the balance was intended for a specific purpose, which may be briefly defined as supplying the city with pure water and relieving it of water in its impure state. To twist the words occurring in the Act, "for the purpose of improving the said City," into an authority to apply the loan to making footpaths, is an interpretation of the powers of the City Council that will not commend itself to the honest intelligence of the citizens. In so appropriating £400, or whatever other sum the report adopted on Monday embraced, the Council claims the right to appropriate the whole £57,000 to any purpose that it sees fit. Had our recommendation been followed, and had the Council been compelled to submit water supply and sewerage plans with reliable estimates, the Council would have been saved from placing itself in a very questionable position. As it is, they cannot too soon retrace their steps; and if they do not, the citizens will have to make their voices heard. The COLONIAL TREASURER, in moving the second reading of the Bill, which became law on the faith of what he said, narrated the debt to be paid off, and stated the purposes to which the balance was to be applied, adding "the Corporation had submitted an account of the way in which they proposed to expend the additional money." Will any Alderman dare to assert that in that statement was included any street repairs or improvements? The previous loans authorised for waterworks purposes amounted to £90,000, of which only £70,000 had been so raised, leaving an unexhausted borrowing power of £20,000. It was calculated that other £10,000 would be required for completing the waterworks supply, making a total for that purpose of £100,000. £23,000 had been borrowed for Town Hall purposes, and £27,000, the balance of the £150,000 to be raised, was to be appropriated to sewage purposes. If the Council has forgotten what it did some twelve months ago, we shall refresh the memories of the Aldermen by reminding them that in the statement on which Mr. GIBLIN asked the assent of the Assembly to the Bill, it was stated that the consolidated loan was to be applied thus :—For waterworks, £100,000; for Town Hall, £23,000; and for sewage, £27,000; total, £150,000. There is no getting out of this. *Scripta litera manet*, and no Alderman can conscientiously justify the appropriation of a shilling to any other purpose.

Will the City Council of Hobart ever place itself in a position in which it can command the respect of the community? Will the gentlemen who take seats at the Council Board ever become scrupulous enough to apply in their conduct of public business that integrity and honorable bearing by which they are guided in their private affairs? In their corporate character they hesitate not to do that of which in their private business relations they would be ashamed. The report of the proceedings of the meeting of the Council on Monday, which appeared in our columns yesterday, is of a character to excite in the citizens feelings of pain and of alarm; of pain that gentlemen in their position should be so lost to every feeling of propriety as to do what they must know to be wrong because they have reconciled it to their consciences that it may be legal; of alarm lest gentlemen so little influenced by the sense of right should so much further forget themselves as to thus apply the whole of the money of which they have not scrupled to misappropriate a part.

Because "the Council has taken no steps without legal advice," we desire that the public should thoroughly understand the free and easy manner with which the Council is prepared to deal with public money. Their wants and will are their rule of conduct. Contract obligations voluntarily entered on with the public, and on the faith of which they obtained the guarantee of Government to their Debentures, are cast to the winds with a cool indifference that bespeaks a lamentable absence of moral right. We gave expression to the public feeling on Thursday, the 14th instant, and were in hopes that when the Council had had time to think of the wrong it was doing it would acknowledge its error and retrace its steps. But, no. Aldermen have made so free with the city funds in improving their own properties, that they probably thought to stay clamorous tongues by extending footpaths as much as possible. The ordinary revenue—the legitimate source for this purpose—not being adequate, money had to be obtained otherwise, and the loan for water and sewerage purposes offered a temptation too strong for Aldermen who had a purpose to serve and wanted money for that purpose. Accordingly, it was resolved to apply a portion of the loan to supplement the revenue pledged in payment of the interest on the loan. It is something to know that at least two Members of the City Council recognised the moral obligations imposed on them. Mr. BELBIN at last meeting entered, and Mr. BROWNELL joined in the following protest:—

"A majority of this Council having at its last sitting, on the 18th instant, voted an expenditure amounting to £2279 12s. 1d. and £402 12s., for the formation of asphalted footpaths, and by the same resolution proposed and agreed to, that the above amounts be taken from other moneys borrowed for a special purpose, viz.—that of improving the water supply and the sewerage of the city: Now, I, holding it as my opinion that such action would be illegal, and outside the legitimate powers of the Corporation, do hereby record my protest against the diversion of such moneys from the original scheme for which the sums were obtained. And I further protest that the appropriation of borrowed capital (raised for other purposes), if expended upon the streets, will be a perversion of the original intent for which such money was had, and would form a precedent that has not yet existed in this Council for such works; municipal rates alone being the means for expenditure in this and similar undertakings." So soon as the protest had been read the MAYOR stated that he had considered it his duty, in connection with the subject, to take the opinion of the Corporation's Standing Counsel, which was that the money could be appropriated in the manner proposed. Whether this opinion was taken after or before the passing of the resolution protested against we are not told, nor on what statement of facts Mr. GIBLIN advised. But we do know that the consultation must have been irregular, for our reporter by mistake stated the Corporation Solicitor as the adviser, and Mr. YOUNG has disclaimed any connection with the matter. That Mr. GIBLIN should, with his full knowledge of the circumstances, have given the advice stated by the MAYOR may be in accordance with professional etiquette and propriety. But we do not forget that the gentleman who has the honor to be Standing Counsel for the Corporation also stands in relation to the Colony in the position of Premier and Treasurer, and as such introduced the Corporation Loan Bill into the Assembly, and obtained the assent in that Chamber to Government guaranteeing the interest on the loan, on the distinct assurance that the loan, in so far as available beyond paying off existing Debentures, was solely for water supply and sewerage purposes; and when making this statement he held in his hand a document prepared by the MAYOR and Council, and referred to it as bearing out what he had said. Remembering this we cannot acquit Mr. GIBLIN of blame in having allowed to be introduced into the Bill the words "and for the purpose of improving the said city," which he ought to have known as well then as now were capable of an interpretation inconsistent with the professed object of the City Council, and which therefore he should have moved the House to strike out. But whether this be so or not, the Colony has good cause of complaint in so far as Mr. GIBLIN, entrusted with the protection of the rights of the Colony, failed to take some action when it was brought officially under his notice that the City Council was imperilling the security on which the Government had guaranteed the city debentures. The Colony's guarantee of the city's debt was on the faith that that debt was to be contracted for a particular purpose. Any deviation from that purpose, any diminution of a loan for constructive purposes and dedication of it to purposes of maintenance, was a palpable weakening of the security on the faith of which Parliament acted, and may be but the thin edge of the wedge. Mr. GIBLIN, therefore, while advising as the City Council's Standing Counsel, should not have forgotten that he is also Colonial Treasurer.

On the question of the legality or otherwise of the action of the Council in appropriating a portion of the loan to supplementing the city revenue, we shall not place our common sense opinion against the professional opinion of Mr. GIBLIN arrived at by a process of legal acumen of which he is such a master. But we would remind the City Council that that may be legal which is not expedient, that may be expedient which is not honest, and we challenge the Council to deny that they are acting in bad faith in taking advantage of what is at best a contemptible quibble. We have before us a copy of the printed statement by the City Council to which the COLONIAL TREASURER in his place in Parliament referred. With the exception of the two protestors and Alderman GREGORY, every other member of the Council was a party to the contents of that document, which is headed—"Proposed method of, and reasons for, expenditure of loan of extra £57,000 asked for by the Hobart Corporation under the provisions of the Bill now before the Legislature." The first paragraph is in these words—"The Council propose expending the above-named sum of £57,000 by applying £30,000 to the completing the present water scheme, and the balance, £27,000, for the sewerage of the City." This statement of purpose is further on thus elaborated as to the Waterworks:—

	£	s.	d.
The reconstruction of the present storage reservoir .....	7000	0	0
The laying of an additional 10-inch main between the storage reservoir and the Marquis of Hastings .....	4160	0	0
The completion of masonry, aqueduct, in lieu of the present wooden troughing, which has decayed .....	3500	0	0
The taking up of the stoneware pipes laid between St. Crispin's Well and Fork Creek, a distance of $4\frac{1}{2}$ miles, and relaying same with cast-iron pipes of the following dimensions, and at the following cost for each section, viz.—			
From St. Crispin's Well towards Fork Creek, one mile of 8-inch cast-iron piping, at a cost of .....	2754	0	0
From thence $1\frac{1}{2}$ miles 9-inch piping, at a cost of .....	3060	0	0
And to Fork Creek, $1\frac{1}{2}$ miles of 10-inch piping, at a cost of .....	4952	0	0
Iron pipes from St. Crispin's Well to Two Creeks .....	770	0	0
		10,936	0 0
Contingencies .....	..	4404	0 0
Total .....	..	£30,000	0 0

And as to Sewerage:—

With the remaining £27,000, it is proposed to clear the lower end of the Hobart Rivulet, where the silt has accumulated, from Campbell-street down to the river, and to pave the bed of the creek from Campbell-street as far up as Barrack or Moll-streets. It is also proposed to erect one or two flushing gates.

Is there one of the six Aldermen who were in the City Council on March 1, 1880, and then sanctioned the engagements with Parliament and the public we have quoted, who will in the future take his stand on the point of legality, and publicly disclaim his title to a character for probity as a public man?

## APPENDIX H.

*PROTEST of Alderman BELBIN and Alderman BROWNELL, reported in Mercury Newspaper of April 26, 1881.*

THE following Protest to the proceedings of the Council in regard to the expenditure of part of the Water Works Loan in repairing the streets was handed in by Alderman Belbin :—

A majority of this Council having at its last sitting, on the 18th inst., voted an expenditure amounting to £2279 12s. 1d. and £402 12s., for the formation of asphalt footpaths, and by the same resolution proposed and agreed to, that the above amounts be taken from other moneys borrowed for a special purpose, viz., that of improving the water supply and the sewerage of the city: Now, I, holding it as my opinion that such action would be illegal, and outside the legitimate powers of the Corporation, do hereby record my protest against the diversion of such moneys from the original scheme for which the sums were obtained. And I further protest that the appropriation of borrowed capital (raised for other purposes), if expended upon the streets, will be a perversion of the original intent for which such money was had, and would form a precedent that has not yet existed in this Council for such works,—municipal rates alone being the means for expenditure in this and similar undertakings.—WM. BELBIN.

Alderman BROWNELL joined in the Protest.

## APPENDIX I.

*PROCEEDINGS of Municipal Council in reference to new Tar Footpaths, as reported in Mercury Newspaper of August 2, 1881.*

## NEW TAR FOOTPATHS.

A SPECIAL Report from the Public Works Committee recommended that the under-mentioned pathways be laid down with tar concrete as provided for in the appendix to the scheme of works for the year 1881 :—Byron-street, from Fitzroy Place to Sandy Bay Road, and round to the bridge, estimated cost, £119 4s. 6d. ; Molle-street, on the west side, from Davey-street to Macquarie-street, estimated cost, £25 19s. ; Barrack-street, from Macquarie-street to Davey-street, estimated cost, £28 3s. 6d.

Alderman MAHER remarked that the person lately engaged by the Council from Melbourne to superintend the laying down of the tar footpaths was carrying out his work to the entire satisfaction of the Committee. He moved the adoption of the Report.

Alderman SEABROOK seconded the motion.

Alderman BROWNELL pointed out to the Council that the money to cover the expense of carrying out these works was not proposed to be taken from the "repair fund," but from the loan. He protested against any portion of the loan being used for that purpose, as he considered it to be opposed to the spirit and provisions of the Act.

Alderman BURGESS supported the action of the Public Works Committee, and was glad to be afforded an opportunity to do so. The Bill passed through the Legislature, and approved of by the City Council, stated that the money was required for the extension of the waterworks, the sewerage of the city, and other public works. This being so, there could not be any objection to the course decided on by the Committee. It had been determined that £30,000 was wanted for waterworks, and the estimates showed that £20,000 would be required for the sewerage, and the question then was, what should be done with the balance? The best purpose it could be put to, he considered, was the carrying out of public works. To do so, was not in any way to go behind the loan, and he would vote for the adoption of the Report.

Alderman GREGORY would vote for the money being spent in this way, provided the work was properly carried out. There was a great necessity for works of the nature proposed in the Report to be carried out in the city, and if these were but carried out properly, as under the superintendence of their newly engaged employé he had no doubt they would be, it was as legitimate and profitable a way of spending the money as any other.

Alderman PIKE thought that if there were a surplus of £7000, there would be no harm in improving the roads and pathways of the city by expending it.

Alderman BROWNELL moved an amendment to the motion, "That the Report be allowed to stand over for another week to give time to fully consider the matter." How could they say there would be a balance till the works were completed?

Alderman BELBIN seconded the amendment. He thought the matter had been settled long before. He was of opinion that if the Council did what was proposed, it would be doing an illegal act. He believed they would want £20,000 more before they finished the creek.

Alderman ESPIE said that as the Council had authorised the expenditure of about £700 of the money already in public works of the nature the Committee now recommended to be carried out, he was astonished at Alderman Belbin saying he understood the matter to have been settled.

Alderman BELBIN had not been aware that such was the fact. He objected to the loan being expended so.

Alderman SEABROOK considered that it might be rather premature to talk of a balance before the works were completed, but as the City Surveyor had said that less even than £20,000 would cover the cost of the sewerage works, the Council could, without any great probability of being wrong, calculate on having a balance to its credit. The works contemplated were such as would be a cause of great convenience to the citizens, and he hoped the Council would be enabled to spend the estimated £7000 on the pathways and roads it proposed to improve.

Alderman BURGESS read portion of the Loans Bill, stating that it was for the purpose of "consolidating the debentures outstanding, the Town Hall debentures, and Waterworks debentures; also to enable the borrowing of further sums on behalf of the Waterworks, and for the several purposes of improving the said city." Section 25 provided that the lenders of the money were not concerned to see to the application of it. The only argument at all of force in Alderman Brownell's remarks was that it was premature to estimate a balance before the works were completed, and in answer to that they had the City Surveyor's estimates of the costs of the water and sewerage works.

Alderman PIKE failed to see how they would be infringing the provisions of the Bill by expending the money as they proposed. If there were a balance, let them go on and improve the city.

Alderman BROWNELL repeated his protestation, saying, that carrying out such works as those proposed were outside the scope and against the spirit of the Act. He had qualified his own opinion by those of several gentlemen who had discussed the matter in the Legislature, and they considered that it would be a misappropriation of the money.

The amendment was then put and lost.

A division being taken, the only votes given in favour of the amendment were those of the mover and seconder.

The motion was then put and carried.

## APPENDIX K.

*COPY of Mr. Christopherson's Report on the Water Works, dated 3rd March, 1879; read in Municipal Council, 11th March, 1879.*

## WATER SUPPLY.

The time has arrived when it appears to me that I would not be discharging my duty to your Corporation if I did not again represent the urgent necessity for undertaking such works of construction as are evidently required for increasing the present available storage capacity of the works for water supply. On the 1st inst. the state of the reserves of water in each of the three storage reservoirs supplying Hobart Town were as follows, viz.:—In the main storage reservoir on the Sandy Bay rivulet, 7ft. of water, equal to 850,000 gallons; in the Cascades reservoir, nil; in the Holbrook reservoir, nil; total quantity of water stored, 850,000 gallons. The above amount of storage is equal to little more than half a day's supply for the town, and, should any accident happen to the line of earthenware pipes or wooden troughing laid between St. Crispin's Well and the Sandy Bay Rivulet, through the falling of trees, fire, or from any other cause, then the town would be practically without any water supply. No doubt, a small but totally insufficient supply would be obtainable for the lower portions of the town from the water flowing into the Cascades Reservoir, from the Hobart Town Rivulet, and the Guy Faux Creek, but the general inhabitants would, as I have previously stated, be completely without water. During the whole week ending the 10th of February last, the water was entirely stopped from flowing into the main storage reservoir, in consequence of damage done to the earthenware pipes and wooden troughing, occasioned by trees falling at intervals and destroying the works. Had the late repairs not been, fortunately, effected in the storage reservoir, and had it not happened to be full when the above occurrence took place, the town would have been totally without water, excepting as above-mentioned, in its lower parts. I am aware that an opinion has been expressed by influential, but non-professional gentlemen, that if the present line of wooden channel and the earthenware pipes were taken up and replaced with a substantial stone aqueduct, or iron pipes, then the saving of leakage which now takes place would be sufficient to give an ample supply to the town. Facts, however, will show that the saving of the leakage now going on would not place the town in a very much better position than it is at present. In reports which I have previously furnished I have shown that the quantity of water which may be relied upon, from the sources of supply, during the summer months, does not exceed 1,200,000 gallons per diem; while the actual quantity necessary to give a fair and ample supply during the same period of the year is not less than 2,000,000 gallons per diem. A deficiency is thus established of 800,000 gallons per diem, and I am forcibly impressed with the fact that without a very large increase in the capacity of storage the water supply will always be deficient, to the great dissatisfaction and discomfort of the inhabitants. The opinion I have expressed of the absolute necessity of supplying 2,000,000 gallons of water per diem, is based upon the actual experience of the quantity of water consumed in other towns, where non-intermittent supplies are furnished, viz., such towns as Melbourne, Sandhurst, Ballarat, Clunes, Geelong, &c., the basis of calculation for the quantity of water supplied to these towns being at the rate of 100 gallons per diem per head of the population. In actual practice it has been found that as much as 110 gallons per head has been used for short periods during the dry summer weather. (See Mr. Lange's report upon the Yan Yean Water Works for the year 1873.) During the wet season of the year, say from May to October, the consumption of water by the inhabitants is evidently, and naturally, much less than during the dry season, commencing, say, in October and ending in May, but it is during the dry season of the year, when the largest quantity of water is required to meet the demands of the consumers, that the minimum quantity only is derived from the sources of supply on the slopes of Mount Wellington. For the wet season, or say for six months in the year, I find by actual measurement that not less than 4,000,000 gallons of water is available per diem, about *two thirds* of which, or 2,700,000 gallons, are allowed to run to waste. Such being the circumstances of the case it hardly requires the authority of an Hydraulic Engineer to suggest the means of remedying the defect, as it will occur to any reasonable person who may take a common sense view of the matter, that the cure for the deficiency in the present scheme of water supply is to store a portion of the water now running to waste during the wet season for the use of the inhabitants in the summer months. This desideratum can only be procured by the construction of a new reservoir of large size; and that, together with the removal and re-construction of the present defective storage works on the Sandy Bay Rivulet, will furnish a sufficient quantity of stored water to make up the deficiency in the quantity of water obtainable from the sources of supply during the dry season. In addition to the above works it will be necessary to lay a second 10-inch main from the storage to the service reservoir at the Marquis of Hastings, and also to take up the remaining wooden troughing, and the whole of the earthenware pipes, and relay in a substantial manner with stone aqueduct and cast iron pipes. Estimates of the cost of construction of the above described works have already been furnished, but I may be permitted to repeat that a new storage reservoir, on the site already selected, capable of holding 80,000,000 of gallons of water, can be constructed for £20,000, and the removal and reconstruction of the present dam is estimated to entail a further expenditure of £7000, and its capacity would be 45,000,000 of gallons. The united storage of the two reservoirs would therefore amount to 125,000,000 of gallons, and in my opinion that quantity, added to the minimum daily supply of 800,000 gallons, together with the additional water derived from occasional wet weather occurring in the summer months, will provide the required quantity of 2,000,000 of gallons of water per diem for the dry season. The storage capacity of all the existing reservoirs combined does not exceed 15,000,000 gallons, or less than one eighth of that actually required to make the works efficient. Mr. William Clark, the eminent Hydraulic Engineer, in his report to your Council, dated the 13th February, 1878, fully endorsed the suggestion made by me at the time for the improvement of the water supply works to the city, and though I am now better acquainted with the requirements of the inhabitants than at that period, yet I can see no reason for altering, in any particular, the conclusions I had then arrived at. The present method of furnishing the town with water during the greater part of the summer is to cut it off every evening about seven o'clock and then to lay it on in the morning at six o'clock. This is necessary in order to obtain a full distributing reservoir at the Marquis of Hastings for the day's supply. Latterly, in addition to the above, the water has been taken off between the hours of 11 A.M. and 2 P.M. each day, for the purpose of keeping up the supply for the afternoon's consumption. Thus, under existing circumstances, the water is practically cut off the town for fourteen hours out of every twenty-four, and it is hardly necessary to state that the constant turning off and on leads to the bursting of the supply and service pipes, injury to the fire plugs, and to serious waste of water, thereby involving a large annual outlay for labour, pipes, material, &c., and very great inconvenience and annoyance to the ratepayers. In conclusion, I beg most respectfully to urge upon the City Council the desirability of authorising the construction of the necessary works, so that in the future a permanent and efficient supply may be furnished to the inhabitants at all times.

## APPENDIX L.

*COPY of Mr. GORDON's Report on the Waterworks, dated 1st February, 1881; read in Council 7th February, 1881.*

## THE CITY WATERWORKS.

1. The points in which the Worshipful the Mayor and the City Council have done me the honor of requesting me to report may be summarised as follows:

First—The sufficiency or otherwise of the present sources of supply. Secondly—The Storage Reservoir. Thirdly—The proposed works of extension and improvement of the supply.

2. I have made a careful inspection of the existing sources of supply, and in my opinion they are amply sufficient for any reasonable prospective increase in the consumption of water, provided ample storage accommodation is provided. I gauged the supply at St. Crispin's, first and second creeks, Long Gully, Forks' Gully, Brown's River, the Wellington Falls, and the creeks forming the Cascade supply.

3. At the time of my visit the quantity entering the Receiving House from the Aqueduct, and being consumed, was very nearly one million gallons per diem. The actual quantity received from the Cascades could not be correctly ascertained, owing

to the intermittent manner in which it is used or stored, and the remainder made available for the city; but if it could be properly regulated it would be a valuable addition to the other supply in summer. I also inspected the Kangaroo Valley, where there a good stream of water; and there is a favourable site for a storage reservoir, suitable for New Town, should the population in that district increase much.

4. While I think the supply abundant, with sufficient storage, I consider the present means of storage inadequate even supposing the storage reservoir were restored or reconstructed. I think it must be assumed that in any works of a permanent character, provision should be made for a daily supply of two million gallons in summer. As the present summer supply may, in the absence of exact records, be taken at an average of one million gallons per day for four months, and as it may be assumed that two million gallons per day will be used for three, and 1,650,000 for one month, it follows that either the supply during the summer must be largely increased, or storage for 110 million gallons must be provided. The supply can be increased by bringing in the water from above Wellington Falls. At present, with a population of, say, 26,000, a daily summer supply of 1,680,000 gallons, or 60 gallons per head per day, for three months, ought to be ample, and therefore, for immediate purposes a storage capacity of 60 millions would suffice. I understand that this is a little more than the present storage reservoir, if repaired, could be made to contain, but I am not in a position to recommend its reconstruction, or estimate the cost of it, as I had not an opportunity of inspecting the weak parts of the structure, which cannot be done while there is water in its reservoir. Also, I think before any decision is come to in the matter a site about 300 yards lower down the creek, where the sandstone appears on both banks, should be examined, and borings made in the bed of the creek in the line of, and also above and below the axis of an embankment, if there constructed; and, if the result be favourable, an estimate of the cost of an embankment with its crest at or a very little above the present dam, and of the contents of the reservoir which it would form. Also I would advise a similar investigation to be made at the site proposed at the head of the present reservoir, with the view to the construction of an additional one, to supplement the storage capacity to an extent of about 50 millions, so as to make a total of 110 millions. Generally, one high dam holding up the same quantity of water, or two lower dams will be considerably cheaper; but I would not advise any addition beyond a foot or two to the height of the present dam if it were to be restored.

5. If arrangements could be made for bringing in the water from Wellington Falls, which at the time of my visit amounted to 185,000 gallons per day, the quantity of water to be stored could be fixed at 88 millions instead of 110 millions; and it would be well to ascertain what the cost would be of bringing in the water to St. Crispin's Well (including compensation), with a view to comparing it with the saving that would be effected by reducing the height of the new embankments so as to hold 88 instead of 110 millions, that is, provided the obstacles in the way of obtaining the right to the water would not delay the work too long.

6. When these alternative estimates have been made (taking into consideration the fact that possibly a greater portion of the bottom water of the one situated lower down the creek would have to be omitted from the calculation on account of diminished head), the Council will be in a better position to determine whether it will be most economical to obtain the requisite storage: (a) By the construction of a new reservoir lower down, which would include the present one; or (b) by restoring the present one for immediate use, and so saving the interest on the difference of cost until more storage is required; and then (c) constructing a supplementary reservoir either above or below the present one; or (d) by constructing reservoirs of smaller capacity, and bringing in the Wellington Falls water. I recommend that surveys for a, c, and d be undertaken at once; that as soon as the natural supply from the creeks is equal to the consumption, the present reservoir should be emptied, and a thorough examination of the embankment made; and that in making the estimates the quantity to be stored should be taken at 110 million gallons. Although not of immediate importance, I would also recommend that a survey of the site referred to in the Kangaroo Valley be made, and at all events the stream gauged several times before the end of the summer. I would further recommend to the consideration of your engineer the question of the supply of Sandy Bay from the creek now entering the "Mountain Lake," and diverting the overflow of that lake so as to prevent its flowing into the Cascade Creek, and so preserve its purity.

7. I am sorry not to be in a position to give a definite recommendation as to what ought to be done in the matter of storage, but it is impossible to do so with the information that is now before me. The subject is of sufficient importance to warrant the little delay that will be caused by requiring these estimates to be made, and I am sure that the Council will feel more confident in arriving at a decision when all the information is before them.

8. As to the works being carried out, or proposed to be carried out, I can give them my entire approval so far as the stone aqueduct and the second 10 in. main are concerned. With regard to the question of the 10 in. syphons or aqueducts on arches, to which I venture to think the Council has attached an importance which it hardly deserves, I have seen nothing to cause me to modify my preference for the masonry work, and I would beg to refer the Council to my report of the 5th and 18th October last. The main advantage which the aqueduct has over the cast iron pipe is that it is more capable of enlargement should it ever be required; and in my opinion it is not at all improbable that this will be the case, and I therefore recommend that the work at the bridges be carried out immediately.

9. With regard to the pipes about to be laid to replace the stoneware pipes and aqueduct from St. Crispin's to the Bower, I am of opinion that some of those ordered are too small. In the absence of recorded gaugings, one must assume that the quantity to be delivered in some of the eight wetter months may be less than that required to make up the assumed deficiency of the four dry months, and therefore the pipes should be capable of delivering the required storage quantity 110 (or 88) million gallons in less than eight months. I think it will be safe to assume that the required surplus over the daily supply (or more) will be found in the creeks throughout 150 days in the year; and that during 92 days only half the required surplus will be available, taking the daily consumption at (possibly) two million gallons. Therefore, if the larger storage is required (110 million gallons) the maximum delivery into the aqueduct at the Bower must be three million gallons per diem, or 333½ cubic feet per minute, and if the Wellington Falls water is brought in, 324 cubic feet per minute. In view of the uncertainty of this water being available at an early date, and of the comparatively small difference in the required capacity of the pipes, I recommend that pipes be laid of the following dimensions from St. Crispin's to the well at Fork Creek:—

	Size.	Approximate No.
From the New Head at St. Crispin's to No. 1 Creek.....	9½ in.	132
No. 1 Creek to Long Creek.....	10½ in.	115
	10 in.	2110
	9½ in.	171
Long Creek to Fork Creek .....	9½ in.	430
	6 in. already laid	

And that the 8 in. and 8½ in. pipes in the contract be countermanded, and 50 additional 9½ in. pipes and 1872 additional 10 in. pipes be ordered, with a corresponding number of bends, thimbles, &c. The 9 in. pipes already ordered will probably be needed in the city, also the 6 in., and some of the latter will be used in raising the head at each of the sources to the level of the hydraulic gradient.

On the account of the main from St. Crispin's to Fork Creek, the following are the additions and deductions:—

	Tons.	Cwts.	Qrs.	Lbs.
Additional 50 9½ in. pipes .....	10	15	0	20
1872 10 in. ditto .....	429	11	0	16
	440	6	1	8
Deductions—				
183 8 in. pipes .....	33	11	2	5
623 8½ in. ditto .....	121	5	1	0
704 9 in. ditto .....	143	6	1	4
Say 250 6 in. ditto .....	26	2	1	8
	329	1	1	17
Excess weight required .....	111	4	3	19

In my opinion this is the most economical way of using as many as possible of the pipes already ordered.



10. The hydraulic gradient for this main is  $\frac{1}{38.11}$ , from 2025 feet at St. Crispin's to 1595 at Fork Creek, and the intermediate sources must be raised by means of 6 in. pipes to meet this gradient. Each well should have a gauge fixed in the inlet to it, and should be fitted with a bell-mouth pipe, wire gauze screen, shut-off sluice, and scour.

11. The 10 in. main from the cistern below the waterfall to the valve-house should have a separate communication with each chamber of the receiving house, so that the water can be turned into either, or past both.

12. The service reservoirs in the city should contain together one million gallons. Considering the high level of the present reservoir, there should be no difference with a properly arranged reticulation of giving an ample supply to all but a very few high-lying streets or houses, and as 300 feet is as much as the working pressure ought to be. I would recommend that the proposed new reservoir should only hold a day's supply for the prospective population of those high localities which the Marquis of Hastings reservoir does not command. In such a climate and atmosphere as that of Hobart I do not think it necessary to cover the reservoirs.

13. There are no complete plans of the reticulation, and no contour plan of the city, so that it is impossible for me to point out what alterations or additions are required to improve the reticulation, but it is evident that the mains leaving the Marquis Reservoir are too small, and that the city is not sufficiently divided into districts supplied by mains, and is in many places dependent on the small service-pipes for a supply.

So long as this is the case there will be at times too little pressure, and even occasionally a total stoppage. I recommend the Council to have a contour plan of the city made, for which there seem to be sufficient plans in the office, only requiring the levels to be inserted on them. I do not think that in this colony such a plan would cost £100, with the materials at hand, and it is of importance to the reticulation, and an absolute necessity if any system of drainage is contemplated.

14. Having stated my views, I fear at too great a length, I beg to summarise the recommendations in this report as follows:—

I. The supply in the creeks is sufficient if storage room is provided, and the supply can be increased, and the extent of the required storage diminished, by bringing in the water of the Wellington Falls, provided power to do so can be obtained.

II. The following examinations and estimates should be made at once:—1. For a new dam below the present one. 2. For a new dam at the head of the present one. 3. For a restoration of the present dam; the storage capacity to be calculated at 110 million gallons eventually.

III. The proposed new works are approved, including the stone aqueduct at Longhill and Sassafra Creeks, with some modifications of the main from St. Crispin's to the Fork Creek.

IV. The service reservoirs should contain not less than 1 million gallons.

V. The reticulation cannot be properly improved until a contour plan of the city is made, which should be done at once.

15. I beg to express my thanks for the assistance I have received from the officers of the Corporation in my examination of the waterworks, and especially from Mr. James, who placed all the information in his office at my disposal, and sacrificed much of his valuable time in accompanying me.

If any portion of the report seem to require explanation, I need not say I shall be happy to afford it.

#### APPENDIX M.

*COPY of Mr. GORDON's Report on the Hobart Rivulet, dated 1st February, 1881; read in Municipal Council, 7th February, 1881.*

#### IMPROVEMENT OF THE RIVULET.

In continuation of my report on the waterworks, dated 1st inst., I have the honour to state that I have examined the Hobart Rivulet, and the plans of the works proposed for its improvement, which have for their object the relief of the lower part of the city from floods, and the abatement of the nuisance caused by the foul condition of the bed of the rivulet. These objects are quite distinct one from the other, but in treating of the first, regard must be had to the adaptability of the works to a future outlet for the sewage of the city; while the second is still more closely connected with any future works of the kind, as, the rivulet being the natural drainage line, the thalweg, any system of drainage and sewerage must be designed with reference to it.

2. From the cross sections and levels of the rivulet near the market, I estimate its discharge at the height of a great flood at about 136,500 cube feet per minute, and it is then topping the parapet wall below the bridge. In order to prevent the flooding of the market and the adjacent properties, it is desirable to lower the level of the flood as much as possible, both above and below Macquarie-street bridge. As no works on the creek can possibly affect the flood level at the mouth of it, the ordinary high water is taken as the basis of the calculations, and all heights given are with reference to H.W. mark. Any extraordinary rise of tide up to 1 ft. 6 in. or 2 ft. above the O.H.W. would not materially affect the flood level at the market in the improved state of the rivulet.

3. The proposed works for the relief of floods consist first of an enlargement of the capacity of the lower part of the rivulet from Macquarie-street to the river by aligning and sheetpiling the banks, and dredging the bottom to the level of low water. I approve of the work as designed by the City Surveyor, although I would have preferred a flatter curve at the upper part of this work, if it could be managed without incurring a heavy expenditure. I do not think the bottom should be timbered, as there will be little chance of damage from scour if the middle is dredged to a little below L.W. in the first instance. If, after some very heavy flood, any tendency to scour along the walls should show itself, it can be stopped by driving short piles at about 2 yds. from the sheeting so as to form crib work to be filled in with boulders. The deeper the bed is scoured in the middle the better, as the flood level at and above the bridge will be lowered proportionately to the increased velocity and sectional area secured thereby.

4. The next work is the overflow or storm channel proposed to be taken off from the rivulet, and taken down the south side of the market, to help in lowering the flood-level in the rivulet opposite the market. I would recommend some modifications in these works, as follows:—

5. The reduced flood level may be allowed to be, opposite the market, 8 ft. above H.W., the footway inside the parapet wall being raised to about 7 ft. 6 in. to strengthen it. It will not, I think, be practicable to lower the flood to a less height than this, and even to effect this reduction the capacity of the rivulet must be considerably increased by deepening it, and by omitting the step proposed at Macquarie-street bridge for the purpose of stopping the tidal water from extending upwards. In the new outlet channel an extreme flood of the volume above mentioned will rise at the time of H.W. to 1.6 at Macquarie-street, and in order to deliver the flood water with the height limited as above indicated, the surface should have a regular inclination from 8 ft. at the market to 1.6 at Macquarie-street, and the bottom should be excavated to a slope from the present bottom at 850 ft. on the section down to L.W. at Macquarie-street. The volume of water then carried will be 96,000 c. ft. per minute.

6. The proposed storm channel will carry the remainder of the flood water if made with the cross section proposed by the City Surveyor, and with its surface level when full at 3.20 above H.W. below the weir in the creek, and level with H.W. at its lower end. The weir should, in my opinion, be placed at the second or lower position shown on the plans. It is necessary to reduce the level of the storm channel below that of the creek, so as not to flood the streets, and there will be a sufficient fall to H.W. at its mouth in the dock to give the required delivery. The weir, or bed of the storm channel where it leaves the creek, should be 4.75 above H.W., or about 8 in. below the top of the side slope in the bed of the creek as proposed to be formed, with a steep slope to its bed at a short distance, or a curved fall as in the sketch (here given). The width of outlet, i.e. length of weir, must be 25 ft., nearly at right angles to the direction of the flow, thus. (Sketch here given.)

7. On sanitary grounds, and also for economy's sake, I think the channel should be open with a parapet wall on the side next the road, and of course a bridge in Collins-street. If space cannot be spared, a flat timber covering will be best, as an arch would have to spring from the level at which the girders could be laid, and that would raise the level of the road considerably. The outlets of all drains now entering the rivulet from the Collins-street side must be stopped, and the drainage diverted into the storm channel, or any carrying sewage, into a drain laid under the market, as suggested by Mr. James; the floor of the market might with advantage be raised and sloped.

8. To obtain the above-mentioned reduction of flood-levels, it is absolutely necessary that the brick bridge in Campbell-street should be removed and replaced by one having a clear waterway not less than that of the rivulet below it when improved. If allowed to remain it will block up the flood water to very little below its present level.

9. By making the proposed improvements in accordance with the dimensions and levels given above, I am of opinion that the floods will be so reduced in height that they will practically do no damage. The proposed storm channel will cost only a small fraction of the expense required to be incurred in diverting a similar proportion of flood-water into Sandy Bay, as has been suggested. This will be evident without a detailed estimate when it is mentioned that for this work there would be required a walled channel 15 ft. wide, 6 ft. deep, and 2310 ft. long; a tunnel lined with masonry of the hardest stone procurable, 8 ft. in diameter, and 1000 ft. long; and a very expensive masonry drop of 25 ft. height, in 660 ft. length.

10. The other proposition, to divert the rivulet into a straight channel down Collins-street, is also in my opinion inadmissible on account of the expense. It would need to have throughout its length nearly the same sectional area as the rivulet has when in flood, and from Campbell-street downwards the same levels, widths, and depths, as those of the improved creek channel would be requisite. This proposition belongs more properly to the future question of the sewerage of the town; but as already stated, I am of opinion that the natural drainage line, *i.e.*, the creek, will be both the best and the cheapest line for a main sewer.

11. As regards the improvement of the parts of the rivulet about the market, with a view to abating the nuisance of the filth now collected in its bed, I fear that the result of the work of reducing the creek bed to a smooth slope from either side to a drain in the middle would hardly be commensurate with its cost, the more so as it is to be expected that ere long the sanitary requirements of the city will necessitate the undertaking of a proper system of sewerage. Hobart is naturally peculiarly well circumstanced for such a system, except in one particular, *viz.*, the necessity of, at any rate at first, delivering the sewerage into the tideway, for any other disposal of it, as pumping it up and removing it to a distance, would probably be considered too expensive.

12. The works now proposed for construction at and below the market would be so much done towards such a system of sewerage, as the main outlet sewer or pipe would, in my opinion, properly (if not necessarily) be laid in the bed of the improved outlet of the rivulet. The proposed improvement in the upper part also would not be in any way incompatible with a system of sewers, but part of it, *viz.*, the costly pitching or covering with cement concrete of the bottom would be unnecessary, because if sewage were only admitted into the middle drain a rougher and less expensive mode of treatment would suffice. In the meantime there could be no objection to the excavation of a central channel to confine the drainage as much as possible, and the improvement of the worst parts of the bed in an inexpensive way, although in my opinion no very great good would result from these works until the nuisances on the banks and in the court-yards of the adjacent houses are abolished. I do not recommend the construction of a sewer down the mid-channel of the rivulet at present, or until a proper contour plan of the city is prepared, from which its proper dimensions and the proper provision for future junctions with street sewers can be laid down. It is of course impossible without a survey to state what a proper system of drainage and sewerage would cost, but, judging by other places, it might cost £20,000. No trustworthy estimate can be made without a complete survey, and levels not only of the streets but also of the back premises.

#### APPENDIX N.

*COPY of a Letter from the Mayor of Hobart to the Hon. W. R. GIBLIN, Colonial Treasurer, dated 29 January, 1880; and copies of Resolutions passed by the Municipal Council on the 22nd December, 1879, and on 26th January, 1880.*

*Town Hall, 29th January, 1880.*

SIR,

I HAVE the honor to enclose two Resolutions passed by the Municipal Council, authorising an application being made to the Government to consolidate certain sums borrowed on the Water and Municipal Rates, amounting to £113,000, and to include a further sum of £37,000, making a total of £150,000; which, you will perceive by the Resolution, it is proposed to float in the London market.

The object of this application is to request the favor, on behalf of the Municipal Council, of your submitting its wishes to the Government and supporting the measure.

I beg to add for your information, and it may assist in deliberating on the question, that the Municipal Rate realised last year, 1879, amounted to £7100 at only 1s. 4d. in the £; but you will please to bear in mind the Council is empowered to levy 1s. 6d., which would increase it to £8000; and that the amount realised for Water Rate for the same period was £8000.

With reference to that portion of the proposed Loan to be applied to waterworks purposes, I desire to observe that the present Rate will cover all interest and provide amply for the working expenses of the Department.

I have, &c.

W. H. BURGESS, Mayor.

*The Hon. the Colonial Treasurer.*

#### *EXTRACT from Minute Book, 22nd December, 1879.*

THE Waterworks Committee, by its Chairman, brought up a Report stating that in addition to "The Hobart Town Water Act, 1860," five amended Acts have been passed; and the Committee being long impressed with the necessity of the repeal of them and consolidating of them in one, recommended that the necessary application be made to Parliament accordingly, and that Counsel be instructed to draw a Bill for presentation. That the advantage of having to refer to one Act instead of six was so obvious, as a means of ensuring greater accuracy and less recapitulation, with the consequent saving of time and labour, the Committee felt it unnecessary to add further recommendation, except that the various sums authorised to be raised by the existing Acts being included in one deed, the authority of Parliament to borrow £100,000, being £10,000 in addition to the present Mortgage Securities, be obtained, and that proceedings be instituted to float that capital in the London market at Five per cent.

The Report was adopted, on the Motion of Mr. Alderman Pike, seconded by Mr. Alderman Maher.



## EXTRACT from Minute Book, 26th January, 1880.

It was resolved, with reference to Resolution of the 22nd ultimo, (page 231) that, amongst other things—"Application should be made to Parliament to increase the amount borrowed on the Hobart Town Water Rates from £90,000 to £100,000, and that proceedings should be instituted to float that capital in the London market at Five per cent.

That the sum of £23,000 now borrowed on the Municipal Rates for Town Hall purposes, and a further sum of £27,000 to be also borrowed on the Municipal Rates for Public Works, be included with the sum of £100,000 mentioned in the Resolution of the 22nd ultimo in one consolidated sum of £150,000, and be dealt with simultaneously and in like manner as if this had been part of that Resolution."

## APPENDIX O.

**RETURN of Hobart Corporation Debentures, issued under Act 43 Vict. No. 22, by the Bank of New South Wales, for a 5 per cent. Loan of £100,000, subscribed for by Public Tender in London on the 21st July, 1880.**

No.	Amount applied for.	Amount allotted.	Price.	Proceeds.
	£	£	£ s. d.	£ s. d.
1	800	800	105 0 0	840 0 0
2	300	300	105 0 0	315 0 0
3	1500	1500	105 0 0	1575 0 0
4	4000	4000	104 13 0	4186 0 0
5	7000	7000	104 11 6	7320 5 0
6	7000	7000	104 6 6	7302 15 0
7	7000	7000	104 1 6	7285 5 0
8	1000	1000	104 11 6	1045 15 0
9	1000	1000	104 6 6	1043 5 0
10	1000	1000	104 1 6	1040 15 0
11	2000	2000	104 9 0	2089 0 0
12	2000	2000	104 12 6	2092 10 0
13	3000	3000	104 6 0	3129 0 0
14	500	500	104 10 0	522 10 0
15	2500	2500	104 1 0	2601 5 0
16	1000	1000	103 17 6	1038 15 0
17	1000	1000	103 10 0	1035 0 0
18	100,000	57,400	103 7 6	59,337 5 0
	£142,600	£100,000		£103,799 5 0

Being an average of £3 15s. 11½d. per £100.

These Debentures were issued in sums of £100, £500, and £1000, to the extent of £60,000, £30,000, and £10,000 respectively, bearing Interest at the rate of 5 per cent. per annum, payable half-yearly in London on the 1st November and 1st May.

The whole £100,000 were offered for sale in London by public tender on the 21st July, 1880, and a deposit of 5 per cent. was paid on allotment, and the balance due on 31st August following has also been paid.

	£	s.	d.
Amount realised on allotment of £100,000 Debentures .....	103,799	5	0

Deduct cost of negotiating Loan in London—

	£	s.	d.	£	s.	d.
Telegrams .....	22	8	0			
Stamp Duty on Debentures .....	125	0	0			
Advertising, printing, and stationery .....	58	3	3			
Commission paid by Bank of N. S. Wales ....	243	10	0			
Commission to Bank of N. S. Wales, ½ per cent.	500	0	0			
				949	1	3

Expenses in the Colony—

Telegram .....	4	5	4
Paper and printing Debentures, and papers re			
Loan .....	23	11	0
Law charges, paid Hon. W. R. Giblin .....	16	16	0
Preparation of Debentures .....	50	0	0

94 12 4

1043 13 7

£102,755 11 5

W. H. SMITH, City Accountant.

17th August, 1881.

## APPENDIX P.

*COST of Pipes, Bends, &c., per Edith Lorne, from Middlesborough, according to Specifications prepared by Director of Water Works when Tenders were invited from this and the neighbouring Colonies.*

	£	s.	d.
Cost in Middlesborough .....	5521	2	5
Exchange .....	76	4	0
Freight, 31s. 6d. per ton .....	1745	0	8
Insurance—paid at Hobart .....	79	4	10
Wharfage—ditto .....	277	0	0
Duty on valves, &c.—ditto .....	41	9	9
Cartage and Landing Charges—ditto .....	76	9	0
<b>TOTAL COST</b> .....	<b>£7816</b>	<b>10</b>	<b>8</b>

Lowest Tender in Colonies, Messrs. D. & W. Robertson, £10,421 ls. 6d.

MEMO.—Remitted and expended for Iron Pipes, £9601 ls. 10d., of which have arrived the above to the value of £7816 10s. 8d. The remainder will arrive in due course.

W. H. SMITH, *City Accountant.*

Town Hall, 17th August, 1881.

## APPENDIX Q.

## HOBART CORPORATION DEBENTURE FUND.

*RECEIPTS and Expenditure from 22nd October, 1880, to 17th August, 1881.*

Receipts.	£	s.	d.	Expenditure.	£	s.	d.	£	s.	d.
Gross proceeds Debentures, London .....	103,799	5	0	Expenses, London, Sale of Debentures, as per Return attached, marked 1 .....	949	1	3			
Portion of fixed Deposit, Commercial Bank ..	20,000	0	0	Ditto, Hobart, ditto .....	94	12	4			
Ditto .....	10,000	0	0					1043	13	7
Ditto .....	5000	0	0	Fixed Deposit, Commercial Bank ..	..			95,000	0	0
Interest on ditto, 3 months, at 2 per cent. ....	25	0	0	Treasury Bills .....	..			20,000	0	0
Half-year's interest on Treasury Bills, due 11 May .....	500	0	0	Premium on ditto .....	..			250	0	0
Portion of fixed Deposit, Commercial Bank ....	10,000	0	0	<i>Redemption of Mortgages.</i>						
Interest on ditto, 6 months, at 3 per cent. ....	150	0	0	Town Hall .....	5200	0	0			
Rent of Cottages, Collins-street .....	35	12	0	Water Works .....	2474	0	0			
Sale of Material, ditto .....	19	1	6					7674	0	0
				Premium on redemption of Mortgages, bearing 6 per cent. ....	..			33	12	0
				Three half-years' Interest, to 1 November, 1881 .....	7500	0	0			
				Exchange and Stamps .....	78	15	0			
								7578	15	0
				G. Gordon, Professional Opinions and Services .....	..			164	3	0
				<i>Extension of Water Works.</i>						
				Iron Pipes (see Return annexed marked 2) .....	9601	1	10			
				Stone Troughing .....	2934	2	0			
				Covering ditto .....	55	18	6			
				Land taken under Lands Clauses Act .....	79	15	7			
				Law Charges .....	22	10	10			
				Wages .....	182	8	3			
				Material .....	188	12	10			
				Travelling Expenses .....	41	6	0			
				Salary, Assistant Draftsman .....	112	4	0			
				Printing .....	70	3	0			
				Repaid Municipal Fund for sinking Shaft, &c., new Reservoir ..	484	1	0			
								13,772	3	10
				<i>Sewerage.</i>						
				Purchase Property, Collins-street ..	750	0	0			
				Law Charges thereon .....	13	0	2			
				Wages, Surveys .....	18	0	9			
				Printing .....	0	16	0			
				Salary, Assistant Draughtsman ..	112	4	0			
								894	0	11
				<i>Tar Paths.</i>						
				Wages, £122 2s. 6d.; Material, £52 18s. 8d.; Cartage, £38 13s. 10d. ..				213	15	0
				Balance .....				2904	15	2
								£149,528	18	6

I certify that the within is a true and correct statement.

W. H. SMITH, *City Accountant.*

## APPENDIX R.

(Continuation of Mr. Christopherson's Report on the Waterworks.)

Director of Waterworks Office, Town Hall, 29th March, 1879.

SIR,

I BEG to furnish you with the following statement, in continuation of my report of the 11th instant, on the subject of the absolute necessity for immediate steps being taken to increase the storage capacity of the works for water supply; and I respectfully request that your Committee will bring this statement under the consideration of the City Council, conjointly with my late report.

On the 3rd of September, 1877, I furnished the Waterworks Committee with a synopsis of the works which I considered absolutely required for placing the water supply in an efficient and satisfactory condition.

The scheme as a whole, together with the details thereof, was submitted to Mr. William Clark, C.E., for his opinion; and that gentleman, in his report to the City Council dated the 13th of February, 1878, endorsed my recommendation as to the necessity of constructing a new storage reservoir, and the removal and reconstruction of the present reservoir, so that a total storage of 120,000,000 gallons would be available for the supply of the city with water: and Mr. Clark agreed with me that such a storage capacity would be sufficient to furnish the town with two millions of gallons of water per diem,—being the calculated quantity necessary for furnishing the town with an efficient and proper supply.

The estimated cost of constructing a new reservoir capable of containing 80,000,000 gallons of water amounts to £20,000; and the cost of the removal and reconstruction of the present dam is estimated to cost £7000. Mr. Clark, in alluding to the  $4\frac{1}{2}$  miles of stoneware pipes and wooden troughing now in existence, states—"From what I saw of the wooden troughing, and bearing in mind the time it has been in use, it will be advisable now to consider the entire reconstruction of the aqueduct, the masonry portion excepted. Mr. Christopherson informs me that he proposes to replace the wooden troughing with stone, and the stoneware pipe, which is a source of trouble, with iron pipes;" and, further, Mr. Clark says that "the present aqueduct, having been in use for so long a period, will (except in particular spots, bridges, &c.) afford a reliable site for the masonry construction. The exceptional cases will require rubble walling, for which the material is everywhere present; and the bridges, which are at present of timber, should now be constructed of masonry, in a more permanent form."

Mr. Clark also agrees with me as to the absolute necessity for laying a second 10-inch main between the main storage reservoir and the service reservoir at the *Marquis of Hastings*. The following is an extract bearing upon the subject from that gentleman's report:—

"Below the valve-house at the reservoir to the *Marquis of Hastings* reservoir, a distance of 1 mile 70 chains with a fall of 90 feet, a 10-inch pipe is at present laid. This is insufficient to bring down the full quantity,—two million gallons per day. For this purpose I would recommend that an additional 10-inch pipe be laid between the places, which will be amply sufficient; and in the event of repairs, &c. being required to one of the pipes, the other one would be available. Without this convenience, it would be desirable also to enlarge the service reservoir at the *Marquis of Hastings*."

In order to execute the whole of the works recommended by me in September, 1877, and approved of by Mr. Clark on the 13th February, 1878, as necessary for the efficient and permanent supply of the town with water, the following expenditure will be required:—

	£
1. The construction of the new reservoir on the Sandy Bay Rivulet .....	20,000
2. The reconstruction of the present storage reservoir.....	7000
3. The laying of an additional 10-inch main between the storage reservoir and the <i>Marquis of Hastings</i> .....	4160
4. The construction of 1 mile 50 chains of masonry aqueduct in lieu of the present wooden troughing, which has decayed .....	6000
5. The taking up of the stoneware pipes laid between St. Crispin's Well and Fork Creek, a distance of $4\frac{1}{2}$ miles, and relaying same with cast iron pipes of the following dimensions, and at the following cost for each Section; viz.—	
From St. Crispin's Well towards Fork Creek, 1 mile of 8-inch cast iron piping, at a cost of .....	£2754
From thence $1\frac{1}{2}$ miles of 9-inch piping, at a cost of .....	3060
And to Fork Creek, $1\frac{1}{2}$ miles of 10-inch piping, at a cost of .....	4352
	<hr/>
	10,166

Expenditure necessary in order to place the works in a thoroughly efficient condition... £47,326

In my report of the 11th instant I indicated that in addition to the sum of £27,000 required for the construction of the two reservoirs (works of paramount importance and requiring immediate attention) the other works above described would be requisite to complete the scheme; but I did not consider it necessary to draw your attention to their cost, as these estimates have been before you on several occasions.

It is not my desire to recommend the City Council to undertake the construction of the whole of the works simultaneously. I am of opinion that the storage is of the first importance; and, consequently, the first work to be undertaken should be the execution of the new reservoir. That work will occupy about eighteen months in its construction; and, in the meantime, the present storage reservoir must serve the town as hitherto. As soon as the new reservoir is brought into working order, then the present dam should be removed, and the reconstruction of the same proceeded with. That work will take twelve months to complete; and, therefore, will be finished about two and a-half years after the commencement of the first-described new reservoir. The laying of the second 10-inch main between the storage reservoir and the *Marquis of Hastings* service reservoir should be done simultaneously with the reconstruction of the present storage reservoir, or in about eighteen months from hence.

On account of the very bad condition of the existing timber troughing, a commencement should be made at as early a date as possible to replace it with a masonry aqueduct. This portion of the work is estimated to cost £6000; but its construction could be spread over a period of three years, and be paid for from the surplus rates, in the manner the cost of the lately built new aqueduct was met, viz., by the appropriation of £2000 from the year's revenue.

Taking up the stoneware and replacing them with cast iron pipes, at an estimated cost of £10,166, may be executed after the entire completion of all the above works.

By carrying out the works in the order of time above described, the necessity will be avoided for the immediate raising of the whole sum required for their construction.

It is of great importance that the scheme of works as a whole be kept steadily in view, and that the details be carried out consecutively, without any departure from the general design, so that, when completed, the works for water supply will be thoroughly efficient and satisfactory to the inhabitants.

I have, &amp;c.

The Chairman of the Waterworks Committee.

H. O. CHRISTOPHERSON, Director of Waterworks.

## APPENDIX S.

*CORRESPONDENCE, &c. relative to the proposed Loan of £150,000, to be raised by the Corporation of Hobart Town, by the issue of Debentures in London, under authority of Act 43 Vict. No. 22: Interest payable half-yearly at the Consolidated Bank, Threadneedle-street, London, on the 1st of May and the 1st of November in each year.*

[A.]

Town Hall, 19th April, 1880.

SIR,

I HAVE the honor to acquaint you, for the information of the Government, that at a meeting of the Council of the Corporation of the City of Hobart Town, specially called for the purpose, and at which meeting more than two-thirds of the members of such Council were present, the following resolutions were unanimously agreed to, and I now have the honor to transmit them:—

“That under the provisions of ‘The City of Hobart Town Loans Consolidation Act, 1880,’ this Council doth authorise and direct that the sum of £100,000 be borrowed upon security of the revenues of the Corporation of the City of Hobart Town, and that debentures, bearing interest at the rate of five pounds per centum per annum, payable half-yearly, and redeemable in London in 50 years from the date thereof, should be issued as security for the repayment of the said sum so authorised and directed to be borrowed as aforesaid.”

“That, in order to facilitate the borrowing by the Council of the sum of £100,000 for the purpose of the City of Hobart Town Loans Consolidation Act, 1880, 43 Vict. No. 22, this Council authorises the issue of the certificate marked C. to the schedule in the said Act for the purposes aforesaid.”

Passed the Council this 12th April, 1880.

HENRY WILKINSON, *Town Clerk.*

As this business is now progressing towards final completion, I will take the opportunity of requesting the favour of an intimation from you, communicating that the Government will guarantee the interest, as provided in Section 33 of the said Act.

I have, &amp;c.

W. H. BURGESS, *Mayor of the City of Hobart Town.*The Hon. W. MOORE, *Colonial Secretary.*

[B.] Reply to A.

Colonial Secretary's Office, Hobart Town, 22nd April, 1880.

SIR,

I HAVE the honor to acknowledge the receipt of your letter, dated the 19th instant, informing me that the Council of the Corporation had, under the provisions of “The City of Hobart Town Loans Consolidation Act, 1880,” authorised the borrowing of the sum of £100,000 upon the security of the Revenue of the Corporation of the City, the debentures to bear interest at the rate of 5 per cent. per annum, payable half-yearly, and redeemable in London in 50 years from the date thereof, and requesting the favour of intimation from the Government that they will guarantee the interest of the loan, as provided for by the 33rd Section of the Act.

In reply, I have to inform you that, in accordance with the terms of the Section above referred to, the Government are prepared to guarantee the interest that may accrue upon the debentures to the extent of One hundred thousand Pounds, issued under the authority of the said Act.

I have, &amp;c.

The Right Worshipful the Mayor, Hobart Town.

WM. MOORE.

[C.]

Town Hall, 5th May, 1880.

SIR,

IN my letter of the 19th ultimo I omitted to mention, with reference to “The City of Hobart Town Loans Consolidation Act, 1880,” that, in compliance with the understanding arrived at with the Honorable the Colonial Treasurer, it is proposed to pay the interest, together with charges on the debentures, into the Treasury here, in order that it may be remitted by the Government as it accrues due; and I have the honor to request that I may be favoured with your assent to this proposition.

I have, &amp;c.

The Hon. W. MOORE, *M.L.C., Colonial Secretary.*W. H. BURGESS, *Mayor.*

[D.]

Town Hall, 5th May, 1880.

SIR,

I HAVE the honor to enclose three copies of “The City of Hobart Town Loans Consolidation Act, 1880,” upon each of which I shall be obliged if you will be pleased to grant such certificate as you may conceive necessary for transmission to England.

I beg also to enclose a Parliamentary Paper on the subject, and to refer you to page 11.

I have also to beg the favour of your kindly franking the packet containing the debentures.

I have, &amp;c.

The Hon. W. R. GIBLIN, *Colonial Treasurer.*W. H. BURGESS, *Mayor.*

[E.] Reply to D.

Colonial Treasury, Hobart Town, 6th May, 1880.

SIR,

I HAVE the honor to acknowledge the receipt of your letter of the 5th instant, requesting me to certify upon copies of “The City of Hobart Town Loans Consolidation Act, 1880,” which you enclose, that the Act is a true copy of that passed by the Parliament of this Colony.

Before acceding to your request, I have to ask that you will inform me under what rule of the London Stock Exchange the Colonial Treasurer of a colony is required to furnish such certificate when the loan to be negotiated is for a corporate body and not for the Government of the Colony.

I have, &amp;c.

The Worshipful the Mayor of Hobart Town.

W. R. GIBLIN, *Colonial Treasurer.*

[F.] Reply to concluding paragraph of D.

*Colonial Treasury, Hobart Town, 6th May, 1880.*

SIR, WITH reference to the request contained in the concluding paragraph of your letter of the 5th instant, I shall have much pleasure in franking the packet of debentures referred to by you.

I have, &amp;c.

*The Worshipful the Mayor of Hobart Town.*W. R. GIBLIN, *Colonial Treasurer.*

[G.] Reply to C.

*Colonial Treasury, Hobart Town, 7th May, 1880.*

SIR, I HAVE the honor to acknowledge the receipt of your letter of the 5th instant, addressed to the Hon. the Colonial Secretary, and referred by him to this Department to be dealt with, respecting the regular transmission through this office of the half-yearly interest falling due in London under "The City of Hobart Town Loans Consolidation Act, 1880."

In assenting to make payments through the Treasury by forwarding the interest regularly to England, it is upon the understanding that the Hobart Town Corporation undertakes to reimburse the Treasury all other charges incidental thereto, and that each half-year's interest be paid into this office not later than the 1st of July and 1st of January in each year, to afford the Department time for making arrangements to obtain drafts at sixty days' sight, and to advise the Bankers of the Government in London.

I have, &amp;c.

*His Worship the Mayor of Hobart Town.*W. R. GIBLIN, *Colonial Treasurer.*

[H.] Reply to G.

*Town Hall, 7th May, 1880.*

SIR, I HAVE the honor to acknowledge your letter of this day with reference to mine of the 5th instant, respecting the regular transmission through your office of the half-yearly interest falling due in London, under "The City of Hobart Town Loans Consolidation Act, 1880," and I beg to acquaint you, on behalf of the Municipal Council, that the proposed terms are accepted.

I have, &amp;c.

*The Hon. W. R. GIBLIN, Colonial Treasurer.*W. H. BURGESS, *Mayor.*

[I.] Reply to E.

*Town Hall, 10th May, 1880.*

SIR, I HAVE the honor to acknowledge your letter of the 6th instant in reply to mine of the 5th, in which you state that before acceding to my request you wish to be informed by or under what rule of the London Stock Exchange the Colonial Treasurer of a colony is required to furnish such a certificate as I applied for when the Loan to be negotiated was for a corporate body and not for the Government of the Colony.

In reply, I have the honor to inform you that I am unable to quote the rule you refer to, but believe it to be necessary, and I beg to refer you to the Parliamentary Paper, No. 39, page 11, laid on the Table of the Legislative Assembly, 16th July, 1878, wherein Mr. Tulloch states the necessity and suggests the form of Certificate.

It is intended that copies of the Act under the Common Seal of the Corporation shall accompany the Debentures as a matter of precaution, and I hope that you will be pleased to grant the Certificate applied for:

I have &amp;c.

*The Hon. W. R. GIBLIN, Colonial Treasurer.*W. H. BURGESS *Mayor.*

[J.] Reply to I.

*Colonial Treasury, Hobart Town, 11th May, 1880.*

SIR, I AM honored by the receipt of your letter of the 10th instant, in reply to mine of the 6th, in which you state that you are unable to quote the rule referred to by me, and express a hope that I will be pleased to grant the Certificate asked for in your favor of the 5th May. Though I am not aware of any rule of the London Stock Exchange requiring the Colonial Treasurer of a Colony to certify to the correctness of Acts of Parliament put forward by Corporate Bodies, still, I see no objection to compliance with the request made by you in the case of "The City of Hobart Town Loans Consolidation Act, 1880," therefore I beg to enclose three copies of the Act certified as correct in the form to which you refer me, and which is that used by this Department when negotiating Government Loans.

I have, &amp;c.

*His Worship the Mayor, Hobart Town.*W. R. GIBLIN, *Colonial Treasurer.*

[K.]

*Colonial Treasury, Hobart Town, 12th May, 1880.*

SIR, I HAVE the honor to forward herewith for your information, copy of a letter addressed by me, by the outgoing European Mail, to the Manager of the Consolidated Bank, London, in reference to the Loan for £150,000, authorised by Act of Parliament, 43 Victoria, No. 22.

I have, &amp;c.

*His Worship the Mayor, Hobart Town.*W. R. GIBLIN, *Colonial Treasurer.**From Colonial Treasurer, Tasmania, to Consolidated Bank.*

[L.]

*Colonial Treasury, Hobart Town, 11th May, 1880.*

SIR, I HAVE the honor to inform you that the Legislature of this Colony has sanctioned a Loan to be raised by the Municipal Council of Hobart Town, to the extent of one hundred and fifty thousand pounds, the payment of the interest upon which Loan is guaranteed by the Government of this Colony. I enclose a copy of the Act referred to for your information (43 Vict. No. 22). I am informed by the Municipal Council of Hobart Town, that they have made arrangements through their Local Bankers, the Commercial Bank in this City, with the Bank of New South Wales, London, to issue a portion of this Loan, say, one hundred thousand pounds, in your market in July or August next. The Debentures for this Loan will be made payable as to principal and interest in London. The stock having fifty years to run, from the first of May instant, and the rate of interest being fixed at five pounds per cent. per annum.

Though this is purely a Municipal, and not a Government Loan, I am desirous of giving all reasonable facilities to enable the Corporation of Hobart Town to float the Loan successfully, and as it appears the Corporation have arranged to pay the interest and principal through your Bank, the Government have willingly acceded to a proposal made by the Municipal authorities to allow each half-year's interest to be paid into the Colonial Treasury, Hobart Town, in sufficient time to enable this Department to remit the amount to your Bank prior to the first of May and first of November in each year, the Hobart Town Corporation undertaking to pay all charges attending the remittances and disbursement of the moneys.

The Debentures and Coupons attached are very similar in appearance to those issued by this Government. The Coupons, you will observe, bear the signature of W. H. Smith, being that of Mr. William Henry Smith, the Accountant to the Corporation.

I shall be glad to have the accounts of any payments which may be made by your Bank under its agreement with and on behalf of the Hobart Town Corporation kept distinct from the account of the Government of this Colony with your Bank, and to receive from you separate accounts in duplicate of payments made.

I have &c.

W. R. GIBLIN, *Colonial Treasurer.*

*The Manager Consolidated Bank, Threadneedle-street, London.*

**RETURN showing the Assessments made and Rates levied in the City of Hobart Town for the Ten Years ending 1880.**

Year.	Assessment—City.		Assessment—Suburban.		Municipal.	Rates Levied.		
	£	d.	£	d.		Water.	Police.	
1871	95,685	..	13,000	..	1 4	1 0½	9	
1872	96,000	..	11,000	..	1 3	1 0½	9	
1873	97,000	..	10,000	..	1 4	1 0½	9	
1874	99,000	..	10,000	..	1 4	1 0½	9	
1875	99,000	..	10,000	..	1 4	1 0½	9	
1876	103,500	..	12,500	..	1 4	1 0½	9	
1877	106,500	..	12,500	..	1 4	1 3	9	
1878	108,000	..	12,500	..	1 4	sliding scale, av. 1s. 4d.	9	
1879	110,000	..	12,566	..	1 4	ditto	9	
1880	110,800	..	12,566	..	1 4	ditto	9	

NOTE.—The excess of the cost of the Police over the amount produced by a Ninepenny Rate is made up by the Government. The Rates levied on the City properties under the head of Municipal and Water are liable for the interest on the proposed loan, as also those under the head of Water on the Suburban properties.

The steady improvement in the Assessment of the City is attributable to the large number of buildings that have been erected within the last 10 years.

**SUMMARY of Corporation Mortgages proposed to be redeemed out of proceeds of Municipal Loan of £150,000 to be floated in London under authority of Act 43 Vict. No 22.**

On Water Rates .....	£72,000
On Municipal Rates.....	£23,000
Town Hall, 11th May, 1880.	(L.S.) W. H. BURGESS, Mayor.
Certified to be correct,	
W. H. SMITH, City Accountant.	HENRY WILKINSON, Town Clerk and Treasurer.

*Commercial Bank, Hobart Town, Tasmania, 23rd April, 1880.*

SIR,

REFERRING to your interview with me on the subject of placing on the London market £100,000 (One hundred thousand Pounds) of Debentures authorised to be issued by the Corporation of Hobart Town under Act 43 Victoria, No. 22, in which you expressed a desire that this Bank should undertake the financial arrangements in connection with the placing of the said Debentures, I have the honor to submit the following as the terms on which we are prepared to undertake the business.

We will forward the Debentures to our Agents in London, with instructions to take all necessary steps for floating the loan, and will convey to them any information which you may think necessary to enable them to place the loan before the English public with advantage, and we undertake to place to the credit of the Municipal Council here, free of charge, all moneys the proceeds of the said loan, on receipt of advice per post from our Agents in London of the payment of the same, upon the understanding that the moneys so transferred are to be disbursed through this Bank only, as authorised by the Act under which the Debentures were issued, and for the purposes set forth in the Act.

Will you kindly advise me at your convenience whether you accept the foregoing proposal?

I have, &c.

W. H. BURGESS, *Esquire, Mayor of Hobart Town.*

C. J. BARCLAY, *Managing Director.*

*Town Hall, 26th April, 1880.*

SIR,

I HAVE the honor to acknowledge your letter of the 23rd instant, and to inform you that, at a meeting of the Municipal Council specially convened for the purpose, it was unanimously resolved that the proposition contained in the said letter be accepted by the Council.

I have, &c.

W. H. BURGESS, *Mayor.*

C. J. BARCLAY, *Esq.*

WILLIAM THOMAS STRUTT,  
GOVERNMENT PRINTER, TASMANIA.